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What is the AWS Command Line Interface?

The AWS Command Line Interface (AWS CLI) is an open source tool that enables you to interact with AWS services using commands in your command-line shell. With minimal configuration, the AWS CLI enables you to start running commands that implement functionality equivalent to that provided by the browser-based AWS Management Console from the command prompt in your terminal program:

- **Linux shells** – Use common shell programs such as **bash**, **zsh**, and **tcsh** to run commands in Linux or macOS.
- **Windows command line** – On Windows, run commands at the Windows command prompt or in PowerShell.
- **Remotely** – Run commands on Amazon Elastic Compute Cloud (Amazon EC2) instances through a remote terminal program such as PuTTY or SSH, or with AWS Systems Manager.

All IaaS (infrastructure as a service) AWS administration, management, and access functions in the AWS Management Console are available in the AWS API and AWS CLI. New AWS IaaS features and services provide full AWS Management Console functionality through the API and CLI at launch or within 180 days of launch.

The AWS CLI provides direct access to the public APIs of AWS services. You can explore a service's capabilities with the AWS CLI, and develop shell scripts to manage your resources. In addition to the low-level, API-equivalent commands, several AWS services provide customizations for the AWS CLI. Customizations can include higher-level commands that simplify using a service with a complex API.

About AWS CLI version 2

The AWS CLI version 2 is the most recent major version of the AWS CLI and supports all of the latest features. Some features introduced in version 2 are not backported to version 1 and you must upgrade to access those features. There are some "breaking" changes from version 1 that might require you to change your scripts. For a list of breaking changes in version 2, see [Migrate from AWS CLI version 1 to version 2](#).

The AWS CLI version 2 is available to install only as a bundled installer. While you might find it in package managers, these are unsupported and unofficial packages that are not produced.
or managed by AWS. We recommend that you install the AWS CLI from only the official AWS
distribution points, as documented in this guide.

To install the AWS CLI version 2, see the section called “Install/Update”.

To check the currently installed version, use the following command:

```bash
$ aws --version
aws-cli/2.15.19 Python/3.11.6 Linux/5.10.205-195.807.amzn2.x86_64 botocore/1.18.6
```

For version history, see the AWS CLI version 2 Changelog on GitHub.

**Maintenance and support for SDK major versions**

For information about maintenance and support for SDK major versions and their underlying
dependencies, see the following in the AWS SDKs and Tools Reference Guide:

- AWS SDKs and tools maintenance policy
- AWS SDKs and tools version support matrix

**About Amazon Web Services**

Amazon Web Services (AWS) is a collection of digital infrastructure services that developers can
leverage when developing their applications. The services include computing, storage, database,
and application synchronization (messaging and queuing). AWS uses a pay-as-you-go service
model. You are charged only for the services that you—or your applications—use. Also, to make
AWS more approachable as a platform for prototyping and experimentation, AWS offers a free
usage tier. On this tier, services are free below a certain level of usage. For more information about
AWS costs and the Free Tier, see AWS Free Tier. To obtain an AWS account, open the AWS home
page and then choose Create an AWS Account.

**About the AWS CLI examples**

The AWS Command Line Interface (AWS CLI) examples in this guide are formatted using the
following conventions:
- **Prompt** – The command prompt uses the Linux prompt and is displayed as ($ ). For commands that are Windows specific, C:\> is used as the prompt. Do not include the prompt when you type commands.

- **Directory** – When commands must be executed from a specific directory, the directory name is shown before the prompt symbol.

- **User input** – Command text that you enter at the command line is formatted as `user input`.

- **Replaceable text** – Variable text, including names of resources that you choose, or IDs generated by AWS services that you must include in commands, is formatted as `replaceable text`. In multiple-line commands or commands where specific keyboard input is required, keyboard commands can also be shown as replaceable text.

- **Output** – Output returned by AWS services is shown under user input, and is formatted as `computer output`.

The following `aws configure` command example demonstrates user input, replaceable text, and output:

1. Enter `aws configure` at the command line, and then press Enter.
2. The AWS CLI outputs lines of text, prompting you to enter additional information.
3. Enter each of your access keys in turn, and then press Enter.
4. Then, enter an AWS Region name in the format shown, press Enter, and then press Enter a final time to skip the output format setting.
5. The final Enter command is shown as replaceable text because there is no user input for that line.

```
$ aws configure
AWS Access Key ID [None]: AKIAIOSFODNN7EXAMPLE
AWS Secret Access Key [None]: wJalrXUtznFEMI/K7MDENG/bPxRfiCYEXAMPLEKEY
Default region name [None]: us-west-2
Default output format [None]: ENTER
```

The following example shows a simple command with output. To use this example, enter the full text of the command (the highlighted text after the prompt), and then press Enter. The name of the security group, `my-sg`, is replaceable to your desired security group name. The JSON document, including the curly braces, is output. If you configure your CLI to output in text or table format, the output will be formatted differently. `JSON` is the default output format.
$ aws ec2 create-security-group --group-name my-sg --description "My security group"
{
  "GroupId": "sg-903004f8"
}

Additional documentation and resources

AWS CLI documentation and resources

In addition to this user guide, the following are valuable online resources for the AWS CLI.

- AWS CLI version 2 reference guide
- AWS CLI code examples repository
- AWS CLI GitHub repository You can view and fork the source code for the AWS CLI on GitHub. Join the community of users on GitHub to provide feedback, request features, and submit your own contributions.
- AWS CLI alias examples repository You can view and fork AWS CLI alias examples on GitHub.
- AWS CLI version 2 Changelog

Other AWS SDKs

Depending on your use case, you might want to choose one of the AWS SDKs or the AWS Tools for PowerShell:

- AWS Tools for PowerShell
- AWS SDK for Java
- AWS SDK for .NET
- AWS SDK for JavaScript
- AWS SDK for Ruby
- AWS SDK for Python (Boto)
- AWS SDK for PHP
- AWS SDK for Go
- AWS Mobile SDK for iOS
- AWS Mobile SDK for Android
Get started with the AWS CLI

This chapter provides steps to get started with version 2 of the AWS Command Line Interface (AWS CLI) and provides links to the relevant instructions.

1. **Complete all prerequisites** - To access AWS services with the AWS CLI, you need at minimum an AWS account and IAM credentials. To increase the security of your AWS account, we recommend that you do not use your root account credentials. You should create a user with least privilege to provide access credentials to the tasks you'll be running in AWS.

2. Install or gain access to the AWS CLI using one of the following methods:
   - **(Recommended) the section called “Install/Update”.**
   - the section called “Past releases”. Installing a specific version is primarily used if your team aligns their tools to a specific version.
   - the section called “Build and install from source”. Building the AWS CLI from GitHub source is a more in-depth method that is primarily used by customers who work on platforms that we do not directly support with our pre-built installers.
   - the section called “Amazon ECR Public/Docker”.
   - Access the AWS CLI version 2 in the AWS console from your browser using AWS CloudShell. For more information, see the [AWS CloudShell User Guide](#).

3. After you have access to the AWS CLI, configure your AWS CLI with your IAM credentials for first time use.

Troubleshooting installer or configure errors

If you have issues after installing, uninstalling, or configuring the AWS CLI, see [Troubleshoot errors](#) for troubleshooting steps.

Topics

- Prerequisites to use the AWS CLI version 2
- Install or update to the latest version of the AWS CLI
- Install past releases of the AWS CLI version 2
- Build and install the AWS CLI from source
- Run the AWS CLI from the official Amazon ECR Public or Docker images
Prerequisites to use the AWS CLI version 2

To access AWS services with the AWS CLI, you need an AWS account and IAM credentials. When running AWS CLI commands, the AWS CLI needs to have access to those AWS credentials. To increase the security of your AWS account, we recommend that you do not use your root account credentials. You should create a user with least privilege to provide access credentials to the tasks you'll be running in AWS.

Topics

- Create an IAM or IAM Identity Center administrative account
- Next steps

Create an IAM or IAM Identity Center administrative account

Before you can configure

To create an administrator user, choose one of the following options.

<table>
<thead>
<tr>
<th>Choose one way to manage your administrator</th>
<th>To</th>
<th>By</th>
<th>You can also</th>
</tr>
</thead>
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<tr>
<td>In IAM Identity Center (Recommended)</td>
<td>Use short-term credentials to access AWS. This aligns with the security best practices. For information about best practices, see Security best</td>
<td>Following the instructions in Getting started in the AWS IAM Identity Center User Guide.</td>
<td>Configure programmatic access by Configuring the AWS CLI to use AWS IAM Identity Center in the AWS Command Line Interface User Guide.</td>
</tr>
</tbody>
</table>
Install or update to the latest version of the AWS CLI

This topic describes how to install or update the latest release of the AWS Command Line Interface (AWS CLI) on supported operating systems. For information on the latest releases of AWS CLI, see the AWS CLI version 2 Changelog on GitHub.

To install a past release of the AWS CLI, see the section called “Past releases”. For uninstall instructions, see Uninstall.
Important

AWS CLI versions 1 and 2 use the same `aws` command name. If you previously installed AWS CLI version 1, see [Migrate from AWS CLI version 1 to version 2](#).

Topics

- [AWS CLI install and update instructions](#)
- [Troubleshooting AWS CLI install and uninstall errors](#)
- [Next steps](#)

AWS CLI install and update instructions

For installation instructions, expand the section for your operating system.

Linux

Install and update requirements

- You must be able to extract or "unzip" the downloaded package. If your operating system doesn't have the built-in `unzip` command, use an equivalent.
- The AWS CLI uses `glibc`, `groff`, and `less`. These are included by default in most major distributions of Linux.
- We support the AWS CLI on 64-bit versions of recent distributions of CentOS, Fedora, Ubuntu, Amazon Linux 1, Amazon Linux 2, Amazon Linux 2023, and Linux ARM.
- Because AWS doesn't maintain third-party repositories, we can't guarantee that they contain the latest version of the AWS CLI.

Install or update the AWS CLI

**Warning**

If this is your first time updating on Amazon Linux, to install the latest version of the AWS CLI, you must uninstall the pre-installed `yum` version using the following command:

```bash
$ sudo yum remove awsccli
```
After the `yum` installation of the AWS CLI is removed, follow the below Linux install instructions.

To update your current installation of AWS CLI, download a new installer each time you update to overwrite previous versions. Follow these steps from the command line to install the AWS CLI on Linux.

We provide the steps in one easy to copy and paste group based on whether you use 64-bit Linux or Linux ARM. See the descriptions of each line in the steps that follow.

Linux x86 (64-bit)

Note *(Optional)* The following command block downloads and installs the AWS CLI without first verifying the integrity of your download. To verify the integrity of your download, use the below step by step instructions.

To install the AWS CLI, run the following commands.

```
$ curl "https://awscli.amazonaws.com/awscli-exe-linux-x86_64.zip" -o "awscliv2.zip"
unzip awscliv2.zip
sudo ./aws/install
```

To update your current installation of the AWS CLI, add your existing symlink and installer information to construct the install command using the `--bin-dir`, `--install-dir`, and `--update` parameters. The following command block uses an example symlink of `/usr/local/bin` and example installer location of `/usr/local/aws-cli`.

```
$ curl "https://awscli.amazonaws.com/awscli-exe-linux-x86_64.zip" -o "awscliv2.zip"
unzip awscliv2.zip
sudo ./aws/install --bin-dir /usr/local/bin --install-dir /usr/local/aws-cli --update
```
Linux ARM

**Note** *(Optional)* The following command block downloads and installs the AWS CLI without first verifying the integrity of your download. To verify the integrity of your download, use the below step by step instructions.

To install the AWS CLI, run the following commands.

```
$ curl "https://awscli.amazonaws.com/awscli-exe-linux-aarch64.zip" -o "awscliv2.zip"
unzip awscliv2.zip
sudo ./aws/install
```

To update your current installation of the AWS CLI, add your existing symlink and installer information to construct the install command using the `--bin-dir`, `--install-dir`, and `--update` parameters. The following command block uses an example symlink of `/usr/local/bin` and example installer location of `/usr/local/aws-cli`.

```
$ curl "https://awscli.amazonaws.com/awscli-exe-linux-aarch64.zip" -o "awscliv2.zip"
unzip awscliv2.zip
sudo ./aws/install --bin-dir /usr/local/bin --install-dir /usr/local/aws-cli --update
```

1. Download the installation file in one of the following ways:
   
   **Linux x86 (64-bit)**
   
   - **Use the curl command** – The `-o` option specifies the file name that the downloaded package is written to. The options on the following example command write the downloaded file to the current directory with the local name `awscliv2.zip`.
     
     ```
     $ curl "https://awscli.amazonaws.com/awscli-exe-linux-x86_64.zip" -o "awscliv2.zip"
     ```
   
   - **Downloading from the URL** – To download the installer with your browser, use the following URL: [https://awscli.amazonaws.com/awscli-exe-linux-x86_64.zip](https://awscli.amazonaws.com/awscli-exe-linux-x86_64.zip)
Linux ARM

- **Use the curl command** – The `-o` option specifies the file name that the downloaded package is written to. The options on the following example command write the downloaded file to the current directory with the local name `awscliv2.zip`.

  ```bash
  $ curl "https://awscli.amazonaws.com/awscli-exe-linux-aarch64.zip" -o "awscliv2.zip"
  ``

- **Downloading from the URL** – To download the installer with your browser, use the following URL: [https://awscli.amazonaws.com/awscli-exe-linux-aarch64.zip](https://awscli.amazonaws.com/awscli-exe-linux-aarch64.zip)

2. *(Optional)* Verifying the integrity of your downloaded zip file

If you chose to manually download the AWS CLI installer package .zip in the above steps, you can use the following steps to verify the signatures by using the GnuPG tool.

The AWS CLI installer package .zip files are cryptographically signed using PGP signatures. If there is any damage or alteration of the files, this verification fails and you should not proceed with installation.

a. Download and install the `gpg` command using your package manager. For more information about GnuPG, see the [GnuPG website](https://www.gnupg.org/).

b. To create the public key file, create a text file and paste in the following text.

```
-----BEGIN PGP PUBLIC KEY BLOCK-----
mQINBF2Cz7UBEADJZHcgusOJ17ENSyumXh85z0TRV0xJozM2B/JL0kH0yigQuUGZMLhEiNaGB6yadtwxKoP3H91lvK050pXwn0/R7fb/FSTouki4ciIX50ULnZJiXz5xPqGl0mXmLmNBGWoii6Lto0LYxqHN2iQtz1wTVmq9733zd3XfcXzZ3+Lb1HAgEt5GTFNxeEK38soPLyVmwDH6HWCnJz/aIQRBTIQ05uVeEoYxSh6w0ai7ss/KveoSNBbYzgbdoq12Y8cgh2nbgp3DSasALZeDCsIsK1u05CinE7k2qZ7KgKAUICTC/r/gzkCGVwsnDU00UCideXcQ8WeHutqvgZH1JgKDbznoIzeQHJD238GEu+eKhRHcz8/jeG94zkcg30z3KbZGYMiTh277Fvj9zovZsbMBCdV1BTqvdX4bdhf5cH+7NtW0lrFj6UwAsGuKBTA0xCOl/dnSmZhJ7JZKmEwilzo/gOjt0xqRQut1IqG22TaqoPGfYVn+en3zwbyt97kcgZDwqbyukuNT64oZWC4XKCa3mpxEGC31bJTBFSqglXmZ719ywGEEUYIoIb2XxUwpml39beWdKM8kxz10jn10m6+1pTrCBf0o9wa9F8YRhzHPAkwKXJDe0GwpRWj4ooh0x0d2GwkyV5xyN14p2tQ06D00Dmz80yUTgRpPVQUt0EhXQARAQABtcF0BW1Qg0xJIFR1LYW0qPGF3cy1jBG1AYW1hem9uLmNvbT6JA1QEewEiAD4GwMFcwkIBwIGFQoJCA5CBBYCAwEChgECF4AWIQT7Xbd/1cEYuAURzaimMQzMRnJHXAUC-----END PGP PUBLIC KEY BLOCK-----
```
For reference, the following are the details of the public key.

<table>
<thead>
<tr>
<th>Key ID</th>
<th>A6310ACC4672</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>RSA</td>
</tr>
<tr>
<td>Size</td>
<td>4096/4096</td>
</tr>
<tr>
<td>Created</td>
<td>2019-09-18</td>
</tr>
<tr>
<td>Expires</td>
<td>2024-07-26</td>
</tr>
<tr>
<td>User ID</td>
<td>AWS CLI Team <a href="mailto:aws-cli@amazon.com">aws-cli@amazon.com</a></td>
</tr>
<tr>
<td>Key fingerprint</td>
<td>FB5D B77F D5C1 0511 ADA8 A631 0ACC 4672 475C</td>
</tr>
</tbody>
</table>

For the latest version of the AWS CLI, use the following command block:
For a specific version of the AWS CLI, append a hyphen and the version number to the filename. For this example the filename for version 2.0.30 would be awscli-exe-linux-x86_64-2.0.30.zip.sig resulting in the following command:

```
$ curl -o awscliv2.sig https://awscli.amazonaws.com/awscli-exe-linux-x86_64-2.0.30.zip.sig
```

For a list of versions, see the [AWS CLI version 2 Changelog](https://github.com/aws/aws-cli) on GitHub.

Linux ARM

For the latest version of the AWS CLI, use the following command block:

```
$ curl -o awscliv2.sig https://awscli.amazonaws.com/awscli-exe-linux-aarch64.zip.sig
```

For a specific version of the AWS CLI, append a hyphen and the version number to the filename. For this example the filename for version 2.0.30 would be awscli-exe-linux-aarch64-2.0.30.zip.sig resulting in the following command:

```
```

For a list of versions, see the [AWS CLI version 2 Changelog](https://github.com/aws/aws-cli) on GitHub.

e. Verify the signature, passing both the downloaded .sig and .zip file names as parameters to the gpg command.

```
$ gpg --verify awscliv2.sig awscliv2.zip
```

The output should look similar to the following.

```
gpg: Signature made Mon Nov  4 19:00:01 2019 PST
gpg:                using RSA key FB5D B77F D5C1 18B8 0511 ADA8 A631 0ACC 4672 475C
gpg: Good signature from "AWS CLI Team <aws-cli@amazon.com>" [unknown]
```

AWS CLI install and update instructions
3. Unzip the installer. If your Linux distribution doesn't have a built-in `unzip` command, use an equivalent to unzip it. The following example command unzips the package and creates a directory named `aws` under the current directory.

   ```
   $ unzip awscliv2.zip
   ```

   **Note**
   
   When updating from a previous version, the `unzip` command prompts to overwrite existing files. To skip these prompts, such as with script automation, use the `-u` update flag for `unzip`. This flag automatically updates existing files and creates new ones as needed.

   ```
   $ unzip -u awscliv2.zip
   ```

4. Run the install program. The installation command uses a file named `install` in the newly unzipped `aws` directory. By default, the files are all installed to `/usr/local/aws-cli`, and a symbolic link is created in `/usr/local/bin`. The command includes `sudo` to grant write permissions to those directories.

   ```
   $ sudo ./aws/install
   ```

   You can install without `sudo` if you specify directories that you already have write permissions to. Use the following instructions for the `install` command to specify the installation location:
- Ensure that the paths you provide to the -i and -b parameters contain no volume name or directory names that contain any space characters or other white space characters. If there is a space, the installation fails.

- --install-dir or -i – This option specifies the directory to copy all of the files to.

  The default value is /usr/local/aws-cli.

- --bin-dir or -b – This option specifies that the main aws program in the install directory is symbolically linked to the file aws in the specified path. You must have write permissions to the specified directory. Creating a symlink to a directory that is already in your path eliminates the need to add the install directory to the user's $PATH variable.

  The default value is /usr/local/bin.

```
$ ./aws/install -i /usr/local/aws-cli -b /usr/local/bin
```

ℹ️ **Note**

To update your current installation of the AWS CLI, add your existing symlink and installer information to construct the install command with the --update parameter.

```
$ sudo ./aws/install --bin-dir /usr/local/bin --install-dir /usr/local/aws-cli --update
```

To locate the existing symlink and installation directory, use the following steps:

1. Use the `which` command to find your symlink. This gives you the path to use with the --bin-dir parameter.

   ```
   $ which aws
   /usr/local/bin/aws
   ```

2. Use the `ls` command to find the directory that your symlink points to. This gives you the path to use with the --install-dir parameter.

   ```
   $ ls -l /usr/local/bin/aws
   ```
5. Confirm the installation with the following command.

```
$ aws --version
aws-cli/2.15.19 Python/3.11.6 Linux/5.10.205-195.807.amzn2.x86_64 botocore/2.4.5
```

If the `aws` command cannot be found, you might need to restart your terminal or follow the troubleshooting in Troubleshoot errors.

macOS

Install and update requirements

- We support the AWS CLI on macOS versions 10.9 and later. For more information, see macOS support policy updates for the AWS CLI v2 on the AWS Developer Tools Blog.
- Because AWS doesn't maintain third-party repositories, we can't guarantee that they contain the latest version of the AWS CLI.

Install or update the AWS CLI

If you are updating to the latest version, use the same installation method that you used in your current version. You can install the AWS CLI on macOS in the following ways.

GUI installer

The following steps show how to install the latest version of the AWS CLI by using the standard macOS user interface and your browser.

1. In your browser, download the macOS pkg file: [https://awscli.amazonaws.com/AWSCLIV2.pkg](https://awscli.amazonaws.com/AWSCLIV2.pkg)
2. Run your downloaded file and follow the on-screen instructions. You can choose to install the AWS CLI in the following ways:
   - **For all users on the computer (requires sudo)**
     - You can install to any folder, or choose the recommended default folder of `/usr/local/aws-cli`.
• The installer automatically creates a symlink at /usr/local/bin/aws that links to the main program in the installation folder you chose.

• **For only the current user (doesn't require sudo)**
  
  • You can install to any folder to which you have write permission.
  
  • Due to standard user permissions, after the installer finishes, you must manually create a symlink file in your $PATH that points to the aws and aws_completer programs by using the following commands at the command prompt. If your $PATH includes a folder you can write to, you can run the following command without sudo if you specify that folder as the target's path. If you don't have a writable folder in your $PATH, you must use sudo in the commands to get permissions to write to the specified target folder. The default location for a symlink is /usr/local/bin/.

```bash
$ sudo ln -s /folder/installed/aws-cli/aws /usr/local/bin/aws
$ sudo ln -s /folder/installed/aws-cli/aws_completer /usr/local/bin/aws_completer
```

**Note**

You can view debug logs for the installation by pressing **Cmd+L** anywhere in the installer. This opens a log pane that enables you to filter and save the log. The log file is also automatically saved to /var/log/install.log.

3. To verify that the shell can find and run the aws command in your $PATH, use the following commands.

```bash
$ which aws
/usr/local/bin/aws
$ aws --version
aws-cli/2.15.19 Python/3.11.6 Darwin/23.3.0 botocore/2.4.5
```

If the aws command cannot be found, you might need to restart your terminal or follow the troubleshooting in [Troubleshoot errors](#).
Command line installer - All users

If you have sudo permissions, you can install the AWS CLI for all users on the computer. We provide the steps in one easy to copy and paste group. See the descriptions of each line in the following steps.

```
$ curl "https://awscli.amazonaws.com/AWSCLIV2.pkg" -o "AWSCLIV2.pkg"
$ sudo installer -pkg AWSCLIV2.pkg -target /
```

1. Download the file using the curl command. The -o option specifies the file name that the downloaded package is written to. In this example, the file is written to AWSCLIV2.pkg in the current folder.

```
$ curl "https://awscli.amazonaws.com/AWSCLIV2.pkg" -o "AWSCLIV2.pkg"
```

2. Run the standard macOS installer program, specifying the downloaded .pkg file as the source. Use the -pkg parameter to specify the name of the package to install, and the -target / parameter for which drive to install the package to. The files are installed to /usr/local/aws-cli, and a symlink is automatically created in /usr/local/bin. You must include sudo on the command to grant write permissions to those folders.

```
$ sudo installer -pkg ./AWSCLIV2.pkg -target /
```

After installation is complete, debug logs are written to /var/log/install.log.

3. To verify that the shell can find and run the aws command in your $PATH, use the following commands.

```
$ which aws
/usr/local/bin/aws
$ aws --version
aws-cli/2.15.19 Python/3.11.6 Darwin/23.3.0 botocore/2.4.5
```

If the aws command cannot be found, you might need to restart your terminal or follow the troubleshooting in Troubleshoot errors.
Command line - Current user

1. To specify which folder the AWS CLI is installed to, you must create an XML file with any file name. This file is an XML-formatted file that looks like the following example. Leave all values as shown, except you must replace the path `/Users/myusername` in line 9 with the path to the folder you want the AWS CLI installed to. *The folder must already exist, or the command fails.* The following XML example, named `choices.xml`, specifies the installer to install the AWS CLI in the folder `/Users/myusername`, where it creates a folder named `aws-cli`.

   ```xml
   <?xml version="1.0" encoding="UTF-8"?>
   <!DOCTYPE plist PUBLIC "-//Apple//DTD PLIST 1.0//EN" "http://www.apple.com/DTDs/PropertyList-1.0.dtd">
   <plist version="1.0">
     <array>
       <dict>
         <key>choiceAttribute</key>
         <string>customLocation</string>
         <key>attributeSetting</key>
         <string>/Users/myusername</string>
         <key>choiceIdentifier</key>
         <string>default</string>
       </dict>
     </array>
   </plist>
   ```

2. Download the pkg installer using the `curl` command. The `-o` option specifies the file name that the downloaded package is written to. In this example, the file is written to `AWSCLIV2.pkg` in the current folder.

   ```sh
   $ curl "https://awscli.amazonaws.com/AWSCLIV2.pkg" -o "AWSCLIV2.pkg"
   ```

3. Run the standard macOS installer program with the following options:

   - Specify the name of the package to install by using the `-pkg` parameter.
   - Specify installing to a *current user only* by setting the `-target` parameter to `CurrentUserHomeDirectory`.
   - Specify the path (relative to the current folder) and name of the XML file that you created in the `-applyChoiceChangesXML` parameter.
The following example installs the AWS CLI in the folder /Users/myusername/aws-cli.

```
$ installer -pkg AWSCLIV2.pkg \
   -target CurrentUserHomeDirectory \
   -applyChoiceChangesXML choices.xml
```

4. Because standard user permissions typically don't allow writing to folders in your $PATH, the installer in this mode doesn't try to add the symlinks to the aws and aws_completer programs. For the AWS CLI to run correctly, you must manually create the symlinks after the installer finishes. If your $PATH includes a folder you can write to and you specify the folder as the target's path, you can run the following command without sudo. If you don't have a writable folder in your $PATH, you must use sudo for permissions to write to the specified target folder. The default location for a symlink is /usr/local/bin/. Replace folder/installed with the path to your AWS CLI installation.

```
$ sudo ln -s /folder/installed/aws-cli/aws /usr/local/bin/aws
$ sudo ln -s /folder/installed/aws-cli/aws_completer /usr/local/bin/aws_completer
```

After installation is complete, debug logs are written to /var/log/install.log.

5. To verify that the shell can find and run the aws command in your $PATH, use the following commands.

```
$ which aws
/usr/local/bin/aws
$ aws --version
aws-cli/2.15.19 Python/3.11.6 Darwin/23.3.0 botocore/2.4.5
```

If the aws command cannot be found, you might need to restart your terminal or follow the troubleshooting in Troubleshoot errors.

**Windows**

**Install and update requirements**

- We support the AWS CLI on Microsoft-supported versions of 64-bit Windows.
- Admin rights to install software
Install or update the AWS CLI

To update your current installation of AWS CLI on Windows, download a new installer each time you update to overwrite previous versions. AWS CLI is updated regularly. To see when the latest version was released, see the AWS CLI version 2 Changelog on GitHub.

1. Download and run the AWS CLI MSI installer for Windows (64-bit):

   https://awscli.amazonaws.com/AWSCLIV2.msi

   Alternatively, you can run the msiexec command to run the MSI installer.

   C:\> msiexec.exe /i https://awscli.amazonaws.com/AWSCLIV2.msi

   For various parameters that can be used with msiexec, see msiexec on the Microsoft Docs website. For example, you can use the /qn flag for a silent installation.

   C:\> msiexec.exe /i https://awscli.amazonaws.com/AWSCLIV2.msi /qn

2. To confirm the installation, open the Start menu, search for cmd to open a command prompt window, and at the command prompt use the aws --version command.

   C:\> aws --version
   aws-cli/2.15.19 Python/3.11.6 Windows/10 exe/AMD64 prompt/off

   If Windows is unable to find the program, you might need to close and reopen the command prompt window to refresh the path, or follow the troubleshooting in Troubleshoot errors.

Troubleshooting AWS CLI install and uninstall errors

If you come across issues after installing or uninstalling the AWS CLI, see Troubleshoot errors for troubleshooting steps. For the most relevant troubleshooting steps, see the section called “Command not found errors”, the section called “The "aws --version" command returns a different version than you installed”, and the section called “The "aws --version" command returns a version after uninstalling the AWS CLI".
Next steps

After you successfully install the AWS CLI, you can safely delete your downloaded installer files. After completing the steps in the section called “Prerequisites” and installing the AWS CLI, you should perform a the section called “Setup”.

Install past releases of the AWS CLI version 2

This topic describes how to install the past releases of the AWS Command Line Interface version 2 (AWS CLI) on supported operating systems. For information on the AWS CLI version 2 releases, see the AWS CLI version 2 Changelog on GitHub.

AWS CLI version 2 installation instructions:

Linux

Installation requirements

- You know which release of the AWS CLI version 2 you'd like to install. For a list of versions, see the AWS CLI version 2 Changelog on GitHub.
- You must be able to extract or "unzip" the downloaded package. If your operating system doesn't have the built-in unzip command, use an equivalent.
- The AWS CLI version 2 uses glibc, groff, and less. These are included by default in most major distributions of Linux.
- We support the AWS CLI version 2 on 64-bit versions of recent distributions of CentOS, Fedora, Ubuntu, Amazon Linux 1, Amazon Linux 2 and Linux ARM.
- Because AWS doesn't maintain third-party repositories, we can't guarantee that they contain the latest version of the AWS CLI.

Installation instructions

Follow these steps from the command line to install the AWS CLI on Linux.

We provide the steps in one easy to copy and paste group based on whether you use 64-bit Linux or Linux ARM. See the descriptions of each line in the steps that follow.
For a list of versions, see the [AWS CLI version 2 Changelog](https://github.com/aws/aws-cli/blob/master/CHANGELOG.md) on GitHub.

**To install** the AWS CLI, run the following commands.

To specify a version, append a hyphen and the version number to the filename. For this example the filename for version 2.0.30 would be `awscli-exe-linux-x86_64-2.0.30.zip` resulting in the following command:

```
$ curl "https://awscli.amazonaws.com/awscli-exe-linux-x86_64-2.0.30.zip" -o "awscliv2.zip"
unzip awscliv2.zip
sudo ./aws/install
```

**To update your current installation** of the AWS CLI, add your existing symlink and installer information to construct the `install` command using the `--bin-dir`, `--install-dir`, and `--update` parameters. The following command block uses an example symlink of `/usr/local/bin` and example installer location of `/usr/local/aws-cli`.

```
$ curl "https://awscli.amazonaws.com/awscli-exe-linux-x86_64-2.0.30.zip" -o "awscliv2.zip"
unzip awscliv2.zip
sudo ./aws/install --bin-dir /usr/local/bin --install-dir /usr/local/aws-cli --update
```

Linux ARM

**Note**

(Optional) The following command block downloads and installs the AWS CLI without first verifying the integrity of your download. To verify the integrity of your download, use the below step by step instructions.
For a list of versions, see the AWS CLI version 2 Changelog on GitHub.

**To install** the AWS CLI, run the following commands.

To specify a version, append a hyphen and the version number to the filename. For this example the filename for version 2.0.30 would be awscli-exe-linux-aarch64-2.0.30.zip resulting in the following command:

```
$ curl "https://awscli.amazonaws.com/awscli-exe-linux-aarch64-2.0.30.zip" -o "awscliv2.zip"
unzip awscliv2.zip
sudo ./aws/install
```

**To update your current installation** of the AWS CLI, add your existing symlink and installer information to construct the install command using the --bin-dir, --install-dir, and --update parameters. The following command block uses an example symlink of /usr/local/bin and example installer location of /usr/local/aws-cli.

```
$ curl "https://awscli.amazonaws.com/awscli-exe-linux-aarch64-2.0.30.zip" -o "awscliv2.zip"
unzip awscliv2.zip
sudo ./aws/install --bin-dir /usr/local/bin --install-dir /usr/local/aws-cli --update
```

1. Download the installation file in one of the following ways:

   **Linux x86 (64-bit)**

   - **Use the curl command** – The -o option specifies the file name that the downloaded package is written to. The options on the following example command write the downloaded file to the current directory with the local name awscliv2.zip.

     To specify a version, append a hyphen and the version number to the filename. For this example the filename for version 2.0.30 would be awscli-exe-linux-x86_64-2.0.30.zip resulting in the following command:

     ```
     $ curl "https://awscli.amazonaws.com/awscli-exe-linux-x86_64-2.0.30.zip" -o "awscliv2.zip"
     ```
For a list of versions, see the AWS CLI version 2 Changelog on GitHub.

- **Downloading from the URL** –

  In your browser, download your specific version of the AWS CLI by appending a hyphen and the version number to the filename.

  ```plaintext
  https://awscli.amazonaws.com/awscli-exe-linux-x86_64-version.number.zip
  ```

  For this example the filename for version **2.0.30** would be `awscli-exe-linux-x86_64-2.0.30.zip` resulting in the following link: https://awscli.amazonaws.com/awscli-exe-linux-x86_64-2.0.30.zip

**Linux ARM**

- **Use the curl command** – The `-o` option specifies the file name that the downloaded package is written to. The options on the following example command write the downloaded file to the current directory with the local name `awscliv2.zip`.

  ```bash
  $ curl "https://awscli.amazonaws.com/awscli-exe-linux-aarch64-2.0.30.zip" -o "awscliv2.zip"
  unzip awscliv2.zip
  sudo ./aws/install
  ```

- **Downloading from the URL** –

  In your browser, download your specific version of the AWS CLI by appending a hyphen and the version number to the filename.

  ```plaintext
  https://awscli.amazonaws.com/awscli-exe-linux-aarch64-version.number.zip
  ```

  For this example the filename for version **2.0.30** would be `awscli-exe-linux-aarch64-2.0.30.zip` resulting in the following link: https://awscli.amazonaws.com/awscli-exe-linux-aarch64-2.0.30.zip
2. **(Optional) Verifying the integrity of your downloaded zip file**

   If you chose to manually download the AWS CLI installer package .zip in the above steps, you can use the following steps to verify the signatures by using the GnuPG tool.

   The AWS CLI installer package .zip files are cryptographically signed using PGP signatures. If there is any damage or alteration of the files, this verification fails and you should not proceed with installation.

   a. Download and install the gpg command using your package manager. For more information about GnuPG, see the [GnuPG website](https://www.gnu.org/software/gnuPG/).

   b. To create the public key file, create a text file and paste in the following text.

   ```
   -----BEGIN PGP PUBLIC KEY BLOCK-----
   mQINBF2Cz7UBEADJZhcgus0J17ENSyumXh85z0TRv0xJoxM2B/JL0kH0yq1luUG
   ZMLhENaG6bYatdxKp+3H91lvK050pXw0/07fb/FSTouki4ciix50UL1nJ3Zx5xz
   PqGl0mkkImLnBw0i6Lto0lyxHn2iQtzl1Tvq9733zd3XfcXz3+Lb1HAqEt5G
   TFnxKE38soPLYwMrDH6HwCnJz/aiQRTBTlQ05uVeEoXSh6w0ai7sSs/KveoSNbbYz
   gbdzoqI2Yy8cgH2nbfg3DSasaLZEdCsIsK1u05CInE7k2qZ7KgKAUCt/c/R/gzk
   C6VswnDU00UCideXcQ8WeHutqvgZHIJgKDbznoIzeQHJD238GEu+eKhRHzc8/jeG
   94zkcgJ0z3KbZGYMiTh277Fvj9zzvZssMB Cedv1BTg3TqgvdX4bdkhf5Ch+7Ntw0
   lrFj6UwAsGukBTAOxC01/dn5mZhJ7Z1KmElwro/gOrjt0x9RqUtIqG22TaqPoF
   fYVNe+n32wbt97kcgZDqbuykNt640ZWC4XKCa3mpreGEC3iBTBfag1XmZ719ywG
   EEUJYo1b2XrzPmWmL39beWdKM8kz710jn10m6+1pTRCBfo0wa9F8YRZhHPAkwKkX
   XDeoGpwrJ40ohx0d2Gwy5Xy5N14p2T0QcdO0Dms80yUTgRpVvUte0EhXQARAQAB
tCFBV1Mg0xJIFR1yW0gPGF3cyJjbGLAYW1hem9uLmNvbT6GA1QEweEIAD4CGwMF
   CwKibw1GfQjckaSCBBnCAwECHEgECF4AWIQT7Xbd/1cEyUARraimMQuZMrNJHAUC
   ZMKceGucJESEf3QAKCRcmMQrMrnjHCxclL/4vior9J5StB+icri5WbDudS3ak/ve4q
   XS6ZLM3Sl81+CByx5aLQUllyFhuaEHDCl1f1g780duxatzeHENASYVo3mmKNwczBza
   NJaeeWKLq70MKwBSP5a3dva8P/4oUP9GsQn0uWoXwNDWfrMnvIB8gn+jC/3Migw
   vD3fus6COWUITNv2J0Q1lWImb/uGfha68041TB0vcFTVrao6DyqF+CxHZ/0j
   k1EDQFMY9M4tsYT7X8NWf18Vmc89nzpV9lfwda44WwpKiw1FZBP850sgDx2Dsxv
   L8kM2Gti0LH0qhF0+v7xTKzylo1DbJkhU80Kc+YC/Tm0zD8oeGU2eEFxLefqGwS
   zT9N+jb38+dqaP9Rdsi45iGqya8yavVBabpL0IQ9jU6eIV+kmcjIjcun/Uo8SjJ
   0xQAsm41xpAkvKVjU1n0wWnuH5kk8msZn01SZwu7Hua6rxcCagEb8ujJ44AP3QzW
   BNNxjtoN6Ao10Dw2wFmfe/YL/zpHpxU1xwPntuYB/t3xXF7ENQQOH0KXVgRClEy
   sHMg1g46c+nQLRzVShtDjmtzv9hrcv9RKR0petEgazuB89veDA9jPR2Kw6RykS
   XyZvmFZEv16/HRNynT7HJzeneFqRiJhw5WqAgSS/bcaRwPAU/QQzzJPVKCQn4y0weyg
   B8HCtGfod0p1A==
   =gdMc
   -----END PGP PUBLIC KEY BLOCK-----
   ```
For reference, the following are the details of the public key.

<table>
<thead>
<tr>
<th>Key ID</th>
<th>A6310ACC4672</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>RSA</td>
</tr>
<tr>
<td>Size</td>
<td>4096/4096</td>
</tr>
<tr>
<td>Created</td>
<td>2019-09-18</td>
</tr>
<tr>
<td>Expires</td>
<td>2024-07-26</td>
</tr>
<tr>
<td>User ID</td>
<td>AWS CLI Team <a href="mailto:aws-cli@amazon.com">aws-cli@amazon.com</a></td>
</tr>
<tr>
<td>Key fingerprint</td>
<td>FB5D B77F D5C1 18B8 0511 ADA8 A631 0ACC 4672 475C</td>
</tr>
</tbody>
</table>

c. Import the AWS CLI public key with the following command, substituting `public-key-file-name` with the file name of the public key you created.

```
$ gpg --import public-key-file-name
```

```
gpg: /home/username/.gnupg/trustdb.gpg: trustdb created
gpg: key A6310ACC4672475C: public key "AWS CLI Team <aws-cli@amazon.com>"
  imported
gpg: Total number processed: 1
```

d. Download the AWS CLI signature file for the package you downloaded. It has the same path and name as the `.zip` file it corresponds to, but has the extension `.sig`. In the following examples, we save it to the current directory as a file named `awscliv2.sig`.

Linux x86 (64-bit)

For the latest version of the AWS CLI, use the following command block:

```
$ curl -o awscliv2.sig https://awscli.amazonaws.com/awscli-exe-linux-x86_64.zip.sig
```

For a specific version of the AWS CLI, append a hyphen and the version number to the filename. For this example the filename for version 2.0.30 would be `awscli-exe-linux-x86_64-2.0.30.zip.sig` resulting in the following command:

```
$ curl -o awscliv2.sig https://awscli.amazonaws.com/awscli-exe-linux-x86_64-2.0.30.zip.sig
```

For a list of versions, see the [AWS CLI version 2 Changelog](https://github.com/aws/aws-cli) on [GitHub.](https://github.com/aws/aws-cli)
Linux ARM

For the latest version of the AWS CLI, use the following command block:

```bash
$ curl -o awscriv2.sig https://awscli.amazonaws.com/awscriv-exec-linux-aarch64.zip.sig
```

For a specific version of the AWS CLI, append a hyphen and the version number to the filename. For this example the filename for version 2.0.30 would be `awscriv-exec-linux-aarch64-2.0.30.zip.sig` resulting in the following command:

```bash
```

For a list of versions, see the [AWS CLI version 2 Changelog](https://github.com/aws/aws-cli) on GitHub.

e. Verify the signature, passing both the downloaded .sig and .zip file names as parameters to the gpg command.

```bash
$ gpg --verify awscriv2.sig awscriv2.zip
```

The output should look similar to the following.

```
gpg: Signature made Mon Nov  4 19:00:01 2019 PST
gpg:                using RSA key FB5D B77F D5C1 18B8 0511 ADA8 A631 0ACC 4672 475C
gpg: Good signature from "AWS CLI Team <aws-cli@amazon.com>" [unknown]
gpg: WARNING: This key is not certified with a trusted signature!
gpg: There is no indication that the signature belongs to the owner.
Primary key fingerprint: FB5D B77F D5C1 18B8 0511 ADA8 A631 0ACC 4672 475C
```

⚠️ Important

The warning in the output is expected and doesn't indicate a problem. It occurs because there isn't a chain of trust between your personal PGP key (if you have one) and the AWS CLI PGP key. For more information, see [Web of trust](https://www.gnupg.org/documentation/manuals/gnupg/gnupg-manual.html#Web-of-trust).

Past releases
3. Unzip the installer. If your Linux distribution doesn't have a built-in unzip command, use an equivalent to unzip it. The following example command unzips the package and creates a directory named aws under the current directory.

```bash
$ unzip awscliv2.zip
```

4. Run the install program. The installation command uses a file named `install` in the newly unzipped aws directory. By default, the files are all installed to `/usr/local/aws-cli`, and a symbolic link is created in `/usr/local/bin`. The command includes `sudo` to grant write permissions to those directories.

```bash
$ sudo ./aws/install
```

You can install without `sudo` if you specify directories that you already have write permissions to. Use the following instructions for the `install` command to specify the installation location:

- Ensure that the paths you provide to the `-i` and `-b` parameters contain no volume name or directory names that contain any space characters or other white space characters. If there is a space, the installation fails.
- `--install-dir` or `-i` – This option specifies the directory to copy all of the files to. The default value is `/usr/local/aws-cli`.
- `--bin-dir` or `-b` – This option specifies that the main `aws` program in the install directory is symbolically linked to the file `aws` in the specified path. You must have write permissions to the specified directory. Creating a symlink to a directory that is already in your path eliminates the need to add the install directory to the user's `$PATH` variable. The default value is `/usr/local/bin`.

```bash
$ ./aws/install -i /usr/local/aws-cli -b /usr/local/bin
```

**Note**

To update your current installation of the AWS CLI version 2 to a newer version, add your existing symlink and installer information to construct the `install` command with the `--update` parameter.
To locate the existing symlink and installation directory, use the following steps:

1. Use the `which` command to find your symlink. This gives you the path to use with the `--bin-dir` parameter.

   ```
   $ which aws
   /usr/local/bin/aws
   ```

2. Use the `ls` command to find the directory that your symlink points to. This gives you the path to use with the `--install-dir` parameter.

   ```
   $ ls -l /usr/local/bin/aws
   lrwxrwxrwx 1 ec2-user ec2-user 49 Oct 22 09:49 /usr/local/bin/aws -> /usr/local/aws-cli/v2/current/bin/aws
   ```

5. Confirm the installation with the following command.

   ```
   $ aws --version
   aws-cli/2.15.19 Python/3.11.6 Linux/5.10.205-195.807.amzn2.x86_64 botocore/2.4.5
   ```

   If the `aws` command cannot be found, you might need to restart your terminal or follow the troubleshooting in `Troubleshoot errors`.

(Optional) Verifying the integrity of your downloaded zip file

If you chose to manually download the AWS CLI version 2 installer package `.zip` in the above steps, you use can use the following steps to verify the signatures by using the GnuPG tool.

The AWS CLI version 2 installer package `.zip` files are cryptographically signed using PGP signatures. If there is any damage or alteration of the files, this verification fails and you should not proceed with installation.

1. Download and install the `gpg` command using your package manager. For more information about GnuPG, see the [GnuPG website](https://gnupg.org).
2. To create the public key file, create a text file and paste in the following text.
For reference, the following are the details of the public key.

Key ID: A6310ACC4672
Type: RSA
Size: 4096/4096
Created: 2019-09-18
Expires: 2024-07-26
User ID: AWS CLI Team <aws-cli@amazon.com>
Key fingerprint: FB5D B77F D5C1 18B8 0511 ADA8 A631 0ACC 4672 475C

3. Import the AWS CLI public key with the following command, substituting `public-key-file-name` with the file name of the public key you created.

```bash
=gdMc
```

Past releases
4. Download the AWS CLI signature file for the package you downloaded. It has the same path and name as the .zip file it corresponds to, but has the extension .sig. In the following examples, we save it to the current directory as a file named awscliv2.sig.

**Linux x86 (64-bit)**

**For the latest version of the AWS CLI**, use the following command block:

```
$ curl -o awscliv2.sig https://awscli.amazonaws.com/awscli-exe-linux-x86_64.zip.sig
```

**For a specific version of the AWS CLI**, append a hyphen and the version number to the filename. For this example the filename for version 2.0.30 would be awscli-exe-linux-x86_64-2.0.30.zip.sig resulting in the following command:

```
$ curl -o awscliv2.sig https://awscli.amazonaws.com/awscli-exe-linux-x86_64-2.0.30.zip.sig
```

For a list of versions, see the [AWS CLI version 2 Changelog](https://github.com/aws/aws-cli) on GitHub.

**Linux ARM**

**For the latest version of the AWS CLI**, use the following command block:

```
$ curl -o awscliv2.sig https://awscli.amazonaws.com/awscli-exe-linux-aarch64.zip.sig
```

**For a specific version of the AWS CLI**, append a hyphen and the version number to the filename. For this example the filename for version 2.0.30 would be awscli-exe-linux-aarch64-2.0.30.zip.sig resulting in the following command:

```
```
5. Verify the signature, passing both the downloaded `.sig` and `.zip` file names as parameters to the gpg command.

```
$ gpg --verify awscliv2.sig awscliv2.zip
```

The output should look similar to the following.

```
gpg: Signature made Mon Nov  4 19:00:01 2019 PST
    using RSA key FB5D B77F D5C1 18B8 0511 ADA8 A631 0ACC 4672 475C
   gpg: Good signature from "AWS CLI Team <aws-cli@amazon.com>" [unknown]
   gpg: WARNING: This key is not certified with a trusted signature!
   gpg:         There is no indication that the signature belongs to the owner.
   Primary key fingerprint: FB5D B77F D5C1 18B8 0511 ADA8 A631 0ACC 4672 475C
```

⚠️ **Important**

The warning in the output is expected and doesn't indicate a problem. It occurs because there isn't a chain of trust between your personal PGP key (if you have one) and the AWS CLI PGP key. For more information, see [Web of trust](#).

---

### macOS

**Installation requirements**

- You know which release of the AWS CLI version 2 you'd like to install. For a list of versions, see the [AWS CLI version 2 Changelog](http://github.com) on GitHub.

- We support the AWS CLI version 2 on Apple-supported versions of 64-bit macOS.

- Because AWS doesn't maintain third-party repositories, we can't guarantee that they contain the latest version of the AWS CLI.

**Installation instructions**

You can install the AWS CLI version 2 on macOS in the following ways.
GUI installer

The following steps show how to install or update to the latest version of the AWS CLI version 2 by using the standard macOS user interface and your browser. If you are updating to the latest version, use the same installation method that you used for your current version.

1. In your browser, download your specific version of the AWS CLI by appending a hyphen and the version number to the filename.

   https://awscli.amazonaws.com/AWSCLIV2-version.number.pkg

   For this example, the filename for version 2.0.30 would be AWSCLIV2-2.0.30.pkg resulting in the following link: https://awscli.amazonaws.com/AWSCLIV2-2.0.30.pkg.

2. Run your downloaded file and follow the on-screen instructions. You can choose to install the AWS CLI version 2 in the following ways:

   • **For all users on the computer (requires sudo)**
     - You can install to any folder, or choose the recommended default folder of /usr/local/aws-cli.
     - The installer automatically creates a symlink at /usr/local/bin/aws that links to the main program in the installation folder you chose.

   • **For only the current user (doesn’t require sudo)**
     - You can install to any folder to which you have write permission.
     - Due to standard user permissions, after the installer finishes, you must manually create a symlink file in your $PATH that points to the aws and aws_completer programs by using the following commands at the command prompt. If your $PATH includes a folder you can write to, you can run the following command without sudo if you specify that folder as the target's path. If you don't have a writable folder in your $PATH, you must use sudo in the commands to get permissions to write to the specified target folder. The default location for a symlink is /usr/local/bin/.

       $ sudo ln -s /folder/installed/aws-cli/aws /usr/local/bin/aws
       $ sudo ln -s /folder/installed/aws-cli/aws_completer /usr/local/bin/aws_completer

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Note

You can view debug logs for the installation by pressing Cmd+L anywhere in the installer. This opens a log pane that enables you to filter and save the log. The log file is also automatically saved to /var/log/install.log.

3. To verify that the shell can find and run the aws command in your $PATH, use the following commands.

```
$ which aws
/usr/local/bin/aws
$ aws --version
aws-cli/2.15.19 Python/3.11.6 Darwin/23.3.0 botocore/2.4.5
```

If the aws command cannot be found, you might need to restart your terminal or follow the troubleshooting in Troubleshoot errors.

Command line installer - All users

If you have sudo permissions, you can install the AWS CLI version 2 for all users on the computer. We provide the steps in one easy to copy and paste group. See the descriptions of each line in the following steps.

For a specific version of the AWS CLI, append a hyphen and the version number to the filename. For this example the filename for version 2.0.30 would be AWSCLIV2-2.0.30.pkg resulting in the following command:

```
$ curl "https://awscli.amazonaws.com/AWSCLIV2-2.0.30.pkg" -o "AWSCLIV2.pkg"
$ sudo installer -pkg AWSCLIV2.pkg -target /
```

1. Download the file using the curl command. The -o option specifies the file name that the downloaded package is written to. In this example, the file is written to AWSCLIV2.pkg in the current folder.

For a specific version of the AWS CLI, append a hyphen and the version number to the filename. For this example the filename for version 2.0.30 would be AWSCLIV2-2.0.30.pkg resulting in the following command:
$ curl "https://awscli.amazonaws.com/AWSCLIV2-2.0.30.pkg" -o "AWSCLIV2.pkg"

For a list of versions, see the AWS CLI version 2 Changelog on GitHub.

2. Run the standard macOS installer program, specifying the downloaded .pkg file as the source. Use the -pkg parameter to specify the name of the package to install, and the -target / parameter for which drive to install the package to. The files are installed to /usr/local/aws-cli, and a symlink is automatically created in /usr/local/bin. You must include sudo on the command to grant write permissions to those folders.

$ sudo installer -pkg ./AWSCLIV2.pkg -target /

After installation is complete, debug logs are written to /var/log/install.log.

3. To verify that the shell can find and run the aws command in your $PATH, use the following commands.

$ which aws
/usr/local/bin/aws
$ aws --version
aws-cli/2.15.19 Python/3.11.6 Darwin/23.3.0 botocore/2.4.5

If the aws command cannot be found, you might need to restart your terminal or follow the troubleshooting in Troubleshoot errors.

Command line - Current user

1. To specify which folder the AWS CLI is installed to, you must create an XML file. This file is an XML-formatted file that looks like the following example. Leave all values as shown, except you must replace the path /Users/myusername in line 9 with the path to the folder you want the AWS CLI version 2 installed to. The folder must already exist, or the command fails. This XML example specifies that the installer installs the AWS CLI in the folder /Users/myusername, where it creates a folder named aws-cli.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE plist PUBLIC "-//Apple//DTD PLIST 1.0//EN" "http://www.apple.com/DTDs/PropertyList-1.0.dtd">
.plist version="1.0">
```
2. Download the pkg installer using the `curl` command. The `-o` option specifies the file name that the downloaded package is written to. In this example, the file is written to `AWSCLIV2.pkg` in the current folder.

For the specific version of the AWS CLI, append a hyphen and the version number to the filename. For this example the filename for version `2.0.30` would be `AWSCLIV2-2.0.30.pkg` resulting in the following command:

```
$ curl "https://awscli.amazonaws.com/AWSCLIV2-2.0.30.pkg" -o "AWSCLIV2.pkg"
```

For a list of versions, see the [AWS CLI version 2 Changelog](https://github.com/aws/aws-cli) on GitHub.

3. Run the standard macOS installer program with the following options:

- Specify the name of the package to install by using the `-pkg` parameter.
- Specify installing to a current user only by setting the `-target` parameter to `CurrentUserHomeDirectory`.
- Specify the path (relative to the current folder) and name of the XML file that you created in the `-applyChoiceChangesXML` parameter.

The following example installs the AWS CLI in the folder `/Users/myusername/aws-cli`.

```
$ installer -pkg AWSCLIV2.pkg \
  -target CurrentUserHomeDirectory \
  -applyChoiceChangesXML choices.xml
```

4. Because standard user permissions typically don't allow writing to folders in your `$PATH`, the installer in this mode doesn't try to add the symlinks to the `aws` and `aws_completer`
programs. For the AWS CLI to run correctly, you must manually create the symlinks after the installer finishes. If your $PATH includes a folder you can write to and you specify the folder as the target's path, you can run the following command without sudo. If you don't have a writable folder in your $PATH, you must use sudo for permissions to write to the specified target folder. The default location for a symlink is /usr/local/bin/.

```bash
$ sudo ln -s /folder/installed/aws-cli/aws /usr/local/bin/aws
$ sudo ln -s /folder/installed/aws-cli/aws_completer /usr/local/bin/aws_completer
```

After installation is complete, debug logs are written to /var/log/install.log.

5. To verify that the shell can find and run the aws command in your $PATH, use the following commands.

```bash
$ which aws
/usr/local/bin/aws
$ aws --version
aws-cli/2.15.19 Python/3.11.6 Darwin/23.3.0 botocore/2.4.5
```

If the aws command cannot be found, you might need to restart your terminal or follow the troubleshooting in Troubleshoot errors.

Windows

Installation requirements

- You know which release of the AWS CLI version 2 you'd like to install. For a list of versions, see the AWS CLI version 2 Changelog on GitHub.
- We support the AWS CLI on Microsoft-supported versions of 64-bit Windows.
- Admin rights to install software

Installation instructions

To update your current installation of AWS CLI version 2 on Windows, download a new installer each time you update to overwrite previous versions. AWS CLI is updated regularly. To see when the latest version was released, see the AWS CLI version 2 Changelog on GitHub.
1. Download and run the AWS CLI MSI installer for Windows (64-bit) in one of the following ways:

   - **Downloading and running the MSI installer:** To create your download link for a specific version of the AWS CLI, append a hyphen and the version number to the filename.

     ```
     https://awscli.amazonaws.com/AWSCLIV2-2.0.30.msi
     ```

     For this example the filename for version 2.0.30 would be AWSCLIV2-2.0.30.msi resulting in the following link: https://awscli.amazonaws.com/AWSCLIV2-2.0.30.msi.

   - **Using the msiexec command:** Alternatively, you can use the MSI installer by adding the link to the msiexec command. For a specific version of the AWS CLI, append a hyphen and the version number to the filename.

     ```
     C:\> msiexec.exe /i https://awscli.amazonaws.com/AWSCLIV2-2.0.30.msi
     ```

     For this example the filename for version 2.0.30 would be AWSCLIV2-2.0.30.msi resulting in the following link https://awscli.amazonaws.com/AWSCLIV2-2.0.30.msi.

     ```
     C:\> msiexec.exe /i https://awscli.amazonaws.com/AWSCLIV2-2.0.30.msi
     ```

     For various parameters that can be used with msiexec, see msiexec on the Microsoft Docs website.

     For a list of versions, see the AWS CLI version 2 Changelog on GitHub.

2. To confirm the installation, open the Start menu, search for cmd to open a command prompt window, and at the command prompt use the aws --version command.

   ```
   C:\> aws --version
   ```

   If Windows is unable to find the program, you might need to close and reopen the command prompt window to refresh the path, or follow the troubleshooting in Troubleshoot errors.
Troubleshooting AWS CLI install and uninstall errors

If you come across issues after installing or uninstalling the AWS CLI, see Troubleshoot errors for troubleshooting steps. For the most relevant troubleshooting steps, see the section called “Command not found errors”, the section called “The "aws --version" command returns a different version than you installed”, and the section called “The "aws --version" command returns a version after uninstalling the AWS CLI”.

Next steps

After completing the steps in the section called “Prerequisites” and installing the AWS CLI, you should perform a the section called “Setup”.

Build and install the AWS CLI from source

This topic describes how to install or update from source to the latest release of the AWS Command Line Interface (AWS CLI) on supported operating systems.

For information on the latest releases of AWS CLI, see the AWS CLI version 2 Changelog on GitHub.

⚠️ Important

AWS CLI versions 1 and 2 use the same aws command name. If you previously installed AWS CLI version 1, see Migrate from AWS CLI version 1 to version 2.

Topics

- Why build from source?
- Quicksteps
- Step 1: Setup all requirements
- Step 2: Configuring the AWS CLI source installation
- Step 3: Building the AWS CLI
- Step 4: Installing the AWS CLI
- Step 5: Verifying the AWS CLI installation
- Workflow examples
Why build from source?

The AWS CLI is available as pre-built installers for most platforms and environments as well as a Docker image.

Generally, these installers provide coverage for most use-cases. The instructions for installing from source are to help with the use-cases our installers do not cover. Some of these use-cases include the following:

- The pre-built installers do not support your environment. For example, ARM 32-bit is not supported by the pre-built installers.

- The pre-built installers have dependencies your environment lacks. For example, Alpine Linux uses musl, but the current installers require glibc causing the pre-built installers to not immediately work.

- The pre-built installers require resources your environment restricts access to. For example, security hardened systems might not give permissions to shared memory. This is needed for the frozen aws installer.

- The pre-built installers are often blockers for maintainers in package managers, as full control over the building process for code and packages is preferred. Building from source enables distribution maintainers a more streamlined process to keep the AWS CLI updated. Enabling maintainers provides customers more up-to-date versions of the AWS CLI when installing from a 3rd party package manager such as brew, yum, and apt.

- Customers that patch AWS CLI functionality require building and installing the AWS CLI from source. This is especially important for community members that want to test changes they've made to the source prior to contributing the change to the AWS CLI GitHub repository.

Quicksteps

ℹ️ Note

All code examples are assumed to run from the root of the source directory.
To build and install the AWS CLI from source, follow the steps in this section. The AWS CLI leverages GNU Autotools to install from source. In the simplest case, the AWS CLI can be installed from source by running the default example commands from the root of the AWS CLI GitHub repository.

1. **Setup all requirements for your environment.** This includes being able to run GNU Autotools generated files and Python 3.8 or later is installed.

2. In your terminal, navigate to the top level of the AWS CLI source folder and run the `./configure` command. This command checks the system for all required dependencies and generates a Makefile for building and installing the AWS CLI based on detected and specified configurations.

### Linux and macOS

The following `./configure` command example sets the build configuration for the AWS CLI using default settings.

```
$ ./configure
```

### Windows PowerShell

Before running any commands calling MSYS2, you must preserve your current working directory:

```
PS C:\> $env:CHERE_INVOKING = 'yes'
```

Then use the following `./configure` command example to set the build configuration for the AWS CLI using your local path to your Python executable, installing to C:\Program Files \AWSCLI, and downloading all dependencies.

```
PS C:\> C:\msys64\usr\bin\bash -lc " PYTHON='C:\path\to\python.exe' ./configure --prefix='C:\Program Files\AWSCLI' --with-download-deps "
```

For details, available configuration options, and default setting information, see the **the section called “Step 2: Configuring the AWS CLI source installation “** section.
3. Run the `make` command. This command builds the AWS CLI according to your configuration settings.

   The following `make` command example builds with default options using your existing ./configure settings.

   **Linux and macOS**

   ```
   $ make
   ```

   **Windows PowerShell**

   ```
   PS C:\> C:\msys64\usr\bin\bash -lc "make"
   ```

   For details and available build options, see the section called “Step 3: Building the AWS CLI” section.

4. Run the `make install` command. This command installs your built AWS CLI to the configured location on your system.

   The following `make install` command example installs your built AWS CLI and creates symlinks in your configured locations using default command settings.

   **Linux and macOS**

   ```
   $ make install
   ```

   **Windows PowerShell**

   ```
   PS C:\> C:\msys64\usr\bin\bash -lc "make install"
   ```

   After installing, add the path to the AWS CLI using the following:

   ```
   PS C:\> $Env: PATH +=";C:\Program Files\AWSCLI\bin"
   ```

   For details and available install options, see the section called “Step 4: Installing the AWS CLI” section.
5. Confirm the AWS CLI successfully installed using the following command:

```
$ aws --version
aws-cli/2.15.19 Python/3.11.6 Windows/10 exe/AMD64 prompt/off
```

For troubleshooting steps for install errors see the the section called “Troubleshooting AWS CLI install and uninstall errors” section.

**Step 1: Setup all requirements**

To build the AWS CLI from source you need the following completed beforehand:

> **Note**
>
> All code examples are assumed to run from the root of the source directory.

1. Download the AWS CLI source by either forking the AWS CLI GitHub repository or downloading the source tarball. The instructions is one of the following:

   - Fork and clone the [AWS CLI repository](https://github.com/aws/aws-cli) from GitHub. For more information, see [Fork a repo](https://github.com/docs) in the [GitHub Docs](https).
   
   - Download the latest source tarball at [https://awscli.amazonaws.com/awscli.tar.gz](https://awscli.amazonaws.com/awscli.tar.gz) extract the contents using the following commands:

     ```
     $ curl -o awscli.tar.gz https://awscli.amazonaws.com/awscli.tar.gz
     $ tar -xzf awscli.tar.gz
     ```

> **Note**
>
> To download a specific version, use the following link format: [https://awscli.amazonaws.com/awscli-versionnumber.tar.gz](https://awscli.amazonaws.com/awscli-versionnumber.tar.gz)

   For example, for version 2.10.0 the link is the following: [https://awscli.amazonaws.com/awscli-2.10.0.tar.gz](https://awscli.amazonaws.com/awscli-2.10.0.tar.gz)

   Source versions are available starting with version **2.10.0** of the AWS CLI.
(Optional) Verifying the integrity of your downloaded zip file by completing the following steps:

1. You can use the following steps to verify the signatures by using the GnuPG tool.

   The AWS CLI installer package .zip files are cryptographically signed using PGP signatures. If there is any damage or alteration of the files, this verification fails and you should not proceed with installation.

2. Download and install the gpg command using your package manager. For more information about GnuPG, see the [GnuPG website](http://gnupg.org).

3. To create the public key file, create a text file and paste in the following text.

   ```
   -----BEGIN PGP PUBLIC KEY BLOCK-----
   mQINBF2Cr7UBEADJZHgcus0Jl7ENSyumXh85z0TRVx0JzorM2B/BL0kHOyigQluUG
   ZMLhEaNaG0bYatdxzP+3H9l1kV050pxWmO/R7fB/FSTouki4ci1X50uLI1nJZI1sxx
   PqGl0mxkImLNbGwoi6Lto0LyxqHN2iqz1lwTVmq9733zd3XfcXz3+Lb1hAgEt5G
   TfnxEKJ8soPlyWmwDH6HWcJnz2/a1QRBTIQ05uVeEoYxSh6wOai7s/SkevoSNBbYyz
   gdbdzoqI2Y8cgH2nbfgp3DssalZEdCcSsIsKl0u5CinE7k2qZ7KgKAIUCi/c/rgr
   C6VwsnDU00UCideCqX8eWeHutqvgZH1JgKDbznoIzeQHJD238GEu+eKhRHcz8/jeG
   94zckcgJ0z3kBGYMTihTz77FvJ9zzvZsBMBCeV1BTg3Tq6vdX4bdkhf5Sc+h7NtW0
   lrFj6UwAsGkbTA0xCOl/dnSmZhJ7ZIkEmW1lor/g0rjt0xQrUt1iqG22TaqpG
   fyvN+n3Zwbt97kgZDq5bukyKt6u0oZwc4XKCa3mpzECG31bJTBFqglXmZ719ywG
   EEUJYo1b2XrSUw139beWkDBM8kmr10jn10m6+1pTRCBofo0w9F8YRZHHPakKWX
   XDe0GwpWr4oh0x0zd2GwKvY5xyN14p2tQ0Cd00Dmz80yUTgRpPVqU0EhXQARACAB
   tCFBV1mgQ0xJFRLy1w0gPFG3cy1ybl6AAY1hem9uLmnbvT6JAI0EwEiA4D4W7T
   Xbd/1cEyuAurainMqzMrNHzAXCXYKv0tIBAwUJB4zaAULC0QhAgYVcgkICwIE
   FglDAQIeAQIXQgAaKCCmHQQzMrNHXJXIECAhLUk80uPUKgEJ3ejvQSAiawuAM
   yzy6fdpd1RuUz6mnsU0ExjVibEJpzK5nuSz41b0vJZZUPVg4vzs2nBd7BGJM
   MxKiWg8ReGvTqDz0SzyYH4PCJSE732x/Fw9f5hn1dMTXNcrQXzw0mmkFNNegG0x
   au+VnpecRSK3smiTR1wZBRu01jhpCQPQ7t5CMp9kJC6bovy1hs1qGx2nBMAN/Do
   ikebAl36uA6Y/Uczj3GxZc4WZeFirMidKbtqvUz2y0UFszobjiBstoZHZCrcC34B
   hw9bFnuPW/0S5xgohdsc6vK50pDgV5kM2qa9tMQ/1szAWTh/d/GzV8H41v9e0
   teIs+EapR4Q7PaxKKh9tjF0NQ1YLRofx5Pz3O15s3gvsH5XAh3J9y1xsb807Q
   QYmVz3a4uIkE20i6m52Fv56VFupwfrTKA17VXn5rK2f5cRvyJLNzXucg0wAjPF
   RzALgL7V1pxeg1a0aePdpsqjyjPjom80OCWci+6Dwbgb0jAcS74WoesAqgbIT0M
   DBszally/q+bPzpsnWjzHV8+1/ETZmSc8ZUGSj0PzfC7h0nfkL118h+1QkTkJmne4d
   H17gsB3j+owPwJvZi02LMqJ80q1m3K1A4zFT7wcC7He6K1PQeaipXZAMgtvATTNe
   YLZATHzkTJyiQa==
   =vYOk
   -----END PGP PUBLIC KEY BLOCK-----
   ```
For reference, the following are the details of the public key.

- Key ID: A6310ACC4672
- Type: RSA
- Size: 4096/4096
- Created: 2019-09-18
- Expires: 2023-09-17
- User ID: AWS CLI Team <aws-cli@amazon.com>
- Key fingerprint: FB5D B77F D5C1 18B8 0511 ADA8 A631 0ACC 4672 475C

4. Import the AWS CLI public key with the following command, substituting `public-key-file-name` with the file name of the public key you created.

   ```bash
   $ gpg --import public-key-file-name
   gpg: /home/username/.gnupg/trustdb.gpg: trustdb created
   gpg: key A6310ACC4672475C: public key "AWS CLI Team <aws-cli@amazon.com>" imported
   gpg: Total number processed: 1
   gpg: imported: 1
   ```

5. Download the AWS CLI signature file for the package you downloaded at [https://awscli.amazonaws.com/awscli.tar.gz.sig](https://awscli.amazonaws.com/awscli.tar.gz.sig). It has the same path and name as the tarball file it corresponds to, but has the extension `.sig`. Save it in the same path as the tarball file. Or use the following command block:

   ```bash
   $ curl -o awscliv2.sig https://awscli.amazonaws.com/awscli.tar.gz.sig
   ```

6. Verify the signature, passing both the downloaded `.sig` and `.zip` file names as parameters to the `gpg` command.

   ```bash
   $ gpg --verify awscliv2.sig awscli.tar.gz
   ```

   The output should look similar to the following.

   ```
   gpg: Signature made Mon Nov 4 19:00:01 2019 PST
   gpg: using RSA key FB5D B77F D5C1 18B8 0511 ADA8 A631 0ACC 4672 475C
   gpg: Good signature from "AWS CLI Team <aws-cli@amazon.com>" [unknown]
   gpg: WARNING: This key is not certified with a trusted signature!
   ```
Important

The warning in the output is expected and doesn't indicate a problem. It occurs because there isn't a chain of trust between your personal PGP key (if you have one) and the AWS CLI PGP key. For more information, see Web of trust.

2. You have an environment that can run GNU Autotools generated files such as configure and Makefile. These files are widely portable across POSIX platforms.

Linux and macOS

If Autotools is not already installed in your environment or you need to update them, then follow the installation instructions found in How do I install the Autotools (as user)? or Basic Installation in the GNU documentation.

Windows PowerShell

Warning

We suggest if you are in a Windows environment, you use the pre-built installers. For install instructions on the pre-built installers, see the section called “Install/Update.”

Since Windows does not come with a POSIX-compliant shell, you need to install additional software to install the AWS CLI from source. MSYS2 provides a collection of tools and libraries to help build and install Windows software, especially for the POSIX-based scripting that Autotools uses.

1. Install MSYS2. For information on installing and using MSYS2, see the install and usage instructions in the MSYS2 Documentation.

2. Open the MSYS2 terminal and install autotools using the following command.

   $ pacman -S autotools
3. A Python 3.8 or later interpreter is installed. The minimum Python version required follows the same timelines as the official Python support policy for AWS SDKs and Tools. An interpreter is only supported 6 months after its end-of-support date.

4. **(Optional)** Install all build and runtime Python library dependencies of the AWS CLI. The ./configure command informs you if you are missing any dependencies and how to install them.

   You can automatically install and use these dependencies through configuration, see the section called “Downloading dependencies” for more information.

---

### Step 2: Configuring the AWS CLI source installation

Configuration for building and installing the AWS CLI is specified using the configure script. For the documentation of all configuration options, run the configure script with the --help option:

**Linux and macOS**

```
$ ./configure --help
```

**Windows PowerShell**

```
PS C:\> C:\msys64\usr\bin\bash -lc "./configure --help"
```
The most important options are the following:

- **Install location**
- **Python interpreter**
- **Downloading dependencies**
- **Install type**

### Install location

The source installation of the AWS CLI uses two configurable directories to install the AWS CLI:

- **libdir** - Parent directory where the AWS CLI will be installed. The path to the AWS CLI installation is `<libdir-value>/aws-cli`. The default `libdir` value for Linux and macOS is `/usr/local/lib` making the default installation directory `/usr/local/lib/aws-cli`.

- **bindir** - Directory where the AWS CLI executables are installed. The default location is `/usr/local/bin`.

The following configure options control the directories used:

- **--prefix** - Sets the directory prefix to use for the installation. The default value for Linux and macOS is `/usr/local`.

- **--libdir** - Sets the `libdir` to use for installing the AWS CLI. The default value is `<prefix-value>/lib`. If both `--libdir` and `--prefix` are not specified, the default for Linux and macOS is `/usr/local/lib`.

- **--bindir** - Sets the `bindir` to use for installing the AWS CLI `aws` and `aws_completer` executables. The default value is `<prefix-value>/bin`. If both `bindir` and `--prefix` are not specified, the default for Linux and macOS is `/usr/local/bin`.

### Linux and macOS

The following command example uses the `--prefix` option to do a local user install of the AWS CLI. This command installs the AWS CLI in `$HOME/.local/lib/aws-cli` and the executables in `$HOME/.local/bin`:

```
$ ./configure --prefix=$HOME/.local
```
The following command example uses the \texttt{--libdir} option to install the AWS CLI as an add-on application in the /opt directory. This command installs the AWS CLI at /opt/aws-cli and the executables at their default location of /usr/local/bin.

\begin{verbatim}
$ ./configure --libdir=/opt
\end{verbatim}

Windows PowerShell

The following command example uses the \texttt{--prefix} option to do a local user install of the AWS CLI. This command installs the AWS CLI in $HOME/.local/lib/aws-cli and the executables in $HOME/.local/bin:

\begin{verbatim}
$ C:\msys64\usr\bin\bash -lc "./configure --prefix='C:\Program Files\AWSCLI'"
\end{verbatim}

The following command example uses the \texttt{--libdir} option to install the AWS CLI as an add-on application in the /opt directory. This command installs the AWS CLI at C:\Program Files\AWSCLI\opt\aws-cli.

\section*{Python interpreter}

\begin{note}
It is highly recommended to specify the Python interpreter when installing for Windows.
\end{note}

The ./configure script automatically selects an installed Python 3.8 or later interpreter to use in building and running the AWS CLI using the \texttt{AM\_PATH\_PYTHON} Autoconf macro.

The Python interpreter to use can be explicitly set using the PYTHON environment variable when running the configure script:

Linux and macOS

\begin{verbatim}
$ PYTHON=/path/to/python ./configure
\end{verbatim}

Windows PowerShell

\begin{verbatim}
PS C:\> C:\msys64\usr\bin\bash -lc "PYTHON='C:\path\to\python' ./configure"
\end{verbatim}
**Downloading dependencies**

By default, it is required that all build and runtime dependencies of the AWS CLI are already installed on the system. This includes any Python library dependencies. All dependencies are checked when the `configure` script is run, and if the system is missing any Python dependencies, the `configure` script errors out.

The following code example errors out when your system is missing dependencies:

**Linux and macOS**

```bash
$ ./configure
checking for a Python interpreter with version >= 3.8... python
checking for python... /Users/username/.envs/env3.11/bin/python
checking for python version... 3.11
checking for python platform... darwin
checking for GNU default python prefix... ${prefix}
checking for GNU default python exec_prefix... ${exec_prefix}
checking for python script directory (pythondir)... ${PYTHON_PREFIX}/lib/python3.11/site-packages
checking for python extension module directory (pyexecdir)... ${PYTHON_EXEC_PREFIX}/lib/python3.11/site-packages
checking for --with-install-type... system-sandbox
checking for --with-download-deps... Traceback (most recent call last):
  File "<frozen runpy>", line 198, in _run_module_as_main
  File "<frozen runpy>", line 88, in _run_code
  File "/Users/username/aws-code/aws-cli./backends/build_system/__main__.py", line 125, in <module>
    main()
  File "/Users/username/aws-code/aws-cli./backends/build_system/__main__.py", line 121, in main
    parsed_args.func(parsed_args)
  File "/Users/username/aws-code/aws-cli./backends/build_system/__main__.py", line 49, in validate
    validate_env(parsed_args.artifact)
  File "/Users/username/aws-code/aws-cli./backends/build_system/validate_env.py", line 48, in validate_env
    raise UnmetDependenciesException(unmet_deps, in_venv)
validate_env.UnmetDependenciesException: Environment requires following Python dependencies:

awscrt (required: ('>=0.12.4', '<0.17.0')) (version installed: None)
```
We recommend using --with-download-deps flag to automatically create a virtualenv and download the dependencies.

If you want to manage the dependencies yourself instead, run the following pip command:

```
/Users/username/.envs/env3.11/bin/python -m pip install --prefer-binary
'awscrt>=0.12.4,<0.17.0'
```

configure: error: "Python dependencies not met."

Windows PowerShell

```powershell
PS C:\> C:\msys64\usr\bin\bash -lc "./configure"
checking for a Python interpreter with version &gt;= 3.8... python
checking for python... /Users/username/.envs/env3.11/bin/python
checking for python version... 3.11
checking for python platform... darwin
checking for GNU default python prefix... ${prefix}
checking for GNU default python exec_prefix... ${exec_prefix}
checking for python script directory (pythondir)... ${PYTHON_PREFIX}/lib/python3.11/site-packages
checking for python extension module directory (pyexecdir)... ${PYTHON_EXEC_PREFIX}/lib/python3.11/site-packages
checking for --with-install-type... system-sandbox
checking for --with-download-deps... Traceback (most recent call last):
  File "&lt;frozen runpy&gt;", line 198, in _run_module_as_main
  File "&lt;frozen runpy&gt;", line 88, in _run_code
  File "/Users/username/aws-code/aws-cli./backends/build_system/__main__.py", line 125, in &lt;module&gt;
    main()
  File "/Users/username/aws-code/aws-cli./backends/build_system/__main__.py", line 121, in main
    parsed_args.func(parsed_args)
  File "/Users/username/aws-code/aws-cli./backends/build_system/__main__.py", line 49, in validate
    validate_env(parsed_args.artifact)
  File "/Users/username/aws-code/aws-cli./backends/build_system/validate_env.py", line 68, in validate_env
    raise UnmetDependenciesException(unmet_deps, in_venv)
UnmetDependenciesException: Environment requires following Python dependencies:

awscrt (required: ('&gt;=0.12.4', '&lt;0.17.0')) (version installed: None)
```
We recommend using --with-download-deps flag to automatically create a virtualenv and download the dependencies.

If you want to manage the dependencies yourself instead, run the following pip command:
/Users/username/.envs/env3.11/bin/python -m pip install --prefer-binary 'awscrt>=0.12.4,<0.17.0'

configure: error: "Python dependencies not met."

To automatically install the required Python dependencies, use the --with-download-deps option. When using this flag, the build process does the following:

- Skips the Python library dependencies check.
- Configures the settings to download all required Python dependencies and use only the downloaded dependencies to build the AWS CLI during the make build.

The following configure command example uses the --with-download-deps option to download and use the Python dependencies:

Linux and macOS

$ ./configure --with-download-deps

Windows PowerShell

PS C:\> C:\msys64\usr\bin\bash -lc "./configure --with-download-deps"

Install type

The source install process supports the following installation types:

- system-sandbox - (Default) Creates an isolated Python virtual environment, installs the AWS CLI into the virtual environment, and symlinks to the aws and aws_completer executable in the virtual environment. This install of the AWS CLI depends directly on the selected Python interpreter for its runtime.
This is a lightweight install mechanism to get the AWS CLI installed on a system and follows best Python practices by sandboxing the installation in a virtual environment. This installation is intended for customers that want to install the AWS CLI from source in the most frictionless way possible with the installation coupled to your installation of Python.

- **portable-exe** - Freezes the AWS CLI into a standalone executable that can be distributed to environments of similar architectures. This is the same process used to generate the official pre-built executables of the AWS CLI. The portable-exe freezes in a copy of the Python interpreter chosen in the configure step to use for the runtime of the AWS CLI. This allows it to be moved to other machines that may not have a Python interpreter.

This type of builds is useful because you can ensure your AWS CLI installation isn't coupled to the environment's installed Python version and you can distribute a build to other system that may not already have Python installed. This enables you to control the dependencies and security on the AWS CLI executables you use.

To configure the installation type, use the `--with-install-type` option and specify a value of portable-exe or system-sandbox.

The following `./configure` command example specifies a value of portable-exe:

**Linux and macOS**

```bash
$ ./configure --with-install-type=portable-exe
```

**Windows PowerShell**

```powershell
PS C:\> C:\msys64\usr\bin\bash -lc "./configure --with-install-type=portable-exe"
```

**Step 3: Building the AWS CLI**

Use the `make` command to build the AWS CLI using your configuration settings:

**Linux and macOS**

```bash
$ make
```
Note

When using the *make* command, the following steps are completed behind the scenes:

1. A virtual environment is created in the build directory using the Python `venv` module. The virtual environment is bootstrapped with a *version of pip that is vendored in the Python standard library*.

2. Copies Python library dependencies. Depending on if the `--with-download-deps` flag is specified in the `configure` command, this step does one of the following:
   - The `--with-download-deps` is specified. Python dependencies are pip installed. This includes `wheel`, `setuptools`, and all AWS CLI runtime dependencies. If you are building the `portable-exe`, `pyinstaller` is installed. These requirements are all specified in lock files generated from `pip-compile`.
   - The `--with-download-deps` is not specified. Python libraries from the Python interpreter's site package plus any scripts (e.g. `pyinstaller`) are copied into the virtual environment being used for the build.

3. Runs `pip install` directly on the AWS CLI codebase to do an offline, in-tree build and install of the AWS CLI into the build virtual environment. This install uses the pip flags `--no-build-isolation`, `--use-feature=in-tree-build`, `--no-cache-dir`, and `--no-index`.

4. *(Optional)* If the `--install-type` is set to `portable-exe` in the `configure` command, builds a standalone executable using `pyinstaller`.

Step 4: Installing the AWS CLI

The *make install* command installs your built AWS CLI to the configured location on the system.
Linux and macOS

The following command example installs the AWS CLI using your configuration and build settings:

```
$ make install
```

Windows PowerShell

The following command example installs the AWS CLI using your configuration and build settings, then adds an environment variable with the path for the AWS CLI:

```
PS C:\> C:\msys64\usr\bin\bash -lc " make install "
PS C:\> $Env: PATH +=";C:\Program Files\AWSCLI\bin\"
```

The `make install` rule supports the `DESTDIR` variable. When specified, this variable prefixes the specified path to the already configured installation path when installing the AWS CLI. By default, no value is set for this variable.

Linux and macOS

The following code example uses a `--prefix=/usr/local` flag for configuring an install location, and then alters that destination using `DESTDIR=/tmp/stage` for the `make install` command. These commands result in the AWS CLI being installed at `/tmp/stage/usr/local/lib/aws-cli` and its executables located in `/tmp/stage/usr/local/bin`.

```
$ ./configure --prefix=/usr/local
$ make
$ make DESTDIR=/tmp/stage install
```

Windows PowerShell

The following code example uses a `--prefix=\awscli` flag for configuring an install location, and then alters that destination using `DESTDIR=C:\Program Files` for the `make install` command. These commands result in the AWS CLI being installed at `C:\Program Files\awscli`.

```
$ ./configure --prefix=\awscli
$ make
```
Note

When running `make install`, the following steps are completed behind the scenes

1. Moves one of the following to the configured install directory:
   - If the install type is `system-sandbox`, moves your built virtual environment.
   - If the install type is a `portable-exe`, moves your built standalone executable.
2. Creates symlinks for both the `aws` and `aws_completer` executables in your configured bin directory.

Step 5: Verifying the AWS CLI installation

Confirm the AWS CLI successfully installed by using the following command:

```
$ aws --version
aws-cli/2.15.19 Python/3.11.6 Windows/10 exe/AMD64 prompt/off
```

If the `aws` command is not recognized, you may need to restart your terminal for new symlinks to update. If you come across additional issues after installing or uninstalling the AWS CLI, see `Troubleshoot errors` for common troubleshooting steps.

Workflow examples

This section provides some basic workflow examples for installing from source.

Basic Linux and macOS install

The following example is a basic installation workflow where the AWS CLI is installed in the default location of `/usr/local/lib/aws-cli`.

```
$ cd path/to/cli/respository/
$ ./configure
$ make
$ make install
```
Automated Windows install

Note

You must run PowerShell as an Administrator to use this workflow.

MSYS2 can be used in an automated fashion in a CI setting, see Using MSYS2 in CI in the MSYS2 Documentation.

Downloaded Tarball

Download the awscli.tar.gz file, extract, and install the AWS CLI. When using the following commands, replace the following paths:

- C:\msys64\usr\bin\bash with the location of your MSYS2 path.
- .\awscli-2.x.x\ with the extracted awscli.tar.gz folder name.
- PYTHON='C:\path\to\python.exe' with your local Python path.

The following code example automates building and installing the AWS CLI from PowerShell using MSYS2, and specifies which local install of Python to use:

```
PS C:\> curl -o awscli.tar.gz https://awscli.amazonaws.com/awscli.tar.gz  
     # Download the awscli.tar.gz file in the current working directory
PS C:\> tar -xvzf .\awscli.tar.gz  
     # Extract awscli.tar.gz file
PS C:\> cd .\awscli-2.x.x\  
     # Navigate to the root of the extracted files
PS C:\> $env:CHERE_INVOKING = 'yes'  
     # Preserve the current working directory
PS C:\> C:\msys64\usr\bin\bash -lc " PYTHON='C:\path\to\python.exe' ./configure --prefix='C:\Program Files\AWSCLI' --with-download-deps "
PS C:\> C:\msys64\usr\bin\bash -lc "make"
PS C:\> C:\msys64\usr\bin\bash -lc "make install"
PS C:\> $Env:PATH +=";C:\Program Files\AWSCLI\bin;"
PS C:\> aws --version
    aws-cli/2.15.19 Python/3.11.6 Windows/10 source-sandbox/AMD64 prompt/off
```

GitHub Repository

Download the awscli.tar.gz file, extract, and install the AWS CLI. When using the following commands, replace the following paths:
• `C:\msys64\usr\bin\bash` with the location of your MSYS2 path.

• `C:\path\to\cli\repository\` with the path to your cloned [AWS CLI repository](#) from [GitHub](#). For more information, see [Fork a repo](#) in the [GitHub Docs](#).

• `PYTHON='C:\path\to\python.exe'` with your local Python path.

The following code example automates building and installing the AWS CLI from PowerShell using MSYS2, and specifies which local install of Python to use:

```plaintext
PS C:\> cd C:\path\to\cli\repository\
PS C:\> $env:CHERE_INVOKING = 'yes' # Preserve the current working directory
PS C:\> C:\msys64\usr\bin\bash -lc " PYTHON='C:\path\to\python.exe' ./configure --prefix='C:\Program Files\AWSCLI' --with-download-deps "
PS C:\> C:\msys64\usr\bin\bash -lc "make"
PS C:\> C:\msys64\usr\bin\bash -lc "make install"
PS C:\> $Env:PATH +=";C:\Program Files\AWSCLI\bin"
PS C:\> aws --version
```

### Alpine Linux container

Below is an example Dockerfile that can be used to get a working installation of the AWS CLI in an Alpine Linux container as an alternative to pre-built binaries for Alpine. When using this example, replace `AWSCLI_VERSION` with you desired AWS CLI version number:

```plaintext
FROM python:3.8-alpine AS builder

ENV AWSCLI_VERSION=2.10.1

RUN apk add --no-cache \
    curl \
    make \
    cmake \
    gcc \
    g++ \
    libc-dev \
    libffi-dev \
    openssl-dev \
    && curl https://awscli.amazonaws.com/awscli-$AWSCLI_VERSION.tar.gz | tar -xz \
    && cd awscli-$AWSCLI_VERSION \
    && ./configure --prefix=/opt/aws-cli/ --with-download-deps \
```

Workflow examples
&& make \
&& make install

FROM python:3.8-alpine

RUN apk --no-cache add groff

COPY --from=builder /opt/aws-cli/ /opt/aws-cli/

ENTRYPOINT ["/opt/aws-cli/bin/aws"]

This image is built and the AWS CLI invoked from a container similar to the one that is built on Amazon Linux 2:

$ docker build --tag awscli-alpine .
$ docker run --rm -it awscli-alpine --version
aws-cli/2.2.1 Python/3.8.11 Linux/5.10.25-linuxkit source-sandbox/x86_64.alpine.3 prompt/off

The final size of this image is smaller than the size of the official AWS CLI Docker image. For information on the official Docker image, see the section called “Amazon ECR Public/Docker”.

Troubleshooting AWS CLI install and uninstall errors

For troubleshooting steps for install errors, see Troubleshoot errors for common troubleshooting steps. For the most relevant troubleshooting steps, see the section called “Command not found errors”, the section called “The "aws --version" command returns a different version than you installed”, and the section called “The "aws --version" command returns a version after uninstalling the AWS CLI”.

For any issues not covered in the troubleshooting guides, search the issues with the source-distribution label in the AWS CLI Repository on GitHub. If no existing issues cover your errors, create a new issue to receive help from the AWS CLI maintainers.

Next steps

After installing the AWS CLI, you should perform a the section called “Setup”.
Run the AWS CLI from the official Amazon ECR Public or Docker images

This topic describes how to run, version control, and configure the AWS CLI version 2 on Docker using either the official Amazon Elastic Container Registry Public (Amazon ECR Public) or Docker Hub image. For more information on how to use Docker, see Docker's documentation.

Official images provide isolation, portability, and security that AWS directly supports and maintains. This enables you to use the AWS CLI version 2 in a container-based environment without having to manage the installation yourself.

Topics

- Prerequisites
- Deciding between Amazon ECR Public and Docker Hub
- Run the official AWS CLI version 2 images
- Notes on interfaces and backwards compatibility of the official images
- Use specific versions and tags
- Update to the latest official image
- Share host files, credentials, environment variables, and configuration
- Shorten the docker run command

Prerequisites

You must have Docker installed. For installation instructions, see the Docker website.

To verify your installation of Docker, run the following command and confirm there is an output.

```sh
$ docker --version
Docker version 19.03.1
```

Deciding between Amazon ECR Public and Docker Hub

We recommend using Amazon ECR Public over Docker Hub for AWS CLI images. Docker Hub has stricter rate limiting for public consumers which can cause throttling issues. In addition, Amazon ECR Public replicates images in more than one region to provide strong availability and handle region outage issues.
For more information on Docker Hub rate limiting see [Understanding Docker Hub Rate Limiting](#) on the Docker website.

**Run the official AWS CLI version 2 images**

The first time you use the `docker run` command, the latest image is downloaded to your computer. Each subsequent use of the `docker run` command runs from your local copy.

To run the AWS CLI version 2 Docker images, use the `docker run` command.

**Amazon ECR Public**

The official AWS CLI version 2 Amazon ECR Public image is hosted on Amazon ECR Public in the `aws-cli/aws-cli` repository.

$ `docker run --rm -it public.ecr.aws/aws-cli/aws-cli command`

**Docker Hub**

The official AWS CLI version 2 Docker image is hosted on Docker Hub in the `amazon/aws-cli` repository.

$ `docker run --rm -it amazon/aws-cli command`

This is how the command functions:

- `docker run --rm -it repository/name` – The equivalent of the `aws` executable. Each time you run this command, Docker spins up a container of your downloaded image, and executes your `aws` command. By default, the image uses the latest version of the AWS CLI version 2.

For example, to call the `aws --version` command in Docker, you run the following.

**Amazon ECR Public**

$ `docker run --rm -it public.ecr.aws/aws-cli/aws-cli --version`

aws-cli/2.15.19 Python/3.7.3 Linux/4.9.184-linuxkit botocore/2.4.5dev10

**Docker Hub**

$ `docker run --rm -it amazon/aws-cli --version`
• `--rm` – Specifies to clean up the container after the command exits.

• `--it` – Specifies to open a pseudo-TTY with stdin. This enables you to provide input to the AWS CLI version 2 while it's running in a container, for example, by using the `aws configure` and `aws help` commands. When choosing whether to omit `--it`, consider the following:

  • If you are running scripts, `--it` is not needed.
  
  • If you are experiencing errors with your scripts, omitting `--it` from your Docker call might fix the issue.
  
  • If you are trying to pipe output, `--it` might cause errors and omitting `--it` from your Docker call might resolve this issue. If you'd like to keep the `--it` flag, but still would like to pipe output, disabling the `client-side pager` the AWS CLI uses by default should resolve the issue.

For more information about the `docker run` command, see the Docker reference guide.

**Notes on interfaces and backwards compatibility of the official images**

• The only tool supported on the image is the AWS CLI. Only the `aws` executable should ever be directly run. For example, even though `less` and `groff` are explicitly installed on the image, they should not be executed directly outside of an AWS CLI command.

• The `/aws` working directory is user controlled. The image will not write to this directory, unless instructed by the user in running an AWS CLI command.

• There are no backwards compatibility guarantees in relying on the latest tag. To guarantee backwards compatibility, you must pin to a specific `<major.minor.patch>` tag as those tags are immutable; they will only ever be pushed to once.

**Use specific versions and tags**

The official AWS CLI version 2 image has multiple versions you can use, starting with version 2.0.6. To run a specific version of the AWS CLI version 2, append the appropriate tag to your `docker run` command. The first time you use the `docker run` command with a tag, the latest image for that tag is downloaded to your computer. Each subsequent use of the `docker run` command with that tag runs from your local copy.

You can use two types of tags:
• latest – Defines the latest version of the AWS CLI version 2 for the image. We recommend you use the latest tag when you want the latest version of the AWS CLI version 2. However, there are no backward-compatibility guarantees when relying on this tag. The latest tag is used by default in the docker run command. To explicitly use the latest tag, append the tag to the container image name.

Amazon ECR Public

```bash
$ docker run --rm -it public.ecr.aws/aws-cli/aws-cli:latest command
```

Docker Hub

```bash
$ docker run --rm -it amazon/aws-cli:latest command
```

• <major.minor.patch> – Defines a specific version of the AWS CLI version 2 for the image. If you plan to use an official image in production, we recommend you use a specific version of the AWS CLI version 2 to ensure backward compatibility. For example, to run version 2.0.6, append the version to the container image name.

Amazon ECR Public

```bash
$ docker run --rm -it public.ecr.aws/aws-cli/aws-cli:2.0.6 command
```

Docker Hub

```bash
$ docker run --rm -it amazon/aws-cli:2.0.6 command
```

**Update to the latest official image**

Because the latest image is downloaded to your computer only the first time you use the docker run command, you need to manually pull an updated image. To manually update to the latest version, we recommend you pull the latest tagged image. Pulling the image downloads the latest version to your computer.

Amazon ECR Public

```bash
$ docker pull public.ecr.aws/aws-cli/aws-cli:latest
```
Docker Hub

```
$ docker pull amazon/aws-cli:latest
```

**Share host files, credentials, environment variables, and configuration**

Because the AWS CLI version 2 is run in a container, by default the CLI can't access the host file system, which includes configuration and credentials. To share the host file system, credentials, and configuration to the container, mount the host system's `~/.aws` directory to the container at `/root/.aws` with the `-v` flag to the `docker run` command. This allows the AWS CLI version 2 running in the container to locate host file information.

**Amazon ECR Public**

**Linux and macOS**

```
$ docker run --rm -it -v ~/.aws:/root/.aws public.ecr.aws/aws-cli/aws-cli command
```

**Windows Command Prompt**

```
$ docker run --rm -it -v %userprofile%\.aws:/root/.aws public.ecr.aws/aws-cli/aws-cli command
```

**Windows PowerShell**

```
C:\> docker run --rm -it -v $env:userprofile\.aws:/root/.aws public.ecr.aws/aws-cli/aws-cli command
```

**Docker Hub**

**Linux and macOS**

```
$ docker run --rm -it -v ~/.aws:/root/.aws amazon/aws-cli command
```

**Windows Command Prompt**

```
$ docker run --rm -it -v %userprofile%\.aws:/root/.aws amazon/aws-cli command
```

**Windows PowerShell**

```
C:\> docker run --rm -it -v $env:userprofile\.aws:/root/.aws amazon/aws-cli command
```
For more information about the \(-v\) flag and mounting, see the Docker reference guide.

Note

For information on config and credentials files, see the section called “Configuration and credential file settings”.

Example 1: Providing credentials and configuration

In this example, we're providing host credentials and configuration when running the \(s3 \, ls\) command to list your buckets in Amazon Simple Storage Service (Amazon S3). The below examples use the default location for AWS CLI credentials and configuration files, to use a different location, change the file path.

Amazon ECR Public

**Linux and macOS**

```bash
$ docker run --rm -it -v ~/.aws:/root/.aws public.ecr.aws/aws-cli/aws-cli s3 ls
2020-03-25 00:30:48 aws-cli-docker-demo
```

**Windows Command Prompt**

```bash
$ docker run --rm -it -v %userprofile%\.aws:/root/.aws public.ecr.aws/aws-cli/aws-cli s3 ls
2020-03-25 00:30:48 aws-cli-docker-demo
```

**Windows PowerShell**

```bash
C:\> docker run --rm -it -v $env:userprofile\aws:/root/.aws public.ecr.aws/aws-cli/aws-cli s3 ls
```

Docker Hub

**Linux and macOS**

Share host files, credentials, environment variables, and configuration
$ docker run --rm -it -v ~/.aws:/root/.aws amazon/aws-cli s3 ls
2020-03-25 00:30:48 aws-cli-docker-demo

Windows Command Prompt

$ docker run --rm -it -v %userprofile%\.aws:/root/.aws amazon/aws-cli s3 ls
2020-03-25 00:30:48 aws-cli-docker-demo

Windows PowerShell

C:\> docker run --rm -it -v $env:userprofile\.aws:/root/.aws amazon/aws-cli s3 ls
2020-03-25 00:30:48 aws-cli-docker-demo

You can call specific system's environment variables using the -e flag. To use an environment variable, call it by name.

Amazon ECR Public

Linux and macOS

$ docker run --rm -it -v ~/.aws:/root/.aws -e ENVVAR_NAME public.ecr.aws/aws-cli/aws-cli s3 ls
2020-03-25 00:30:48 aws-cli-docker-demo

Windows Command Prompt

$ docker run --rm -it -v %userprofile%\.aws:/root/.aws -e ENVVAR_NAME public.ecr.aws/aws-cli/aws-cli s3 ls
2020-03-25 00:30:48 aws-cli-docker-demo

Windows PowerShell

C:\> docker run --rm -it -v $env:userprofile\.aws:/root/.aws -e ENVVAR_NAME public.ecr.aws/aws-cli/aws-cli s3 ls

Docker Hub

Linux and macOS

$ docker run --rm -it -v ~/.aws:/root/.aws -e ENVVAR_NAME amazon/aws-cli s3 ls
Example 2: Downloading an Amazon S3 file to your host system

For some AWS CLI version 2 commands, you can read files from the host system in the container or write files from the container to the host system.

In this example, we download the S3 object `s3://aws-cli-docker-demo/hello` to your local file system by mounting the current working directory to the container's `/aws` directory. By downloading the `hello` object to the container's `/aws` directory, the file is saved to the host system's current working directory also.

Amazon ECR Public

**Linux and macOS**

```bash
```

download: `s3://aws-cli-docker-demo/hello` to `./hello`

**Windows Command Prompt**

```bash
```

download: `s3://aws-cli-docker-demo/hello` to `./hello`

**Windows PowerShell**

```bash
C:\> docker run --rm -it -v $env:userprofile\.aws:/root/.aws -e ENVVAR_NAME amazon/aws-cli s3 ls
```
Docker Hub

**Linux and macOS**

```
download: s3://aws-cli-docker-demo/hello to ./hello
```

**Windows Command Prompt**

```
$ docker run --rm -it -v %userprofile%\aws:/root/.aws -v %cd%:/aws amazon/aws-cli s3 cp s3://aws-cli-docker-demo/hello .
download: s3://aws-cli-docker-demo/hello to ./hello
```

**Windows PowerShell**

```
C:\> docker run --rm -it -v $env:userprofile\aws:/root/.aws -v $pwd\aws:/aws
amazon/aws-cli s3 cp s3://aws-cli-docker-demo/hello .
```

To confirm the downloaded file exists in the local file system, run the following.

**Linux and macOS**

```
$ cat hello
Hello from Docker!
```

**Windows PowerShell**

```
$ type hello
Hello from Docker!
```

**Example 3: Using your AWS_PROFILE environment variable**

You can call specific system's environment variables using the `-e` flag. Call each environment variable you'd like to use. In this example, we're providing host credentials, configuration, and the
**AWS_PROFILE** environment variable when running the `s3 ls` command to list your buckets in Amazon Simple Storage Service (Amazon S3).

Amazon ECR Public

**Linux and macOS**

```bash
$ docker run --rm -it -v ~/.aws:/root/.aws -e AWS_PROFILE public.ecr.aws/aws-cli/ aws-cli s3 ls
2020-03-25 00:30:48 aws-cli-docker-demo
```

**Windows Command Prompt**

```bash
$ docker run --rm -it -v %userprofile%\.aws:/root/.aws -e AWS_PROFILE public.ecr.aws/aws-cli/aws-cli s3 ls
2020-03-25 00:30:48 aws-cli-docker-demo
```

**Windows PowerShell**

```bash
C:\> docker run --rm -it -v %env:userprofile%\.aws:/root/.aws -e AWS_PROFILE public.ecr.aws/aws-cli/aws-cli s3 ls
```

Docker Hub

**Linux and macOS**

```bash
$ docker run --rm -it -v ~/.aws:/root/.aws -e AWS_PROFILE amazon/aws-cli s3 ls
2020-03-25 00:30:48 aws-cli-docker-demo
```

**Windows Command Prompt**

```bash
$ docker run --rm -it -v %userprofile%\.aws:/root/.aws -e AWS_PROFILE amazon/aws-cli s3 ls
2020-03-25 00:30:48 aws-cli-docker-demo
```

**Windows PowerShell**

```bash
C:\> docker run --rm -it -v $env:userprofile\.aws:/root/.aws -e AWS_PROFILE amazon/aws-cli s3 ls
```

Share host files, credentials, environment variables, and configuration
Shorten the docker run command

To shorten the `docker run` command, we suggest you use your operating system's ability to create a **symbolic link** (symlink) or **alias** in Linux and macOS, or **doskey** in Windows. To set the `aws` alias, you can run one of the following commands.

- For basic access to `aws` commands, run the following.

  **Amazon ECR Public**

  **Linux and macOS**

  
  ```
  $ alias aws='docker run --rm -it public.ecr.aws/aws-cli/aws-cli'
  ```

  **Windows Command Prompt**

  ```
  C:\> doskey aws=docker run --rm -it public.ecr.aws/aws-cli/aws-cli $*
  ```

  **Windows PowerShell**

  ```
  C:\> Function AWSCLI {docker run --rm -it public.ecr.aws/aws-cli/aws-cli $args}
  Set-Alias -Name aws -Value AWSCLI
  ```

  **Docker Hub**

  **Linux and macOS**

  ```
  $ alias aws='docker run --rm -it amazon/aws-cli'
  ```

  **Windows Command Prompt**

  ```
  C:\> doskey aws=docker run --rm -it amazon/aws-cli $*
  ```

  **Windows PowerShell**

  ```
  C:\> Function AWSCLI {docker run --rm -it amazon/aws-cli $args}
  Set-Alias -Name aws -Value AWSCLI
  ```
• For access to the host file system and configuration settings when using `aws` commands, run the following.

Amazon ECR Public

**Linux and macOS**

```
$ alias aws='docker run --rm -it -v ~/.aws:/root/.aws -v $(pwd):/aws public.ecr.aws/aws-cli/aws-cli'
```

**Windows Command Prompt**

```
C:\> doskey aws=docker run --rm -it -v %userprofile%\.aws:/root/.aws -v %cd%:/aws public.ecr.aws/aws-cli/aws-cli $*
```

**Windows PowerShell**

```
C:\> Function AWSCLI {docker run --rm -it -v $env:userprofile\.aws:/root/.aws -v $pwd\aws:/aws public.ecr.aws/aws-cli/aws-cli $args}
Set-Alias -Name aws -Value AWSCLI
```

**Docker Hub**

**Linux and macOS**

```
$ alias aws='docker run --rm -it -v ~/.aws:/root/.aws -v $(pwd):/aws amazon/aws-cli'
```

**Windows Command Prompt**

```
C:\> doskey aws=docker run --rm -it -v %userprofile%\.aws:/root/.aws -v %cd%:/aws amazon/aws-cli $*
```

**Windows PowerShell**

```
C:\> Function AWSCLI {docker run --rm -it -v $env:userprofile\.aws:/root/.aws -v $pwd\aws:/aws amazon/aws-cli $args}
Set-Alias -Name aws -Value AWSCLI
```

• To assign a specific version to use in your `aws` alias, append your version tag.
Amazon ECR Public

### Linux and macOS

```bash
$ alias aws='docker run --rm -it -v ~/.aws:/root/.aws -v $(pwd):/aws
  public.ecr.aws/aws-cli/aws-cli:2.0.6'
```

### Windows Command Prompt

```cmd
C:\> doskey aws=docker run --rm -it -v %userprofile%\.aws:/root/.aws -v %cd%:/aws
  public.ecr.aws/aws-cli/aws-cli:2.0.6 $*
```

### Windows PowerShell

```powershell
C:\> Function AWSCLI {
docker run --rm -it -v $env:userprofile\aws:/root/.aws -v
  $pwd\aws public.ecr.aws/aws-cli/aws-cli:2.0.6 $args
}
Set-Alias -Name aws -Value AWSCLI
```

### Docker Hub

#### Linux and macOS

```bash
$ alias aws='docker run --rm -it -v ~/.aws:/root/.aws -v $(pwd):/aws
  amazon/aws-cli:2.0.6'
```

#### Windows Command Prompt

```cmd
C:\> doskey aws=docker run --rm -it -v %userprofile%\.aws:/root/.aws -v %cd%:/aws
  amazon/aws-cli:2.0.6 $*
```

#### Windows PowerShell

```powershell
C:\> Function AWSCLI {
docker run --rm -it -v $env:userprofile\aws:/root/.aws -v
  $pwd\aws public.ecr.aws/aws-cli:2.0.6 $args
}
Set-Alias -Name aws -Value AWSCLI
```

After setting your alias, you can run the AWS CLI version 2 from within a container as if it's installed on your host system.
Set up the AWS CLI

This topic explains how to quickly configure basic settings that the AWS Command Line Interface (AWS CLI) uses to interact with AWS. These include your security credentials, the default output format, and the default AWS Region.

Topics

• **Gather your credential information for programmatic access**
• **Setting up new configuration and credentials**
• **Using existing configuration and credentials files**

Gather your credential information for programmatic access

You'll need programmatic access if you want to interact with AWS outside of the AWS Management Console. For authentication and credential instructions, choose one of the following options:

<table>
<thead>
<tr>
<th>Which user needs programmatic access?</th>
<th>Purpose</th>
<th>Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workforce identity (AWS IAM Identity Center users)</td>
<td>(Recommended) Use short-term credentials.</td>
<td>the section called “IAM Identity Center authentication”</td>
</tr>
<tr>
<td>IAM</td>
<td>Use short-term credentials.</td>
<td>the section called “Short-term credentials”</td>
</tr>
<tr>
<td>IAM or Workforce identity (AWS IAM Identity Center users)</td>
<td>Use Amazon EC2 instance metadata for credentials.</td>
<td>the section called “Use credentials for Amazon EC2 instance metadata”</td>
</tr>
<tr>
<td>IAM</td>
<td>Pair another credential method and assume a role for permissions.</td>
<td>the section called “IAM roles”</td>
</tr>
</tbody>
</table>
### Setting up new configuration and credentials

The AWS CLI stores your configuration and credential information in a *profile* (a collection of settings) in the credentials and config files.

**There are primarily two methods to quickly get setup:**

- [Configuring using AWS CLI commands](#)
- [Manually editing the credentials and config files](#)

The following examples use sample values for each of the authentication methods. Replace sample values with your own.

### Configuring using AWS CLI commands

For general use, the `aws configure` or `aws configure sso` commands in your preferred terminal are the fastest way to set up your AWS CLI installation. Based on the credential method you prefer, the AWS CLI prompts you for the relevant information. By default, the information in this profile is used when you run an AWS CLI command that doesn't explicitly specify a profile to use.

For more information on the credentials and config files, see [Configuration and credential file settings](#).
IAM Identity Center (SSO)

This example is for AWS IAM Identity Center using the `aws configure sso` wizard. For more information, see the section called “Configure automatic token refresh”.

```
$ aws configure sso
SSO session name (Recommended): my-sso
SSO start URL [None]: https://my-sso-portal.awsapps.com/start
SSO region [None]: us-east-1

Attempting to automatically open the SSO authorization page in your default browser.

There are 2 AWS accounts available to you.
> DeveloperAccount, developer-account-admin@example.com (111122223333)
    ProductionAccount, production-account-admin@example.com (444455556666)

Using the account ID 111122223333

There are 2 roles available to you.
> ReadOnly
    FullAccess

Using the role name "ReadOnly"

CLI default client Region [None]: us-west-2
CLI default output format [None]: json
CLI profile name [123456789011_ReadOnly]: user1
```

IAM Identity Center (Legacy SSO)

This example is for the legacy method of AWS IAM Identity Center using the `aws configure sso` wizard. To use the legacy SSO, leave the session name blank. For more information, see the section called “Configure legacy non-refreshable”.

```
$ aws configure sso
SSO session name (Recommended): 
SSO start URL [None]: https://my-sso-portal.awsapps.com/start
SSO region [None]: us-east-1

SSO authorization page has automatically been opened in your default browser. Follow the instructions in the browser to complete this authorization request.

There are 2 AWS accounts available to you.
```
> DeveloperAccount, developer-account-admin@example.com (111122223333)
    ProductionAccount, production-account-admin@example.com (444455556666)

Using the account ID 111122223333

There are 2 roles available to you.
> ReadOnly
  FullAccess

Using the role name "ReadOnly"

CLI default client Region [None]: us-west-2
CLI default output format [None]: json
CLI profile name [123456789011_ReadOnly]: user1

Short-term credentials

This example is for the short-term credentials from AWS Identity and Access Management. The aws configure wizard is used to set initial values and then the aws configure set command assigns the last value needed. For more information, see the section called “Short-term credentials”.

```
$ aws configure
AWS Access Key ID [None]: AKIAIOSFODNN7EXAMPLE
AWS Secret Access Key [None]: wJalrXUtnFEMI/K7MDENG/bPxRfiCYEXAMPLEKEY
Default region name [None]: us-west-2
Default output format [None]: json
$ aws configure set
aws_session_token fcZib3JpZ2luX2IQoJb3JpZ2luX2IQoJb3JpZ2luX2IQoJb3JpZVERYLONGSTRINGEXAMPLE
```

IAM role

This example is for assuming an IAM role. Profiles that use IAM roles pull credentials from another profile, and then apply IAM role permissions. In the following examples, default is the source profile for credentials and user1 borrows the same credentials then assumes a new role. There is no wizard for this process, therefore each value is set using the aws configure set command. For more information, see the section called “IAM roles”.

```
$ aws configure set role_arn arn:aws:iam::123456789012:role/defaultrole
$ aws configure set source_profile default
$ aws configure set role_session_name session_user1
$ aws configure set region us-west-2
```
AWS Command Line Interface

$ aws configure set output json

Amazon EC2 instance metadata credentials

This example is for the credentials obtained from the hosting Amazon EC2 instance metadata. There is no wizard for this process, therefore each value is set using the `aws configure set` command. For more information, see the section called “Use credentials for Amazon EC2 instance metadata”.

$ aws configure set role_arn arn:aws:iam::123456789012:role/defaultrole
$ aws configure set credential_source Ec2InstanceMetadata
$ aws configure set region us-west-2
$ aws configure set output json

Long-term credentials

⚠️ Warning

To avoid security risks, don't use IAM users for authentication when developing purpose-built software or working with real data. Instead, use federation with an identity provider such as AWS IAM Identity Center.

This example is for the long-term credentials from AWS Identity and Access Management. For more information, see the section called “IAM users”.

$ aws configure
AWS Access Key ID [None]: AKIAIOSFODNN7EXAMPLE
AWS Secret Access Key [None]: wJalrXUtnFEMI/K7MDENG/bPxRfiCYEXAMPLEKEY
Default region name [None]: us-west-2
Default output format [None]: json

For more detailed information on authentication and credential methods see Authentication and access credentials.

Manually editing the credentials and config files

When copy and pasting information, we suggest manually editing the config and credentials file. Based on the credential method you prefer, the files are setup in a different way.
The files are stored in your home directory under the .aws folder. Where you find your home directory location varies based on the operating system, but is referred to using the environment variables %UserProfile% in Windows and $HOME or ~ (tilde) in Unix-based systems. For more information on where these settings are stored, see the section called “Where are configuration settings stored?”.

The following examples show a default profile and a profile named user1 and use sample values. Replace sample values with your own. For more information on the credentials and config files, see Configuration and credential file settings.

IAM Identity Center (SSO)

This example is for AWS IAM Identity Center. For more information, see the section called “Configure automatic token refresh”.

Credentials file

The credentials file is not used for this authentication method.

Config file

```ini
[default]
sso_session = my-sso
sso_account_id = 111122223333
sso_role_name = readOnly
region = us-west-2
output = text

[profile user1]
sso_session = my-sso
sso_account_id = 444455556666
sso_role_name = readOnly
region = us-east-1
output = json

[sso-session my-sso]
sso_region = us-east-1
sso_start_url = https://my-sso-portal.awsapps.com/start
sso_registration_scopes = sso:account:access
```
IAM Identity Center (Legacy SSO)

This example is for the legacy method of AWS IAM Identity Center. For more information, see the section called “Configure legacy non-refreshable”.

Credentials file

The credentials file is not used for this authentication method.

Config file

```
[default]
sso_start_url = https://my-sso-portal.awsapps.com/start
sso_region = us-east-1
sso_account_id = 111122223333
sso_role_name = readOnly
region = us-west-2
output = text

[profile user1]
sso_start_url = https://my-sso-portal.awsapps.com/start
sso_region = us-east-1
sso_account_id = 444455556666
sso_role_name = readOnly
region = us-east-1
output = json
```

Short-term credentials

This example is for the short-term credentials from AWS Identity and Access Management. For more information, see the section called “Short-term credentials”.

Credentials file

```
[default]
aws_access_key_id=ASIAI0SF0DNN7EXAMPLE
aws_secret_access_key=wJalrXUtnFEMI/K7MDENG/bPxRfiCYEXAMPLEKEY
aws_session_token = IQoJb3JpZ2luX2IQoJb3JpZ2luX2IQoJb3JpZ2luX2IQoJb3JpZVERYLONGSTRINGEXAMPLE

[user1]
aws_access_key_id=ASIAI44QH8DHBEXAMPLE
aws_secret_access_key=je7MtGbClwBF/2Zp9Utk/h3yCo8nvbEXAMPLEKEY
```
aws_session_token
    = fcZib3JpZ2luX2IQoJb3JpZ2luX2IQoJb3JpZ2luX2IQoJb3JpZ2luX2IQoJb3JpZ2luX2IQoJb3JpZVERYLONGSTRINGEXAMPLE

### Config file

```
[default]
    region=us-west-2
    output=json

[profile user1]
    region=us-east-1
    output=text
```

### IAM role

This example is for assuming an IAM role. Profiles that use IAM roles pull credentials from another profile, and then apply IAM role permissions. In the following examples, default is the source profile for credentials and user1 borrows the same credentials then assumes a new role. For more information, see the section called “IAM roles”.

### Credentials file

The credentials file depends on what authentication your source profile uses. For the following example, the source profile uses short-term credentials.

```
[default]
    aws_access_key_id=ASIAIOSFODNN7EXAMPLE
    aws_secret_access_key=wJalrXUtnFEMI/K7MDENG/bPxRfiCYEXAMPLEKEY
    aws_session_token
        = IQoJb3JpZ2luX2IQoJb3JpZ2luX2IQoJb3JpZ2luX2IQoJb3JpZ2luX2IQoJb3JpZVERYLONGSTRINGEXAMPLE
```

### Config file

```
[default]
    region=us-west-2
    output=json

[profile user1]
    role_arn=arn:aws:iam::777788889999:role/user1role
    source_profile=default
    role_session_name=session_user1
    region=us-east-1
```
Amazon EC2 instance metadata credentials

This example is for the credentials obtained from the hosting Amazon EC2 instance metadata. For more information, see the section called “Use credentials for Amazon EC2 instance metadata”.

Credentials file

The credentials file is not used for this authentication method.

Config file

```
[ddefault]
role_arn=arn:aws:iam::123456789012:role/defaultrole
credential_source=Ec2InstanceMetadata
region=us-west-2
output=json

[profile user1]
role_arn=arn:aws:iam::77788889999:role/user1role
credential_source=Ec2InstanceMetadata
region=us-east-1
output=text
```

Long-term credentials

⚠️ Warning

To avoid security risks, don't use IAM users for authentication when developing purpose-built software or working with real data. Instead, use federation with an identity provider such as AWS IAM Identity Center.

This example is for the long-term credentials from AWS Identity and Access Management. For more information, see the section called “IAM users”.

Credentials file

```
[default]
```
aws_access_key_id=AKIAIOSFODNN7EXAMPLE
aws_secret_access_key=wJalrXUtnFEMI/K7MDENG/bPxRfiCYEXAMPLEKEY

[user1]
aws_access_key_id=AKIAI44QH8DH8BEXAMPLE
aws_secret_access_key=je7MtGbClwBF/2Zp9Utk/h3yCo8nvbEXAMPLEKEY

Config file

[default]
region=us-west-2
output=json

[profile user1]
region=us-east-1
output=text

For more detailed information on authentication and credential methods see Authentication and access credentials.

Using existing configuration and credentials files

If you have existing configuration and credentials files, these can be used for the AWS CLI.

To use the config and credentials files, move them to the folder named .aws in your home directory. Where you find your home directory location varies based on the operating system, but is referred to using the environment variables %UserProfile% in Windows and $HOME or ~ (tilde) in Unix-based systems.

You can specify a non-default location for the config and credentials files by setting the AWS_CONFIG_FILE and AWS_SHARED_CREDENTIALS_FILE environment variables to another local path. See Environment variables to configure the AWS CLI for details.

For more detailed information on configuration and credentials files, see the section called “Configuration and credential file settings”.

Using existing configuration and credentials files
Configure the AWS CLI

This section explains how to configure the settings that the AWS Command Line Interface (AWS CLI) uses to interact with AWS. These include the following:

- **Credentials** identify who is calling the API. Access credentials are used to encrypt the request to the AWS servers to confirm your identity and retrieve associated permissions policies. These permissions determine the actions you can perform. For information on setting up your credentials, see [Authentication and access credentials](#).

- **Other configuration details** to tell the AWS CLI how to process requests, such as the default output format and the default AWS Region.

**Note**

AWS requires that all incoming requests are cryptographically signed. The AWS CLI does this for you. The "signature" includes a date/time stamp. Therefore, you must ensure that your computer's date and time are set correctly. If you don't, and the date/time in the signature is too far off of the date/time recognized by the AWS service, AWS rejects the request.

Configuration and credentials precedence

Credentials and configuration settings are located in multiple places, such as the system or user environment variables, local AWS configuration files, or explicitly declared on the command line as a parameter. Certain locations take precedence over others. The AWS CLI credentials and configuration settings take precedence in the following order:

1. **Command line options** – Overrides settings in any other location, such as the --region, --output, and --profile parameters.

2. **Environment variables** – You can store values in your system's environment variables.

3. **Assume role** – Assume the permissions of an IAM role through configuration or the aws sts assume-role command.

4. **Assume role with web identity** – Assume the permissions of an IAM role using web identity through configuration or the aws sts assume-role command.
5. **AWS IAM Identity Center** – The IAM Identity Center configuration settings are stored in the config file. Credentials are authenticated when you run the `aws configure sso` command. The config file is located at `~/.aws/config` on Linux or macOS, or at `C:\Users \USERNAME\.aws\config` on Windows.

6. **Credentials file** – The credentials and config file are updated when you run the command `aws configure`. The credentials file is located at `~/.aws/credentials` on Linux or macOS, or at `C:\Users\USERNAME\.aws\credentials` on Windows.

7. **Custom process** – Get your credentials from an external source.

8. **Configuration file** – The credentials and config file are updated when you run the command `aws configure`. The config file is located at `~/.aws/config` on Linux or macOS, or at `C:\Users\USERNAME\.aws\config` on Windows.

9. **Container credentials** – You can associate an IAM role with each of your Amazon Elastic Container Service (Amazon ECS) task definitions. Temporary credentials for that role are then available to that task's containers. For more information, see [IAM Roles for Tasks](#) in the Amazon Elastic Container Service Developer Guide.

10. **Amazon EC2 instance profile credentials** – You can associate an IAM role with each of your Amazon Elastic Compute Cloud (Amazon EC2) instances. Temporary credentials for that role are then available to code running in the instance. The credentials are delivered through the Amazon EC2 metadata service. For more information, see [IAM Roles for Amazon EC2](#) in the Amazon EC2 User Guide for Linux Instances and [Using Instance Profiles](#) in the IAM User Guide.

### Additional topics in this section

- the section called “Configuration and credential file settings”
- the section called “Environment Variables”
- the section called “Command line options”
- the section called “Command completion”
- the section called “Retries”
- the section called “Use an HTTP proxy”
Configuration and credential file settings

You can save your frequently used configuration settings and credentials in files that are maintained by the AWS CLI.

The files are divided into profiles. By default, the AWS CLI uses the settings found in the profile named default. To use alternate settings, you can create and reference additional profiles.

You can override an individual setting by either setting one of the supported environment variables, or by using a command line parameter. For more information on configuration setting precedence, see Configure the AWS CLI.

Note
For information on setting up your credentials, see Authentication and access credentials.

Topics
- Format of the configuration and credential files
- Where are configuration settings stored?
- Using named profiles
- Set and view configuration settings using commands
- Setting new configuration and credentials command examples
- Supported config file settings

Format of the configuration and credential files

The config and credentials files are organized into sections. Sections include profiles, sso-sessions, and services. A section is a named collection of settings, and continues until another section definition line is encountered. Multiple profiles and sections can be stored in the config and credentials files.

These files are plaintext files that use the following format:

- Section names are enclosed in brackets [] such as [default], [profile user1], and [sso-session].
- All entries in a section take the general form of setting_name=value.
• Lines can be commented out by starting the line with a hash character (#).

The config and credentials files contain the following section types:

• **Section type: profile**
• **Section type: sso-session**
• **Section type: services**

**Section type: profile**

The AWS CLI stores

Depending on the file, profile section names use the following format:

• **Config file:** [default] [profile user1]
• **Credentials file:** [default] [user1]

Do not use the word profile when creating an entry in the credentials file.

Each profile can specify different credentials and can also specify different AWS Regions and output formats. When naming the profile in a config file, include the prefix word "profile", but do not include it in the credentials file.

The following examples show a credentials and config file with two profiles, region, and output specified. The first [default] is used when you run a AWS CLI command with no profile specified. The second is used when you run a AWS CLI command with the --profile user1 parameter.

IAM Identity Center (SSO)

This example is for AWS IAM Identity Center. For more information, see the section called “Configure automatic token refresh”.

**Credentials file**

The credentials file is not used for this authentication method.

**Config file**

```
[default]
```
IAM Identity Center (Legacy SSO)

This example is for the legacy method of AWS IAM Identity Center. For more information, see the section called “Configure legacy non-refreshable”.

Credentials file

The credentials file is not used for this authentication method.

Config file

```
sso_session = my-sso
sso_account_id = 111122223333
sso_role_name = readOnly
region = us-west-2
output = text

[profile user1]
sso_session = my-sso
sso_account_id = 444455556666
sso_role_name = readOnly
region = us-east-1
output = json

[sso-session my-sso]
sso_region = us-east-1
sso_start_url = https://my-sso-portal.awsapps.com/start
sso_registration_scopes = sso:account:access
```
Short-term credentials

This example is for the short-term credentials from AWS Identity and Access Management. For more information, see the section called “Short-term credentials”.

Credentials file

```
[default]
aws_access_key_id=ASIAIOSFODNN7EXAMPLE
aws_secret_access_key=wJalrXUtFEMI/K7MDENG/bPxRfiCYEXAMPLEKEY
aws_session_token = IQoJb3JpZ2luX2IQoJb3JpZ2luX2IQoJb3JpZ2luX2IQoJb3JpZVERYLONGSTRINGEXAMPLE

[user1]
aws_access_key_id=ASIAI44QH8DHEXAMPLE
aws_secret_access_key=je7MtGbClwBF/2Zp9Utk/h3yCo8nvbEXAMPLEKEY
aws_session_token = fcZib3JpZ2luX2IQoJb3JpZ2luX2IQoJb3JpZ2luX2IQoJb3JpZVERYLONGSTRINGEXAMPLE
```

Config file

```
[default]
region=us-west-2
output=json

[profile user1]
region=us-east-1
output=text
```

IAM role

This example is for assuming an IAM role. Profiles that use IAM roles pull credentials from another profile, and then apply IAM role permissions. In the following examples, default is the source profile for credentials and user1 borrows the same credentials then assumes a new role. For more information, see the section called “IAM roles”.

Credentials file

The credentials file depends on what authentication your source profile uses. For the following example, the source profile uses short-term credentials.
[default]
aws_access_key_id=ASIAIOSFODNN7EXAMPLE
aws_secret_access_key=wJalrXUtnFEMI/K7MDENG/bPxRfiCYEXAMPLEKEY
aws_session_token
  = IQoJb3JpZ2luX2IQoJb3JpZ2luX2IQoJb3JpZ2luX2IQoJb3JpZVERYLONGSTRINGEXAMPLE

Config file

[default]
region=us-west-2
output=json

[profile user1]
role_arn=arn:aws:iam::777788889999:role/user1role
source_profile=default
role_session_name=session_user1
region=us-east-1
output=text

Amazon EC2 instance metadata credentials

This example is for the credentials obtained from the hosting Amazon EC2 instance metadata. For more information, see the section called “Use credentials for Amazon EC2 instance metadata”.

Credentials file

The credentials file is not used for this authentication method.

Config file

[default]
role_arn=arn:aws:iam::123456789012:role/defaultrole
credential_source=Ec2InstanceMetadata
region=us-west-2
output=json

[profile user1]
role_arn=arn:aws:iam::777788889999:role/user1role
credential_source=Ec2InstanceMetadata
region=us-east-1
output=text
Long-term credentials

⚠️ **Warning**

To avoid security risks, don't use IAM users for authentication when developing purpose-built software or working with real data. Instead, use federation with an identity provider such as [AWS IAM Identity Center](https://aws.amazon.com/iam/idc/).

This example is for the long-term credentials from AWS Identity and Access Management. For more information, see [the section called “IAM users”](https://docs.aws.amazon.com/cli/latest/userguide/awscli-v2-long-term-credentials.html).

### Credentials file

```
[default]
aws_access_key_id=AKIAIOSFODNN7EXAMPLE
aws_secret_access_key=wJalrXUtznFEMI/K7MDENG/bPxRfiCYEXAMPLEKEY

[user1]
aws_access_key_id=AKIAI44QH8DHBEXAMPLE
aws_secret_access_key=je7MtGbClwBF/2Zp9Ut6r/h3yCo8nvbEXAMPLEKEY
```

### Config file

```
[default]
region=us-west-2
output=json

[profile user1]
region=us-east-1
output=text
```

For more information and additional authorization and credential methods see, see [the section called “IAM users”](https://docs.aws.amazon.com/cli/latest/userguide/awscli-v2-long-term-credentials.html).

### Section type: sso-session

The sso-session section of the config file is used to group configuration variables for acquiring SSO access tokens, which can then be used to acquire AWS credentials. The following settings are used:
• (Required) **sso_start_url**

• (Required) **sso_region**

• **sso_account_id**

• **sso_role_name**

• **sso_registration_scopes**

You define an sso-session section and associate it to a profile. sso_region and sso_start_url must be set within the sso-session section. Typically, sso_account_id and sso_role_name must be set in the profile section so that the SDK can request SSO credentials.

The following example configures the SDK to request SSO credentials and supports automated token refresh:

```
[profile dev]
sso_session = my-sso
sso_account_id = 111122223333
sso_role_name = SampleRole

[sso-session my-sso]
sso_region = us-east-1
sso_start_url = https://my-sso-portal.awsapps.com/start
```

This also allows sso-session configurations to be reused across multiple profiles:

```
[profile dev]
sso_session = my-sso
sso_account_id = 111122223333
sso_role_name = SampleRole

[profile prod]
sso_session = my-sso
sso_account_id = 111122223333
sso_role_name = SampleRole2

[sso-session my-sso]
sso_region = us-east-1
sso_start_url = https://my-sso-portal.awsapps.com/start
```
However, `sso_account_id` and `sso_role_name` aren't required for all scenarios of SSO token configuration. If your application only uses AWS services that support bearer authentication, then traditional AWS credentials are not needed. Bearer authentication is an HTTP authentication scheme that uses security tokens called bearer tokens. In this scenario, `sso_account_id` and `sso_role_name` aren't required. See the individual guide for your AWS service to determine if it supports bearer token authorization.

Additionally, registration scopes can be configured as part of a `sso-session`. Scope is a mechanism in OAuth 2.0 to limit an application's access to a user's account. An application can request one or more scopes, and the access token issued to the application will be limited to the scopes granted. These scopes define the permissions requested to be authorized for the registered OIDC client and access tokens retrieved by the client. The following example sets `sso_registration_scopes` to provide access for listing accounts/roles:

```ini
[sso-session my-sso]
sso_region = us-east-1
sso_start_url = https://my-sso-portal.awsapps.com/start
sso_registration_scopes = sso:account:access
```

The authentication token is cached to disk under the `~/.aws/sso/cache` directory with a filename based on the session name.

For more information on this configuration type, see the section called “Configure automatic token refresh”.

**Section type: services**

The `services` section is a group of settings that configures custom endpoints for AWS service requests. A profile then is linked to a `services` section.

```ini
[profile dev]
services = my-services
```

The `services` section is separated into subsections by `<SERVICE> = ` lines, where `<SERVICE>` is the AWS service identifier key. The AWS service identifier is based on the API model's `serviceId` by replacing all spaces with underscores and lowercasing all letters. For a list of all service identifier keys to use in the `services` section, see Use endpoints in the AWS CLI. The service identifier key is followed by nested settings with each on its own line and indented by two spaces.
The following example configures the endpoint to use for requests made to the Amazon DynamoDB service in the *my-services* section that is used in the *dev* profile. Any immediately following lines that are indented are included in that subsection and apply to that service.

```
[profile dev]
services = my-services

[services my-services]
dynamodb =
    endpoint_url = http://localhost:8000
```

For more information on service-specific endpoints, see [Use endpoints in the AWS CLI](https://docs.aws.amazon.com/cli/latest/userguide/cli-configure-service-endpoint.html).

If your profile has role-based credentials configured through a `source_profile` parameter for IAM assume role functionality, the SDK only uses service configurations for the specified profile. It does not use profiles that are role chained to it. For example, using the following shared config file:

```
[profile A]
credential_source = Ec2InstanceMetadata
endpoint_url = https://profile-a-endpoint.aws/

[profile B]
source_profile = A
role_arn = arn:aws:iam::123456789012:role/roleB
services = profileB

[services profileB]
ec2 =
    endpoint_url = https://profile-b-ec2-endpoint.aws
```

If you use profile B and make a call in your code to Amazon EC2, the endpoint resolves as `https://profile-b-ec2-endpoint.aws`. If your code makes a request to any other service, the endpoint resolution will not follow any custom logic. The endpoint does not resolve to the global endpoint defined in profile A. For a global endpoint to take effect for profile B, you would need to set `endpoint_url` directly within profile B.

**Where are configuration settings stored?**

The AWS CLI stores sensitive credential information that you specify with `aws configure` in a local file named `credentials`, in a folder named `.aws` in your home directory. The less sensitive
configuration options that you specify with `aws configure` are stored in a local file named `config`, also stored in the `.aws` folder in your home directory.

**Storing credentials in the config file**

You can keep all of your profile settings in a single file as the AWS CLI can read credentials from the `config` file. If there are credentials in both files for a profile sharing the same name, the keys in the credentials file take precedence. We suggest keeping credentials in the `credentials` files. These files are also used by the various language software development kits (SDKs). If you use one of the SDKs in addition to the AWS CLI, confirm if the credentials should be stored in their own file.

Where you find your home directory location varies based on the operating system, but is referred to using the environment variables `%UserProfile%` in Windows and `$HOME` or `~` (tilde) in Unix-based systems. You can specify a non-default location for the files by setting the `AWS_CONFIG_FILE` and `AWS_SHARED_CREDENTIALS_FILE` environment variables to another local path. See [Environment variables to configure the AWS CLI](#) for details.

When you use a shared profile that specifies an AWS Identity and Access Management (IAM) role, the AWS CLI calls the AWS STS AssumeRole operation to retrieve temporary credentials. These credentials are then stored (in `~/.aws/cli/cache`). Subsequent AWS CLI commands use the cached temporary credentials until they expire, and at that point the AWS CLI automatically refreshes the credentials.

**Using named profiles**

If no profile is explicitly defined, the default profile is used.

To use a named profile, add the `--profile profile-name` option to your command. The following example lists all of your Amazon EC2 instances using the credentials and settings defined in the `user1` profile.

```
$ aws ec2 describe-instances --profile user1
```

To use a named profile for multiple commands, you can avoid specifying the profile in every command by setting the `AWS_PROFILE` environment variable as the default profile. You can override this setting by using the `--profile` parameter.
Linux or macOS

```bash
$ export AWS_PROFILE=user1
```

Windows

```cmd
C:\> setx AWS_PROFILE user1
```

Using `set` to set an environment variable changes the value used until the end of the current command prompt session, or until you set the variable to a different value.

Using `setx` to set an environment variable changes the value in all command shells that you create after running the command. It does **not** affect any command shell that is already running at the time you run the command. Close and restart the command shell to see the effects of the change.

Setting the environment variable changes the default profile until the end of your shell session, or until you set the variable to a different value. You can make environment variables persistent across future sessions by putting them in your shell's startup script. For more information, see [Environment variables to configure the AWS CLI](#).

### Set and view configuration settings using commands

There are several ways to view and set your configuration settings using commands.

#### `aws configure`

Run this command to quickly set and view your credentials, Region, and output format. The following example shows sample values.

```
$ aws configure
AWS Access Key ID [None]: AKIAIOSFODNN7EXAMPLE
AWS Secret Access Key [None]: wJalrXUtFnFEMI/K7MDENG/bPxRfiCYEXAMPIEKEY
Default region name [None]: us-west-2
Default output format [None]: json
```

#### `aws configure set`

You can set any credentials or configuration settings using `aws configure set`. Specify the profile that you want to view or modify with the `--profile` setting.
For example, the following command sets the region in the profile named integ.

```bash
$ aws configure set region us-west-2 --profile integ
```

To remove a setting, use an empty string as the value, or manually delete the setting in your config and credentials files in a text editor.

```bash
$ aws configure set cli_pager "" --profile integ
```

### `aws configure get`

You can retrieve any credentials or configuration settings you've set using `aws configure get`. Specify the profile that you want to view or modify with the `--profile` setting.

For example, the following command retrieves the region setting in the profile named integ.

```bash
$ aws configure get region --profile integ
us-west-2
```

If the output is empty, the setting is not explicitly set and uses the default value.

### `aws configure import`

Import CSV credentials generated from the IAM web console. This is not for credentials generated from IAM Identity Center; customers who use IAM Identity Center should use `aws configure sso`. A CSV file is imported with the profile name matching the username. The CSV file must contain the following headers.

- User Name
- Access key ID
- Secret access key

#### Note

During initial key pair creation, once you close the Download .csv file dialog box, you cannot access your secret access key after you close the dialog box. If you need a .csv file, you'll need to create one yourself with the required headers and your stored key pair information. If you do not have access to your key pair information, you need to create a new key pair.
aws configure list

To list configuration data, use the `aws configure list` command. This command lists the profile, access key, secret key, and region configuration information used for the specified profile. For each configuration item, it shows the value, where the configuration value was retrieved, and the configuration variable name.

For example, if you provide the AWS Region in an environment variable, this command shows you the name of the region you've configured, that this value came from an environment variable, and the name of the environment variable.

For temporary credential methods such as roles and IAM Identity Center, this command displays the temporarily cached access key and secret access key is displayed.

```bash
$ aws configure list
Name        Value                         Type          Location
------------ -----                         ----          --------
profile      <not set>                    None          None
access_key   **********************ABCD  shared-credentials-file
secret_key   **********************ABCD  shared-credentials-file
region       us-west-2                    env           AWS_DEFAULT_REGION
```

aws configure list-profiles

To list all your profile names, use the `aws configure list-profiles` command.

```bash
$ aws configure list-profiles
default
test
```

aws configure sso

Run this command to quickly set and view your AWS IAM Identity Center credentials, Region, and output format. The following example shows sample values.

```bash
$ aws configure sso
SSO session name (Recommended): my-sso
SSO start URL [None]: https://my-sso-portal.awsapps.com/start
SSO region [None]: us-east-1
```
SSO registration scopes [None]: **sso:account:access**

### aws configure sso-session

Run this command to quickly set and view your AWS IAM Identity Center credentials, Region, and output format in the sso-session section of the credentials and config files. The following example shows sample values.

```
$ aws configure sso-session
SSO session name: **my-sso**
SSO start URL [None]: **https://my-sso-portal.awsapps.com/start**
SSO region [None]: **us-east-1**
SSO registration scopes [None]: **sso:account:access**
```

### Setting new configuration and credentials command examples

The following examples show configuring a default profile with credentials, region, and output specified for different authentication methods.

#### IAM Identity Center (SSO)

This example is for AWS IAM Identity Center using the `aws configure sso` wizard. For more information, see the section called “Configure automatic token refresh”.

```
$ aws configure sso
SSO session name (Recommended): **my-sso**
SSO start URL [None]: **https://my-sso-portal.awsapps.com/start**
SSO region [None]: **us-east-1**

Attempting to automatically open the SSO authorization page in your default browser.

There are 2 AWS accounts available to you.
> DeveloperAccount, developer-account-admin@example.com (111122223333)
> ProductionAccount, production-account-admin@example.com (444455556666)

Using the account ID **111122223333**

There are 2 roles available to you.
> ReadOnly
> FullAccess
```

---

**Setting new configuration and credentials command examples**

---

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IAM Identity Center (Legacy SSO)

This example is for the legacy method of AWS IAM Identity Center using the `aws configure sso` wizard. To use the legacy SSO, leave the session name blank. For more information, see the section called “Configure legacy non-refreshable”.

```
$ aws configure sso
SSO session name (Recommended): 
SSO start URL [None]: https://my-sso-portal.awsapps.com/start
SSO region [None]: us-east-1
```

SSO authorization page has automatically been opened in your default browser. Follow the instructions in the browser to complete this authorization request.

There are 2 AWS accounts available to you.
> DeveloperAccount, developer-account-admin@example.com (111122223333)
  ProductionAccount, production-account-admin@example.com (444455556666)

Using the account ID 111122223333

There are 2 roles available to you.
> ReadOnly
  FullAccess

Using the role name "ReadOnly"

```
CLI default client Region [None]: us-west-2
CLI default output format [None]: json
CLI profile name [123456789011_ReadOnly]: user1
```

Short-term credentials

This example is for the short-term credentials from AWS Identity and Access Management. The `aws configure` wizard is used to set initial values and then the `aws configure set` command assigns the last value needed. For more information, see the section called “Short-term credentials”.

```
```
IAM role

This example is for assuming an IAM role. Profiles that use IAM roles pull credentials from another profile, and then apply IAM role permissions. In the following examples, default is the source profile for credentials and user1 borrows the same credentials then assumes a new role. There is no wizard for this process, therefore each value is set using the `aws configure set` command. For more information, see the section called “IAM roles”.

```bash
$ aws configure set role_arn arn:aws:iam::123456789012:role/defaultrole
$ aws configure set source_profile default
$ aws configure set role_session_name session_user1
$ aws configure set region us-west-2
$ aws configure set output json
```

Amazon EC2 instance metadata credentials

This example is for the credentials obtained from the hosting Amazon EC2 instance metadata. There is no wizard for this process, therefore each value is set using the `aws configure set` command. For more information, see the section called “Use credentials for Amazon EC2 instance metadata”.

```bash
$ aws configure set role_arn arn:aws:iam::123456789012:role/defaultrole
$ aws configure set credential_source Ec2InstanceMetadata
$ aws configure set region us-west-2
$ aws configure set output json
```
Long-term credentials

⚠️ Warning

To avoid security risks, don't use IAM users for authentication when developing purpose-built software or working with real data. Instead, use federation with an identity provider such as AWS IAM Identity Center.

This example is for the long-term credentials from AWS Identity and Access Management. For more information, see the section called “IAM users”.

```
$ aws configure
AWS Access Key ID [None]: AKIAIOSFODNN7EXAMPLE
AWS Secret Access Key [None]: wJalrXUtnFEMI/K7MDENG/bPxRfiCYEXAMPLEKEY
Default region name [None]: us-west-2
Default output format [None]: json
```

Supported config file settings

Topics

- Global settings
- S3 Custom command settings

The following settings are supported in the config file. The values listed in the specified (or default) profile are used unless they are overridden by the presence of an environment variable with the same name, or a command line option with the same name. For more information on what order settings take precedence, see Configure the AWS CLI

Global settings

```aws_access_key_id```

Specifies the AWS access key used as part of the credentials to authenticate the command request. Although this can be stored in the config file, we recommend that you store this in the credentials file.
Can be overridden by the `AWS_ACCESS_KEY_ID` environment variable. You can't specify the access key ID as a command line option.

```
aws_access_key_id = AKIAIOSFODNN7EXAMPLE
```

**aws_secret_access_key**

Specifies the AWS secret key used as part of the credentials to authenticate the command request. Although this can be stored in the config file, we recommend that you store this in the credentials file.

Can be overridden by the `AWS_SECRET_ACCESS_KEY` environment variable. You can't specify the secret access key as a command line option.

```
aws_secret_access_key = wJalrXUtFEMI/K7MDENG/bPxRfiCYEXAMPLEKEY
```

**aws_session_token**

Specifies an AWS session token. A session token is required only if you manually specify temporary security credentials. Although this can be stored in the config file, we recommend that you store this in the credentials file.

Can be overridden by the `AWS_SESSION_TOKEN` environment variable. You can't specify the session token as a command line option.

```
aws_session_token = AQoEXAMPLEH4aoAH0gNCAPyJxz4B1CFFxWNE1OPTgk5ThT+FvwqKwC0ffrHz3c/LTo6UDDyJw0O0vEVPvLXCrtnnIcEXAMPLE/
IvU1dYug2RVAJBaLiHb4IgRmpRV3zrkWJ0gQs8IZZaIv2BXi2R401gk
```

**ca_bundle**

Specifies a CA certificate bundle (a file with the .pem extension) that is used to verify SSL certificates.

Can be overridden by the `AWS_CA_BUNDLE` environment variable or the `--ca-bundle` command line option.

```
ca_bundle = dev/apps/ca-certs/cabundle-2019mar05.pem
```
cli_auto_prompt

Enables the auto-prompt for the AWS CLI version 2. There are two settings that can be used:

- **on** uses the full auto-prompt mode each time you attempt to run an aws command. This includes pressing **ENTER** after both a complete command or incomplete command.

  ```bash
cli_auto_prompt = on
  ```

- **on-partial** uses partial auto-prompt mode. If a command is incomplete or cannot be run due to client-side validation errors, auto-prompt is used. This mode is particular useful if you have pre-existing scripts, runbooks, or you only want to be auto-prompted for commands you are unfamiliar with rather than prompted on every command.

  ```bash
cli_auto_prompt = on-partial
  ```

You can override this setting by using the `aws_cli_auto_prompt` environment variable or the `--cli-auto-prompt` and `--no-cli-auto-prompt` command line parameters.

For information on the AWS CLI version 2 auto-prompt feature, see [Have the AWS CLI prompt you for commands](#).

cli_binary_format

Specifies how the AWS CLI version 2 interprets binary input parameters. It can be one of the following values:

- **base64** – This is the default value. An input parameter that is typed as a binary large object (BLOB) accepts a base64-encoded string. To pass true binary content, put the content in a file and provide the file's path and name with the `fileb://` prefix as the parameter's value. To pass base64-encoded text contained in a file, provide the file's path and name with the `file://` prefix as the parameter's value.

  ```bash
cli_binary_format = raw-in-base64-out
  ```

- **raw-in-base64-out** – Default for the AWS CLI version 1. If the setting's value is `raw-in-base64-out`, files referenced using the `file://` prefix is read as text and then the AWS CLI attempts to encode it to binary.

This entry does not have an equivalent environment variable. You can specify the value on a single command by using the `--cli-binary-format raw-in-base64-out` parameter.
If you reference a binary value in a file using the fileb:// prefix notation, the AWS CLI always expects the file to contain raw binary content and does not attempt to convert the value.

If you reference a binary value in a file using the file:// prefix notation, the AWS CLI handles the file according to the current cli_binary_format setting. If that setting's value is base64 (the default when not explicitly set), the AWS CLI expects the file to contain base64-encoded text. If that setting's value is raw-in-base64-out, the AWS CLI expects the file to contain raw binary content.

**cli_history**

Disabled by default. This setting enables command history for the AWS CLI. After enabling this setting, the AWS CLI records the history of aws commands.

```text
cli_history = enabled
```

You can list your history using the `aws history list` command, and use the resulting command_ids in the `aws history show` command for details. For more information see `aws history` in the *AWS CLI reference guide*.

**cli_pager**

Specifies the pager program used for output. By default, AWS CLI version 2 returns all output through your operating system's default pager program.

Can be overridden by the AWS_PAGER environment variable.

```text
cli_pager=less
```

To disable all use of an external paging program, set the variable to an empty string as shown in the following example.

```text
cli_pager=
```

**cli_timestamp_format**

Specifies the format of timestamp values included in the output. You can specify either of the following values:

- **iso8601** – The default value for the AWS CLI version 2. If specified, the AWS CLI reformats all timestamps according to **ISO 8601**.
ISO 8601 formatted timestamps look like the following examples. The first example shows the time in **Coordinated Universal Time (UTC)** by including a Z after the time. The date and the time are separated by a T.


To specify a different time zone, instead of the Z, specify a + or - and the number of hours the desired time zone is ahead of or behind UTC, as a two-digit value. The following example shows the same time as the previous example but adjusted to Pacific Standard time, which is eight hours behind UTC.

2019-10-31T14:21:41-08

- **wire** – The default value for the AWS CLI version 1. If specified, the AWS CLI displays all timestamp values exactly as received in the HTTP query response.

This entry does not have an equivalent environment variable or command line option.

cli_timestamp_format = iso8601

**credential_process**

Specifies an external command that the AWS CLI runs to generate or retrieve authentication credentials to use for this command. The command must return the credentials in a specific format. For more information about how to use this setting, see [Source credentials with an external process](#).

This entry does not have an equivalent environment variable or command line option.

credential_process = /opt/bin/awscreds-retriever --username susan

**credential_source**

Used within Amazon EC2 instances or containers to specify where the AWS CLI can find credentials to use to assume the role you specified with the role_arn parameter. You cannot specify both source_profile and credential_source in the same profile.

This parameter can have one of three values:
• **Environment** – Specifies that the AWS CLI is to retrieve source credentials from environment variables.

• **Ec2InstanceMetadata** – Specifies that the AWS CLI is to use the IAM role attached to the EC2 instance profile to get source credentials.

• **EcsContainer** – Specifies that the AWS CLI is to use the IAM role attached to the ECS container as source credentials.

```bash
credential_source = Ec2InstanceMetadata
```

### duration_seconds

Specifies the maximum duration of the role session, in seconds. The value can range from 900 seconds (15 minutes) up to the maximum session duration setting for the role (which can be a maximum of 43200). This is an optional parameter and by default, the value is set to 3600 seconds.

### endpoint_url

Specifies the endpoint that is used for all service requests. If this setting is used in the `services` section of the config file, then the endpoint is used only for the specified service.

The following example uses the global endpoint `http://localhost:1234` and a service-specific endpoint of `http://localhost:4567` for Amazon S3.

```bash
[profile dev]
endpoint_url = http://localhost:1234
services = s3-specific

[services s3-specific]
s3 =
    endpoint_url = http://localhost:4567
```

Endpoint configuration settings are located in multiple places, such as the system or user environment variables, local AWS configuration files, or explicitly declared on the command line as a parameter. The AWS CLI endpoint configuration settings take precedence in the following order:

1. The `--endpoint-url` command line option.
2. If enabled, the `AWS_IGNORE_CONFIGURED_ENDPOINT_URLS` global endpoint environment variable or profile setting `ignore_configure_endpoint_urls` to ignore custom endpoints.

3. The value provided by a service-specific environment variable `AWS_ENDPOINT_URL_<SERVICE>`, such as `AWS_ENDPOINT_URL_DYNAMODB`.

4. The values provided by the `AWS_USE_DUALSTACK_ENDPOINT`, `AWS_USE_FIPS_ENDPOINT`, and `AWS_ENDPOINT_URL` environment variables.

5. The service-specific endpoint value provided by the `endpoint_url` setting within a services section of the shared config file.

6. The value provided by the `endpoint_url` setting within a profile of the shared config file.

7. `use_dualstack_endpoint`, `use_fips_endpoint`, and `endpoint_url` settings.

8. Any default endpoint URL for the respective AWS service is used last. For a list of the standard service endpoints available in each Region, see `AWS Regions and Endpoints` in the Amazon Web Services General Reference.

**ignore_configure_endpoint_urls**

If enabled, the AWS CLI ignores all custom endpoint configurations specified in the config file. Valid values are `true` and `false`.

```plaintext
ignore_configure_endpoint_urls = true
```

Endpoint configuration settings are located in multiple places, such as the system or user environment variables, local AWS configuration files, or explicitly declared on the command line as a parameter. The AWS CLI endpoint configuration settings take precedence in the following order:

1. The `--endpoint-url` command line option.
2. If enabled, the `AWS_IGNORE_CONFIGURED_ENDPOINT_URLS` global endpoint environment variable or profile setting `ignore_configure_endpoint_urls` to ignore custom endpoints.
3. The value provided by a service-specific environment variable `AWS_ENDPOINT_URL_<SERVICE>`, such as `AWS_ENDPOINT_URL_DYNAMODB`.
4. The values provided by the `AWS_USE_DUALSTACK_ENDPOINT`, `AWS_USE_FIPS_ENDPOINT`, and `AWS_ENDPOINT_URL` environment variables.
5. The service-specific endpoint value provided by the `endpoint_url` setting within a services section of the shared config file.

6. The value provided by the `endpoint_url` setting within a profile of the shared config file.

7. `use_dualstack_endpoint`, `use_fips_endpoint`, and `endpoint_url` settings.

8. Any default endpoint URL for the respective AWS service is used last. For a list of the standard service endpoints available in each Region, see AWS Regions and Endpoints in the Amazon Web Services General Reference.

**external_id**

Specifies a unique identifier that is used by third parties to assume a role in their customers' accounts. This maps to the `ExternalId` parameter in the AssumeRole operation. This parameter is needed only if the trust policy for the role specifies a value for `ExternalId`. For more information, see How to use an external ID when granting access to your AWS resources to a third party in the IAM User Guide.

**max_attempts**

Specifies a value of maximum retry attempts the AWS CLI retry handler uses, where the initial call counts toward the `max_attempts` value that you provide.

You can override this value by using the AWS_MAX_ATTEMPTS environment variable.

```
max_attempts = 3
```

**mfa_serial**

The identification number of an MFA device to use when assuming a role. This is mandatory only if the trust policy of the role being assumed includes a condition that requires MFA authentication. The value can be either a serial number for a hardware device (such as GAHT12345678) or an Amazon Resource Name (ARN) for a virtual MFA device (such as arn:aws:iam::123456789012:mfa/user).

**output**

Specifies the default output format for commands requested using this profile. You can specify any of the following values:

- `json` – The output is formatted as a JSON string.
- `yaml` – The output is formatted as a YAML string.
- **yaml-stream** – The output is streamed and formatted as a [YAML](https://yaml.org/) string. Streaming allows for faster handling of large data types.

- **text** – The output is formatted as multiple lines of tab-separated string values. This can be useful to pass the output to a text processor, like `grep`, `sed`, or `awk`.

- **table** – The output is formatted as a table using the characters `+|-` to form the cell borders. It typically presents the information in a "human-friendly" format that is much easier to read than the others, but not as programmatically useful.

Can be overridden by the `AWS_DEFAULT_OUTPUT` environment variable or the `--output` command line option.

```
output = table
```

### parameter_validation

Specifies whether the AWS CLI client attempts to validate parameters before sending them to the AWS service endpoint.

- **true** – This is the default value. If specified, the AWS CLI performs local validation of command line parameters.

- **false** – If specified, the AWS CLI does not validate command line parameters before sending them to the AWS service endpoint.

This entry does not have an equivalent environment variable or command line option.

```
parameter_validation = false
```

### region

Specifies the AWS Region to send requests to for commands requested using this profile.

- You can specify any of the Region codes available for the chosen service as listed in [AWS Regions and Endpoints](https://aws.amazon.com/regions/) in the *Amazon Web Services General Reference*.

- `aws_global` enables you to specify the global endpoint for services that support a global endpoint in addition to Regional endpoints, such as AWS Security Token Service (AWS STS) and Amazon Simple Storage Service (Amazon S3).

You can override this value by using the `AWS_REGION` environment variable, `AWS_DEFAULT_REGION` environment variable, or the `--region` command line option.
region = us-west-2

**retry_mode**

Specifies which retry mode AWS CLI uses. There are three retry modes available: legacy (default), standard, and adaptive. For more information on retries, see [AWS CLI retries](#). You can override this value by using the AWS_RETRY_MODE environment variable.

retry_mode = standard

**role_arn**

Specifies the Amazon Resource Name (ARN) of an IAM role that you want to use to run the AWS CLI commands. You must also specify one of the following parameters to identify the credentials that have permission to assume this role:

- source_profile
- credential_source

role_arn = arn:aws:iam::123456789012:role/role-name

The environment variable AWS_ROLE_ARN overrides this setting.

For more information on using web identities, see [the section called “Assume role with web identity”](#).

**role_session_name**

Specifies the name to attach to the role session. This value is provided to the RoleSessionName parameter when the AWS CLI calls the AssumeRole operation, and becomes part of the assumed role user ARN: `arn:aws:sts::123456789012:assumed-role/role_name/role_session_name`. This is an optional parameter. If you do not provide this value, a session name is generated automatically. This name appears in AWS CloudTrail logs for entries associated with this session.

role_session_name = maria_garcia_role

The environment variable AWS_ROLE_SESSION_NAME overrides this setting.
For more information on using web identities, see the section called “Assume role with web identity”.

**services**

Specifies the service configuration to use for your profile.

```ini
[profile dev-s3-specific-and-global]
endpoint_url = http://localhost:1234
services = s3-specific

[services s3-specific]
s3 =
   endpoint_url = http://localhost:4567
```

For more information on the services section, see the section called “services”.

The environment variable `AWS_ROLE_SESSION_NAME` overrides this setting.

For more information on using web identities, see the section called “Assume role with web identity”.

**source_profile**

Specifies a named profile with long-term credentials that the AWS CLI can use to assume a role that you specified with the `role_arn` parameter. You cannot specify both `source_profile` and `credential_source` in the same profile.

```ini
source_profile = production-profile
```

**sso_account_id**

Specifies the AWS account ID that contains the IAM role with the permission that you want to grant to the associated IAM Identity Center user.

This setting does not have an environment variable or command line option.

```ini
sso_account_id = 123456789012
```

**sso_region**

Specifies the AWS Region that contains the AWS access portal host. This is separate from, and can be a different Region than the default CLI `region` parameter.
This setting does not have an environment variable or command line option.

```
sso_region = us_west-2
```

**sso_registration_scopes**

A comma-delimited list of scopes to be authorized for the sso-session. Scopes authorize access to IAM Identity Center bearer token authorized endpoints. A valid scope is a string, such as `sso:account:access`. This setting isn't applicable to the legacy non-refreshable configuration.

```
sso_registration_scopes = sso:account:access
```

**sso_role_name**

Specifies the friendly name of the IAM role that defines the user's permissions when using this profile.

This setting does not have an environment variable or command line option.

```
sso_role_name = ReadAccess
```

**sso_start_url**

Specifies the URL that points to the organization's AWS access portal. The AWS CLI uses this URL to establish a session with the IAM Identity Center service to authenticate its users. To find your AWS access portal URL, use one of the following:

- Open your invitation email, the AWS access portal URL is listed.
- Open the AWS IAM Identity Center console at [https://console.aws.amazon.com/singlesignon/](https://console.aws.amazon.com/singlesignon/). The AWS access portal URL is listed in your settings.

This setting does not have an environment variable or command line option.

```
sso_start_url = https://my-sso-portal.awsapps.com/start
```
use_dualstack_endpoint

Enables the use of dual-stack endpoints to send AWS requests. To learn more about dual-stack endpoints, which support both IPv4 and IPv6 traffic, see Using Amazon S3 dual-stack endpoints in the Amazon Simple Storage Service User Guide. Dual-stack endpoints are available for some services in some regions. If a dual-stack endpoint does not exist for the service or AWS Region, the request fails. This is disabled by default.

This is mutually exclusive with the use_accelerate_endpoint setting.

Endpoint configuration settings are located in multiple places, such as the system or user environment variables, local AWS configuration files, or explicitly declared on the command line as a parameter. The AWS CLI endpoint configuration settings take precedence in the following order:

1. The \--endpoint-url command line option.
2. If enabled, the AWS_IGNORE_CONFIGURED_ENDPOINT_URLS global endpoint environment variable or profile setting ignore_configure_endpoint_urls to ignore custom endpoints.
3. The value provided by a service-specific environment variable AWS_ENDPOINT_URL_\<SERVICE>, such as AWS_ENDPOINT_URL_DYNAMODB.
4. The values provided by the AWS_USE_DUALSTACK_ENDPOINT, AWS_USE_FIPS_ENDPOINT, and AWS_ENDPOINT_URL environment variables.
5. The service-specific endpoint value provided by the endpoint_url setting within a services section of the shared config file.
6. The value provided by the endpoint_url setting within a profile of the shared config file.
7. use_dualstack_endpoint, use_fips_endpoint, and endpoint_url settings.
8. Any default endpoint URL for the respective AWS service is used last. For a list of the standard service endpoints available in each Region, see AWS Regions and Endpoints in the Amazon Web Services General Reference.

use_fips_endpoint

Some AWS services offer endpoints that support Federal Information Processing Standard (FIPS) 140-2 in some AWS Regions. When the AWS service supports FIPS, this setting specifies what FIPS endpoint the AWS CLI should use. Unlike standard AWS endpoints, FIPS endpoints
use a TLS software library that complies with FIPS 140-2. These endpoints might be required by enterprises that interact with the United States government.

If this setting is enabled, but a FIPS endpoint does not exist for the service in your AWS Region, the AWS command may fail. In this case, manually specify the endpoint to use in the command using the `--endpoint-url` option or use service-specific endpoints.

For more information on specifying FIPS endpoints by AWS Region, see FIPS Endpoints by Service.

Endpoint configuration settings are located in multiple places, such as the system or user environment variables, local AWS configuration files, or explicitly declared on the command line as a parameter. The AWS CLI endpoint configuration settings take precedence in the following order:

1. The `--endpoint-url` command line option.
2. If enabled, the `AWS_IGNORE_CONFIGURED_ENDPOINT_URLS` global endpoint environment variable or profile setting `ignore_configure_endpoint_urls` to ignore custom endpoints.
3. The value provided by a service-specific environment variable `AWS_ENDPOINT_URL_<SERVICE>`, such as `AWS_ENDPOINT_URL_DYNAMODB`.
4. The values provided by the `AWS_USE_DUALSTACK_ENDPOINT`, `AWS_USE_FIPS_ENDPOINT`, and `AWS_ENDPOINT_URL` environment variables.
5. The service-specific endpoint value provided by the `endpoint_url` setting within a services section of the shared config file.
6. The value provided by the `endpoint_url` setting within a profile of the shared config file.
7. `use_dualstack_endpoint`, `use_fips_endpoint`, and `endpoint_url` settings.
8. Any default endpoint URL for the respective AWS service is used last. For a list of the standard service endpoints available in each Region, see AWS Regions and Endpoints in the Amazon Web Services General Reference.

`web_identity_token_file`

Specifies the path to a file that contains an OAuth 2.0 access token or OpenID Connect ID token that is provided by an identity provider. The AWS CLI loads the contents of this file and passes it as the WebIdentityToken argument to the AssumeRoleWithWebIdentity operation.

The environment variable `AWS_WEB_IDENTITY_TOKEN_FILE` overrides this setting.
For more information on using web identities, see the section called “Assume role with web identity”.

tcp_keepalive

Specifies whether the AWS CLI client uses TCP keep-alive packets.

This entry does not have an equivalent environment variable or command line option.

tcp_keepalive = false

S3 Custom command settings

Amazon S3 supports several settings that configure how the AWS CLI performs Amazon S3 operations. Some apply to all S3 commands in both the s3api and s3 namespaces. Others are specifically for the S3 "custom" commands that abstract common operations and do more than a one-to-one mapping to an API operation. The aws s3 transfer commands cp, sync, mv, and rm have additional settings you can use to control S3 transfers.

All of these options can be configured by specifying the s3 nested setting in your config file. Each setting is then indented on its own line.

Note

These settings are entirely optional. You should be able to successfully use the aws s3 transfer commands without configuring any of these settings. These settings are provided to enable you to tune for performance or to account for the specific environment where you are running these aws s3 commands.

These settings are all set under a top-level s3 key in the config file, as shown in the following example for the development profile.

[profile development]
s3 =
  max_concurrent_requests = 20
  max_queue_size = 10000
  multipart_threshold = 64MB
  multipart_chunksize = 16MB

Supported config file settings
The following settings apply to any S3 command in the s3 or s3api namespaces.

**addressing_style**

Specifies which addressing style to use. This controls whether the bucket name is in the hostname or is part of the URL. Valid values are: path, virtual, and auto. The default value is auto.

There are two styles of constructing an Amazon S3 endpoint. The first is called virtual and includes the bucket name as part of the hostname. For example: https://bucketname.s3.amazonaws.com. Alternatively, with the path style, you treat the bucket name as if it is a path in the URI; for example, https://s3.amazonaws.com/bucketname. The default value in the CLI is to use auto, which attempts to use the virtual style where it can, but will fall back to path style when required. For example, if your bucket name is not DNS compatible, the bucket name cannot be part of the hostname and must be in the path. With auto, the CLI will detect this condition and automatically switch to path style for you. If you set the addressing style to path, you must then ensure that the AWS Region you configured in the AWS CLI matches the Region of your bucket.

**payload_signing_enabled**

Specifies whether to SHA256 sign sigv4 payloads. By default, this is disabled for streaming uploads (UploadPart and PutObject) when using HTTPS. By default, this is set to false for streaming uploads (UploadPart and PutObject), but only if a ContentMD5 is present (it is generated by default) and the endpoint uses HTTPS.

If set to true, S3 requests receive additional content validation in the form of a SHA256 checksum which is calculated for you and included in the request signature. If set to false, the checksum isn't calculated. Disabling this can be useful to reduce the performance overhead created by the checksum calculation.

**use_accelerate_endpoint**

Use the Amazon S3 Accelerate endpoint for all s3 and s3api commands. The default value is false. This is mutually exclusive with the use_dualstack_endpoint setting.
If set to true, the AWS CLI directs all Amazon S3 requests to the S3 Accelerate endpoint at s3-accelerate.amazonaws.com. To use this endpoint, you must enable your bucket to use S3 Accelerate. All requests are sent using the virtual style of bucket addressing: my-bucket.s3-accelerate.amazonaws.com. Any ListBuckets, CreateBucket, and DeleteBucket requests aren't sent to the S3 Accelerate endpoint as that endpoint doesn't support those operations. This behavior can also be set if the --endpoint-url parameter is set to https://s3-accelerate.amazonaws.com or http://s3-accelerate.amazonaws.com for any s3 or s3api command.

The following settings apply only to commands in the s3 namespace command set.

**max_bandwidth**

Specifies the maximum bandwidth that can be consumed for uploading and downloading data to and from Amazon S3. The default is no limit.

This limits the maximum bandwidth that the S3 commands can use to transfer data to and from Amazon S3. This value applies to only uploads and downloads; it doesn't apply to copies or deletes. The value is expressed as bytes per second. The value can be specified as:

- An integer. For example, 1048576 sets the maximum bandwidth usage to 1 megabyte per second.
- An integer followed by a rate suffix. You can specify rate suffixes using: KB/s, MB/s, or GB/s. For example, 300KB/s, 10MB/s.

In general, we recommend that you first try to lower bandwidth consumption by lowering max_concurrent_requests. If that doesn't adequately limit bandwidth consumption to the desired rate, you can use the max_bandwidth setting to further limit bandwidth consumption. This is because max_concurrent_requests controls how many threads are currently running. If you instead first lower max_bandwidth but leave a high max_concurrent_requests setting, it can result in threads having to wait unnecessarily. This can lead to excess resource consumption and connection timeouts.

**max_concurrent_requests**

Specifies the maximum number of concurrent requests. The default value is 10.

The aws s3 transfer commands are multithreaded. At any given time, multiple Amazon S3 requests can be running. For example, when you use the command aws s3 cp localdir
s3://bucket/ --recursive to upload files to an S3 bucket, the AWS CLI can upload the files localdir/file1, localdir/file2, and localdir/file3 in parallel. The setting max_concurrent_requests specifies the maximum number of transfer operations that can run at the same time.

You might need to change this value for a few reasons:

- Decreasing this value – On some environments, the default of 10 concurrent requests can overwhelm a system. This can cause connection timeouts or slow the responsiveness of the system. Lowering this value makes the S3 transfer commands less resource intensive. The tradeoff is that S3 transfers can take longer to complete. Lowering this value might be necessary if you use a tool to limit bandwidth.

- Increasing this value – In some scenarios, you might want the Amazon S3 transfers to complete as quickly as possible, using as much network bandwidth as necessary. In this scenario, the default number of concurrent requests might not be sufficient to use all of the available network bandwidth. Increasing this value can improve the time it takes to complete an Amazon S3 transfer.

**max_queue_size**

Specifies the maximum number of tasks in the task queue. The default value is 1000.

The AWS CLI internally uses a model where it queues up Amazon S3 tasks that are then executed by consumers whose numbers are limited by max_concurrent_requests. A task generally maps to a single Amazon S3 operation. For example, a task could be a PutObjectTask, or a GetObjectTask, or an UploadPartTask. The rate at which tasks are added to the queue can be much faster than the rate at which consumers finish the tasks. To avoid unbounded growth, the task queue size is capped to a specific size. This setting changes the value of that maximum number.

You generally don't need to change this setting. This setting also corresponds to the number of tasks that the AWS CLI is aware of that need to be run. This means that by default the AWS CLI can only see 1000 tasks ahead. Increasing this value means that the AWS CLI can more quickly know the total number of tasks needed, assuming that the queuing rate is quicker than the rate of task completion. The tradeoff is that a larger max_queue_size requires more memory.

**multipart_chunksize**

Specifies the chunk size that the AWS CLI uses for multipart transfers of individual files. The default value is 8 MB, with a minimum of 5 MB.
When a file transfer exceeds the `multipart_threshold`, the AWS CLI divides the file into chunks of this size. This value can be specified using the same syntax as `multipart_threshold`, either as the number of bytes as an integer, or by using a size and a suffix.

**multipart_threshold**

Specifies the size threshold the AWS CLI uses for multipart transfers of individual files. The default value is 8 MB.

When uploading, downloading, or copying a file, the Amazon S3 commands switch to multipart operations if the file exceeds this size. You can specify this value in one of two ways:

- The file size in bytes. For example, `1048576`.
- The file size with a size suffix. You can use `KB`, `MB`, `GB`, or `TB`. For example: `10MB`, `1GB`.

**Note**

S3 can impose constraints on valid values that can be used for multipart operations. For more information, see the S3 Multipart Upload documentation in the Amazon Simple Storage Service User Guide.

**Environment variables to configure the AWS CLI**

Environment variables provide another way to specify configuration options and credentials, and can be useful for scripting or temporarily setting a named profile as the default.

**Precedence of options**

- If you specify an option by using one of the environment variables described in this topic, it overrides any value loaded from a profile in the configuration file.
- If you specify an option by using a parameter on the AWS CLI command line, it overrides any value from either the corresponding environment variable or a profile in the configuration file.

For more information about precedence and how the AWS CLI determines which credentials to use, see Configure the AWS CLI.

**Topics**
• How to set environment variables
• AWS CLI supported environment variables

How to set environment variables

The following examples show how you can configure environment variables for the default user.

Linux or macOS

$ export AWS_ACCESS_KEY_ID=AKIAIOSFODNN7EXAMPLE
$ export AWS_SECRET_ACCESS_KEY=wJalrXUtznFEMI/K7MDENG/bPxRfiCYEXAMPLEKEY
$ export AWS_DEFAULT_REGION=us-west-2

Setting the environment variable changes the value used until the end of your shell session, or until you set the variable to a different value. You can make the variables persistent across future sessions by setting them in your shell's startup script.

Windows Command Prompt

To set for all sessions

C:\> setx AWS_ACCESS_KEY_ID AKIAIOSFODNN7EXAMPLE
C:\> setx AWS_SECRET_ACCESS_KEY wJalrXUtznFEMI/K7MDENG/bPxRfiCYEXAMPLEKEY
C:\> setx AWS_DEFAULT_REGION us-west-2

Using setx to set an environment variable changes the value used in both the current command prompt session and all command prompt sessions that you create after running the command. It does not affect other command shells that are already running at the time you run the command. You may need to restart your terminal for settings to load.

To set for current session only

Using set to set an environment variable changes the value used until the end of the current command prompt session, or until you set the variable to a different value.

C:\> set AWS_ACCESS_KEY_ID=AKIAIOSFODNN7EXAMPLE
C:\> set AWS_SECRET_ACCESS_KEY=wJalrXUtznFEMI/K7MDENG/bPxRfiCYEXAMPLEKEY
C:\> set AWS_DEFAULT_REGION=us-west-2
If you set an environment variable at the PowerShell prompt as shown in the previous examples, it saves the value for only the duration of the current session. To make the environment variable setting persistent across all PowerShell and Command Prompt sessions, store it by using the System application in Control Panel. Alternatively, you can set the variable for all future PowerShell sessions by adding it to your PowerShell profile. See the PowerShell documentation for more information about storing environment variables or persisting them across sessions.

AWS CLI supported environment variables

The AWS CLI supports the following environment variables.

**AWS_ACCESS_KEY_ID**

Specifies an AWS access key associated with an IAM account.

If defined, this environment variable overrides the value for the profile setting aws_access_key_id. You can't specify the access key ID by using a command line option.

**AWS_CA_BUNDLE**

Specifies the path to a certificate bundle to use for HTTPS certificate validation.

If defined, this environment variable overrides the value for the profile setting ca_bundle. You can override this environment variable by using the --ca-bundle command line parameter.

**AWS_CLI_AUTO_PROMPT**

Enables the auto-prompt for the AWS CLI version 2. There are two settings that can be used:

- **on** uses the full auto-prompt mode each time you attempt to run an aws command. This includes pressing ENTER after both a complete command or incomplete command.

- **on-partial** uses partial auto-prompt mode. If a command is incomplete or cannot be run due to client-side validation errors, auto-prompt is used. This mode is useful if you have pre-
existing scripts, runbooks, or you only want to be auto-prompted for commands you are
unfamiliar with rather than prompted on every command.

If defined, this environment variable overrides the value for the `cli_auto_prompt` profile
setting. You can override this environment variable by using the `--cli-auto-prompt` and `--
no-cli-auto-prompt` command line parameters.

For information on the AWS CLI version 2 auto-prompt feature, see Have the AWS CLI prompt
you for commands.

**AWS_CLI_FILE_ENCODING**

Specifies the encoding used for text files. By default encoding matches your locale. To
set encoding different from the locale, use the `aws_cli_file_encoding` environment
variable. For example, if you use Windows with default encoding CP1252, setting
`aws_cli_file_encoding=UTF-8` sets the CLI to open text files using UTF-8.

**AWS_CONFIG_FILE**

Specifies the location of the file that the AWS CLI uses to store configuration profiles. The
default path is `~/.aws/config`.

You can't specify this value in a named profile setting or by using a command line parameter.

**AWS_DATA_PATH**

A list of additional directories to check outside of the built-in search path of `~/.aws/models` when loading AWS CLI data. Setting this environment variable indicates additional directories to
check first before falling back to the built-in search path. Multiple entries should be separated
with the `os.pathsep` character, which is `:` on Linux or macOS and `;` on Windows.

**AWS_DEFAULT_OUTPUT**

Specifies the output format to use.

If defined, this environment variable overrides the value for the profile setting `output`. You can
override this environment variable by using the `--output` command line parameter.

**AWS_DEFAULT_REGION**

The Default region name identifies the AWS Region whose servers you want to send your
requests to by default. This is typically the Region closest to you, but it can be any Region. For
example, you can type `us-west-2` to use US West (Oregon). This is the Region that all later requests are sent to, unless you specify otherwise in an individual command.

**Note**

You must specify an AWS Region when using the AWS CLI, either explicitly or by setting a default Region. For a list of the available Regions, see [Regions and Endpoints](#). The Region designators used by the AWS CLI are the same names that you see in AWS Management Console URLs and service endpoints.

If defined, this environment variable overrides the value for the profile setting `region`. You can override this environment variable by using the `--region` command line parameter and the AWS SDK compatible `AWS_REGION` environment variable.

**AWS_EC2_METADATA_DISABLED**

Disables the use of the Amazon EC2 instance metadata service (IMDS).

If set to true, user credentials or configuration (like the Region) are not requested from IMDS.

**AWS_ENDPOINT_URL**

Specifies the endpoint that is used for all service requests.

Endpoint configuration settings are located in multiple places, such as the system or user environment variables, local AWS configuration files, or explicitly declared on the command line as a parameter. The AWS CLI endpoint configuration settings take precedence in the following order:

1. The `--endpoint-url` command line option.
2. If enabled, the `AWS_IGNORE_CONFIGURED_ENDPOINT_URLS` global endpoint environment variable or profile setting `ignore_configured_endpoint_urls` to ignore custom endpoints.
3. The value provided by a service-specific environment variable `AWS_ENDPOINT_URL_<SERVICE>`, such as `AWS_ENDPOINT_URL_DYNAMODB`.
4. The values provided by the `AWS_USE_DUALSTACK_ENDPOINT`, `AWS_USE_FIPS_ENDPOINT`, and `AWS_ENDPOINT_URL` environment variables.
5. The service-specific endpoint value provided by the `endpoint_url` setting within a services section of the shared config file.
6. The value provided by the `endpoint_url` setting within a profile of the shared config file.

7. `use_dualstack_endpoint`, `use_fips_endpoint`, and `endpoint_url` settings.

8. Any default endpoint URL for the respective AWS service is used last. For a list of the standard service endpoints available in each Region, see `AWS Regions and Endpoints` in the Amazon Web Services General Reference.

**AWS_ENDPOINT_URL_<SERVICE>**

Specifies a custom endpoint that is used for a specific service, where `<SERVICE>` is replaced with the AWS service identifier. For example, Amazon DynamoDB has a serviceId of `DynamoDB`. For this service, the endpoint URL environment variable is `AWS_ENDPOINT_URL_DYNAMODB`.

For a list of all service-specific environment variables, see [List of service-specific identifiers](#).

Endpoint configuration settings are located in multiple places, such as the system or user environment variables, local AWS configuration files, or explicitly declared on the command line as a parameter. The AWS CLI endpoint configuration settings take precedence in the following order:

1. The `--endpoint-url` command line option.

2. If enabled, the `AWS_IGNORE_CONFIGURED_ENDPOINT_URLS` global endpoint environment variable or profile setting `ignore_configure_endpoint_urls` to ignore custom endpoints.

3. The value provided by a service-specific environment variable `AWS_ENDPOINT_URL_<SERVICE>`, such as AWS_ENDPOINT_URL_DYNAMODB.

4. The values provided by the `AWS_USE_DUALSTACK_ENDPOINT`, `AWS_USE_FIPS_ENDPOINT`, and `AWS_ENDPOINT_URL` environment variables.

5. The service-specific endpoint value provided by the `endpoint_url` setting within a services section of the shared config file.

6. The value provided by the `endpoint_url` setting within a profile of the shared config file.

7. `use_dualstack_endpoint`, `use_fips_endpoint`, and `endpoint_url` settings.

8. Any default endpoint URL for the respective AWS service is used last. For a list of the standard service endpoints available in each Region, see `AWS Regions and Endpoints` in the Amazon Web Services General Reference.
AWS_IGNORE_CONFIGURED_ENDPOINT_URLS

If enabled, the AWS CLI ignores all custom endpoint configurations. Valid values are `true` and `false`.

Endpoint configuration settings are located in multiple places, such as the system or user environment variables, local AWS configuration files, or explicitly declared on the command line as a parameter. The AWS CLI endpoint configuration settings take precedence in the following order:

1. The `--endpoint-url` command line option.
2. If enabled, the `AWS_IGNORE_CONFIGURED_ENDPOINT_URLS` global endpoint environment variable or profile setting `ignore_configure_endpoint_urls` to ignore custom endpoints.
3. The value provided by a service-specific environment variable `AWS_ENDPOINT_URL_<SERVICE>`, such as `AWS_ENDPOINT_URL_DYNAMODB`.
4. The values provided by the `AWS_USE_DUALSTACK_ENDPOINT`, `AWS_USE_FIPS_ENDPOINT`, and `AWS_ENDPOINT_URL` environment variables.
5. The service-specific endpoint value provided by the `endpoint_url` setting within a services section of the shared config file.
6. The value provided by the `endpoint_url` setting within a profile of the shared config file.
7. `use_dualstack_endpoint`, `use_fips_endpoint`, and `endpoint_url` settings.
8. Any default endpoint URL for the respective AWS service is used last. For a list of the standard service endpoints available in each Region, see [AWS Regions and Endpoints](https://aws.amazon.com/documentation/region/) in the Amazon Web Services General Reference.

AWS_MAX_ATTEMPTS

Specifies a value of maximum retry attempts the AWS CLI retry handler uses, where the initial call counts toward the value that you provide. For more information on retries, see [AWS CLI retries](https://docs.aws.amazon.com/cli/latest/reference/index.html#retries).

If defined, this environment variable overrides the value for the profiles setting `max_attempts`.

AWS_METADATA_SERVICE_NUM_ATTEMPTS

When attempting to retrieve credentials on an Amazon EC2 instance that has been configured with an IAM role, the AWS CLI attempts to retrieve credentials once from the instance metadata
service before stopping. If you know your commands will run on an Amazon EC2 instance, you can increase this value to make AWS CLI retry multiple times before giving up.

**AWS_METADATASERVICE_TIMEOUT**

The number of seconds before a connection to the instance metadata service should time out. When attempting to retrieve credentials on an Amazon EC2 instance that is configured with an IAM role, a connection to the instance metadata service times out after 1 second by default. If you know you're running on an Amazon EC2 instance with an IAM role configured, you can increase this value if needed.

**AWS_PAGER**

Specifies the pager program used for output. By default, AWS CLI version 2 returns all output through your operating system's default pager program.

To disable all use of an external paging program, set the variable to an empty string.

If defined, this environment variable overrides the value for the profile setting cliPager.

**AWS_PROFILE**

Specifies the name of the AWS CLI profile with the credentials and options to use. This can be the name of a profile stored in a credentials or config file, or the value default to use the default profile.

If defined, this environment variable overrides the behavior of using the profile named [default] in the configuration file. You can override this environment variable by using the --profile command line parameter.

**AWS_REGION**

The AWS SDK compatible environment variable that specifies the AWS Region to send the request to.

If defined, this environment variable overrides the values in the environment variable AWS_DEFAULT_REGION and the profile setting region. You can override this environment variable by using the --region command line parameter.

**AWS_RETRY_MODE**

Specifies which retry mode AWS CLI uses. There are three retry modes available: legacy (default), standard, and adaptive. For more information on retries, see AWS CLI retries.

If defined, this environment variable overrides the value for the profiles setting retry_mode.
AWS_ROLE_ARN

Specifies the Amazon Resource Name (ARN) of an IAM role with a web identity provider that you want to use to run the AWS CLI commands.

Used with the AWS_WEB_IDENTITY_TOKEN_FILE and AWS_ROLE_SESSION_NAME environment variables.

If defined, this environment variable overrides the value for the profile setting role_arn. You can't specify a role session name as a command line parameter.

Note

This environment variable only applies to an assumed role with web identity provider it does not apply to the general assume role provider configuration.

For more information on using web identities, see the section called “Assume role with web identity”.

AWS_ROLE_SESSION_NAME

Specifies the name to attach to the role session. This value is provided to the RoleSessionName parameter when the AWS CLI calls the AssumeRole operation, and becomes part of the assumed role user ARN: arn:aws:sts::123456789012:assumed-role/role_name/role_session_name. This is an optional parameter. If you do not provide this value, a session name is generated automatically. This name appears in AWS CloudTrail logs for entries associated with this session.

If defined, this environment variable overrides the value for the profile setting role_session_name.

Used with the AWS_ROLE_ARN and AWS_WEB_IDENTITY_TOKEN_FILE environment variables.

For more information on using web identities, see the section called “Assume role with web identity”.

Note

This environment variable only applies to an assumed role with web identity provider it does not apply to the general assume role provider configuration.
AWS_SECRET_ACCESS_KEY

Specifies the secret key associated with the access key. This is essentially the "password" for the access key.

If defined, this environment variable overrides the value for the profile setting aws_secret_access_key. You can't specify the secret access key ID as a command line option.

AWS_SESSION_TOKEN

Specifies the session token value that is required if you are using temporary security credentials that you retrieved directly from AWS STS operations. For more information, see the Output section of the assume-role command in the AWS CLI Command Reference.

If defined, this environment variable overrides the value for the profile setting aws_session_token.

AWS_SHARED_CREDENTIALS_FILE

Specifies the location of the file that the AWS CLI uses to store access keys. The default path is ~/.aws/credentials.

You can't specify this value in a named profile setting or by using a command line parameter.

AWS_USE_DUALSTACK_ENDPOINT

Enables the use of dual-stack endpoints to send AWS requests. To learn more about dual-stack endpoints, which support both IPv4 and IPv6 traffic, see Using Amazon S3 dual-stack endpoints in the Amazon Simple Storage Service User Guide. Dual-stack endpoints are available for some services in some regions. If a dual-stack endpoint does not exist for the service or AWS Region, the request fails. This is disabled by default.

Endpoint configuration settings are located in multiple places, such as the system or user environment variables, local AWS configuration files, or explicitly declared on the command line as a parameter. The AWS CLI endpoint configuration settings take precedence in the following order:

1. The --endpoint-url command line option.
2. If enabled, the AWS_IGNORE_CONFIGURED_ENDPOINT_URLS global endpoint environment variable or profile setting ignore_configure_endpoint_urls to ignore custom endpoints.
3. The value provided by a service-specific environment variable `AWS_ENDPOINT_URL_<SERVICE>`, such as `AWS_ENDPOINT_URL_DYNAMODB`.

4. The values provided by the `AWS_USE_DUALSTACK_ENDPOINT`, `AWS_USE_FIPS_ENDPOINT`, and `AWS_ENDPOINT_URL` environment variables.

5. The service-specific endpoint value provided by the `endpoint_url` setting within a `services` section of the shared config file.

6. The value provided by the `endpoint_url` setting within a profile of the shared config file.

7. `use_dualstack_endpoint`, `use_fips_endpoint`, and `endpoint_url` settings.

8. Any default endpoint URL for the respective AWS service is used last. For a list of the standard service endpoints available in each Region, see AWS Regions and Endpoints in the Amazon Web Services General Reference.

**AWS_USE_FIPS_ENDPOINT**

Some AWS services offer endpoints that support Federal Information Processing Standard (FIPS) 140-2 in some AWS Regions. When the AWS service supports FIPS, this setting specifies what FIPS endpoint the AWS CLI should use. Unlike standard AWS endpoints, FIPS endpoints use a TLS software library that complies with FIPS 140-2. These endpoints might be required by enterprises that interact with the United States government.

If this setting is enabled, but a FIPS endpoint does not exist for the service in your AWS Region, the AWS command may fail. In this case, manually specify the endpoint to use in the command using the `--endpoint-url` option or use service-specific endpoints.

For more information on specifying FIPS endpoints by AWS Region, see FIPS Endpoints by Service.

Endpoint configuration settings are located in multiple places, such as the system or user environment variables, local AWS configuration files, or explicitly declared on the command line as a parameter. The AWS CLI endpoint configuration settings take precedence in the following order:

1. The `--endpoint-url` command line option.

2. If enabled, the `AWS_IGNORE_CONFIGURED_ENDPOINT_URLS` global endpoint environment variable or profile setting `ignore_configure_endpoint_urls` to ignore custom endpoints.
3. The value provided by a service-specific environment variable `AWS_ENDPOINT_URL_<SERVICE>`, such as `AWS_ENDPOINT_URL_DYNAMODB`.

4. The values provided by the `AWS_USE_DUALSTACK_ENDPOINT`, `AWS_USE_FIPS_ENDPOINT`, and `AWS_ENDPOINT_URL` environment variables.

5. The service-specific endpoint value provided by the `endpoint_url` setting within a `services` section of the shared `config` file.

6. The value provided by the `endpoint_url` setting within a profile of the shared `config` file.

7. `use_dualstack_endpoint`, `use_fips_endpoint`, and `endpoint_url` settings.

8. Any default endpoint URL for the respective AWS service is used last. For a list of the standard service endpoints available in each Region, see [AWS Regions and Endpoints](#) in the [Amazon Web Services General Reference](#).

**AWS_WEB_IDENTITY_TOKEN_FILE**

Specifies the path to a file that contains an OAuth 2.0 access token or OpenID Connect ID token that is provided by an identity provider. The AWS CLI loads the contents of this file and passes it as the `WebIdentityToken` argument to the `AssumeRoleWithWebIdentity` operation.

Used with the `AWS_ROLE_ARN` and `AWS_ROLE_SESSION_NAME` environment variables.

If defined, this environment variable overrides the value for the profile setting `web_identity_token_file`.

For more information on using web identities, see [the section called “Assume role with web identity”](#).

![Note]

This environment variable only applies to an assumed role with web identity provider it does not apply to the general assume role provider configuration.

**Command line options**

In the AWS CLI, command line options are global parameters you can use to override the default configuration settings, any corresponding profile setting, or environment variable setting for that
single command. You can't use command line options to directly specify credentials, although you can specify which profile to use.

**Topics**

- How to use command line options
- AWS CLI supported global command line options
- Common uses of command line options

**How to use command line options**

Most command line options are simple strings, such as the profile name `profile1` in the following example:

```
$ aws s3 ls --profile profile1
example-bucket-1
example-bucket-2
...
```

Each option that takes an argument requires a space or equals sign (=) separating the argument from the option name. If the argument value is a string that contains a space, you must use quotation marks around the argument. For details on argument types and formatting for parameters, see [Specify parameter values for the AWS CLI](#).

**AWS CLI supported global command line options**

In the AWS CLI you can use the following command line options to override the default configuration settings, any corresponding profile setting, or environment variable setting for that single command.

---

**--ca-bundle <string>**

Specifies the certificate authority (CA) certificate bundle to use when verifying SSL certificates.

If defined, this option overrides the value for the profile setting `ca_bundle` and the `AWS_CA_BUNDLE` environment variable.

---

**--cli-auto-prompt**

Enables auto-prompt mode for a single command. As the following examples show, you can specify it at any point.
$ aws --cli-auto-prompt
$ aws dynamodb --cli-auto-prompt
$ aws dynamodb describe-table --cli-auto-prompt

This option overrides the `aws_cli_auto_prompt` environment variable and the `cli_auto_prompt` profile setting.

For information on the AWS CLI version 2 auto-prompt feature, see Have the AWS CLI prompt you for commands.

--cli-binary-format

Specifies how the AWS CLI version 2 interprets binary input parameters. It can be one of the following values:

- **base64** – This is the default value. An input parameter that is typed as a binary large object (BLOB) accepts a base64-encoded string. To pass true binary content, put the content in a file and provide the file's path and name with the `fileb://` prefix as the parameter's value. To pass base64-encoded text contained in a file, provide the file's path and name with the `file://` prefix as the parameter's value.

- **raw-in-base64-out** – Default for the AWS CLI version 1. If the setting's value is `raw-in-base64-out`, files referenced using the `file://` prefix is read as text and then the AWS CLI attempts to encode it to binary.

This overrides the `cli_binary_format` file configuration setting.

$ aws lambda invoke \
   --cli-binary-format raw-in-base64-out \
   --function-name my-function \
   --invocation-type Event \
   --payload '{ "name": "Bob" }' \
   response.json

If you reference a binary value in a file using the `fileb://` prefix notation, the AWS CLI *always* expects the file to contain raw binary content and does not attempt to convert the value.

If you reference a binary value in a file using the `file://` prefix notation, the AWS CLI handles the file according to the current `cli_binary_format` setting. If that setting's value is `base64` (the default when not explicitly set), the AWS CLI expects the file to contain base64-encoded text. If that setting's value is `raw-in-base64-out`, the AWS CLI expects the file to contain raw binary content.
--cli-connect-timeout <integer>

Specifies the maximum socket connect time in seconds. If the value is set to zero (0), the socket connect waits indefinitely (is blocking) and doesn't timeout.

--cli-read-timeout <integer>

Specifies the maximum socket read time in seconds. If the value is set to zero (0) the socket read waits indefinitely (is blocking) and doesn't timeout.

--color <string>

Specifies support for color output. Valid values are on, off, and auto. The default value is auto.

--debug

A Boolean switch that enables debug logging. The AWS CLI by default provides cleaned up information regarding any successes or failures regarding command outcomes in the command output. The `--debug` option provides the full Python logs. This includes additional diagnostic information about the operation of the command that can be useful when troubleshooting why a command provides unexpected results. To easily view debug logs, we suggest sending the logs to a file to more easily search the information. You can do this by using one of the following.

To send only the `stderr` diagnostic information, append `2>` `debug.txt` where `debug.txt` is the name you want to use for your debug file:

```
$ aws servicename commandname options --debug 2> debug.txt
```

To send both the output and `stderr` diagnostic information, append `&>` `debug.txt` where `debug.txt` is the name you want to use for your debug file:

```
$ aws servicename commandname options --debug &> debug.txt
```

--endpoint-url <string>

Specifies the URL to send the request to. For most commands, the AWS CLI automatically determines the URL based on the selected service and the specified AWS Region. However, some commands require that you specify an account-specific URL. You can also configure some
AWS services to host an endpoint directly within your private VPC, which might then need to be specified.

The following command example uses a custom Amazon S3 endpoint URL.

```
$ aws s3 ls --endpoint-url http://localhost:4567
```

Endpoint configuration settings are located in multiple places, such as the system or user environment variables, local AWS configuration files, or explicitly declared on the command line as a parameter. The AWS CLI endpoint configuration settings take precedence in the following order:

1. The `--endpoint-url` command line option.
2. If enabled, the `AWS_IGNORE_CONFIGURED_ENDPOINT_URLS` global endpoint environment variable or profile setting `ignore_configure_endpoint_urls` to ignore custom endpoints.
3. The value provided by a service-specific environment variable `AWS_ENDPOINT_URL_<SERVICE>`, such as `AWS_ENDPOINT_URL_DYNAMODB`.
4. The values provided by the `AWS_USE_DUALSTACK_ENDPOINT`, `AWS_USE_FIPS_ENDPOINT`, and `AWS_ENDPOINT_URL` environment variables.
5. The service-specific endpoint value provided by the `endpoint_url` setting within a services section of the shared config file.
6. The value provided by the `endpoint_url` setting within a profile of the shared config file.
7. `use_dualstack_endpoint`, `use_fips_endpoint`, and `endpoint_url` settings.
8. Any default endpoint URL for the respective AWS service is used last. For a list of the standard service endpoints available in each Region, see AWS Regions and Endpoints in the Amazon Web Services General Reference.

`--no-cli-auto-prompt`

Disables auto-prompt mode for a single command.

```
$ aws dynamodb describe-table --table-name Table1 --no-cli-auto-prompt
```

This option overrides the `aws_cli_auto_prompt` environment variable and the `cli_auto_prompt` profile setting.
For information on the AWS CLI version 2 auto-prompt feature, see Have the AWS CLI prompt you for commands.

--no-cli-pager

A Boolean switch that disables using a pager for the output of the command.

--no-paginate

A Boolean switch that disables the multiple calls the automatically AWS CLI makes to receive all command results that creates pagination of the output. This means only the first page of your output is displayed.

--no-sign-request

A Boolean switch that disables signing the HTTP requests to the AWS service endpoint. This prevents credentials from being loaded.

--no-verify-ssl

By default, the AWS CLI uses SSL when communicating with AWS services. For each SSL connection and call, the AWS CLI verifies the SSL certificates. Using this option overrides the default behavior of verifying SSL certificates.

⚠️ Warning

This option is not best practice. If you use --no-verify-ssl, your traffic between your client and AWS services is no longer secured. This means your traffic is a security risk and vulnerable to man-in-the-middle exploits. If you're having issues with certificates, it's best to resolve those issues instead. For certificate troubleshooting steps, see the section called “SSL certificate errors”.

--output <string>

Specifies the output format to use for this command. You can specify any of the following values:

- **json** – The output is formatted as a JSON string.
- **yaml** – The output is formatted as a YAML string.
- **yaml-stream** – The output is streamed and formatted as a YAML string. Streaming allows for faster handling of large data types.
• **text** – The output is formatted as multiple lines of tab-separated string values. This can be useful to pass the output to a text processor, like grep, sed, or awk.

• **table** – The output is formatted as a table using the characters +|- to form the cell borders. It typically presents the information in a "human-friendly" format that is much easier to read than the others, but not as programmatically useful.

```bash
--profile <string>
```

Specifies the named profile to use for this command. To set up additional named profiles, you can use the aws configure command with the --profile option.

```bash
$ aws configure --profile <profilename>
```

```bash
--query <string>
```

Specifies a JMESPath query to use in filtering the response data. For more information, see Filter AWS CLI output.

```bash
--region <string>
```

Specifies which AWS Region to send this command's AWS request to. For a list of all of the Regions that you can specify, see AWS Regions and Endpoints in the Amazon Web Services General Reference.

```bash
--version
```

A Boolean switch that displays the current version of the AWS CLI program that is running.

### Common uses of command line options

Common uses for command line options include checking your resources in multiple AWS Regions, and changing the output format for legibility or ease of use when scripting. In the following examples, we run the describe-instances command against each Region until we find which Region our instance is in.

```bash
$ aws ec2 describe-instances --output table --region us-west-1
-------------------
|DescribeInstances|
+-----------------
$ aws ec2 describe-instances --output table --region us-west-2
```
### Command completion

The AWS Command Line Interface (AWS CLI) includes a bash-compatible command-completion feature that enables you to use the **Tab** key to complete a partially entered command. On most systems you need to configure this manually.

For information on the AWS CLI version 2 auto-prompt feature instead, see [Have the AWS CLI prompt you for commands](#).

**Topics**

- [How it works](#)
- [Configuring command completion on Linux or macOS](#)
- [Configuring command completion on Windows](#)

#### How it works

When you partially enter a command, parameter, or option, the command-completion feature either automatically completes your command or displays a suggested list of commands. To prompt command completion, you partially enter in a command and press the completion key, which is typically **Tab** in most shells.

The following examples show different ways that you can use command completion:

- Partially enter a command and press **Tab** to display a suggested list of commands.
$ aws dynamodb d**TAB**
date-backup                        describe-global-table
delete-item                        describe-global-table-settings
delete-table                        describe-limits
describe-backup                        describe-table
describe-continuous-backups          describe-table-replica-auto-scaling
describe-contributor-insights          describe-time-to-live
describe-endpoints

- Partially enter a parameter and press Tab to display a suggested list of parameters.

$ aws dynamodb delete-table --**TAB**
--ca-bundle              --endpoint-url           --profile
--cli-connect-timeout    --generate-cli-skeleton --query
--cli-input-json         --no-paginate            --region
--cli-read-timeout       --no-sign-request        --table-name
--color                  --no-verify-ssl          --version
--debug                  --output

- Enter a parameter and press Tab to display a suggested list of resource values. This feature is available only in the AWS CLI version 2.

$ aws dynamodb db delete-table --table-name **TAB**
Table 1                  Table 2                  Table 3

**Configuring command completion on Linux or macOS**

To configure command completion on Linux or macOS, you must know the name of the shell you're using and the location of the `aws_completer` script.

> **Note**

Command completion is automatically configured and enabled by default on Amazon EC2 instances that run Amazon Linux.

**Topics**

- Confirm the completer's folder is in your path
• **Enable command completion**

• **Verify command completion**

## Confirm the completer's folder is in your path

For the AWS completer to work successfully, the `aws_completer` needs to be in your shell's path. The `which` command can check if the completer is in your path.

```bash
$ which aws_completer
/usr/local/bin/aws_completer
```

If the `which` command can't find the completer, then use the following steps to add the completer's folder to your path.

### Step 1: Locate the AWS completer

The location of the AWS completer can vary depending on the installation method used.

- **Package Manager** - Programs such as `pip`, `yum`, `brew`, and `apt-get` typically install the AWS completer (or a symlink to it) to a standard path location.
  - If you used `pip` **without** the `--user` parameter, the default path is `/usr/local/bin/aws_completer`.
  - If you used `pip` **with** the `--user` parameter the default path is `/home/username/.local/bin/aws_completer`.
- **Bundled Installer** - If you used the bundled installer, the default path is `/usr/local/bin/aws_completer`.

If all else fails, you can use the `find` command to search your file system for the AWS completer.

```bash
$ find / -name aws_completer
/usr/local/bin/aws_completer
```

### Step 2: Identify your shell

To identify which shell you're using, you can use one of the following commands.

- **echo $SHELL** – Displays the shell's program file name. This usually matches the name of the in-use shell, unless you launched a different shell after logging in.
$ echo $SHELL
/bin/bash

- **ps** – Displays the processes running for the current user. One of them is the shell.

```
$ ps
+ PID TTY          TIME CMD
2148 pts/1    00:00:00 bash
8756 pts/1    00:00:00 ps
```

### Step 3: Add the completer to your path

1. Find your shell’s profile script in your user folder.

```
$ ls -a ~/
. .. .bash_logout .bash_profile .bashrc Desktop Documents Downloads
```

- **Bash** – `.bash_profile`, `.profile`, or `.bash_login`
- **Zsh** – `.zshrc`
- **Tcsh** – `.tcshrc`, `.cshrc`, or `.login`

2. Add an export command at the end of your profile script that’s similar to the following example. Replace `/usr/local/bin/` with the folder that you discovered in the previous section.

```
export PATH=/usr/local/bin/$PATH
```

3. Reload the profile into the current session to put those changes into effect. Replace `.bash_profile` with the name of the shell script you discovered in the first section.

```
$ source ~/.bash_profile
```

### Enable command completion

After confirming the completer is in your path, enable command completion by running the appropriate command for the shell that you’re using. You can add the command to your shell’s profile to run it each time you open a new shell. In each command, replace the `/usr/local/bin/` path with the one found on your system in [Confirm the completer’s folder is in your path](#).
• **bash** – Use the built-in command `complete`.

```bash
$ complete -C '/usr/local/bin/aws_completer' aws
```

Add the previous command to `~/.bashrc` to run it each time you open a new shell. Your `~/.bash_profile` should source `~/.bashrc` to ensure that the command is also run in login shells.

• **zsh** – To run command completion, you need to run `bashcompinit` by adding the following autoload line at the end of your `~/.zshrc` profile script.

```bash
$ autoload bashcompinit && bashcompinit
$ autoload -Uz compinit && compinit
```

To enable command completion, use the built-in command `complete`.

```bash
$ complete -C '/usr/local/bin/aws_completer' aws
```

Add the previous commands to `~/.zshrc` to run it each time you open a new shell.

• **tcsh** – Complete for tcsh takes a word type and pattern to define the completion behavior.

```bash
> complete aws 'p/*/`aws_completer`/'
```

Add the previous command to `~/.tcshrc` to run it each time you open a new shell.

After you've enabled command completion, [Verify command completion](#) is working.

**Verify command completion**

After enabling command completion, reload your shell, enter a partial command, and press **Tab** to see the available commands.

```bash
$ aws sTAB
s3          ses          sqs          sts          swf
s3api       sns          storagegateway support
```

Configuring command completion on Linux or macOS
Configuring command completion on Windows

Note

For information on how PowerShell handles their completion, including their various completion keys, see about_Tab_Expansion in the Microsoft PowerShell Docs.

To enable command completion for PowerShell on Windows, complete the following steps in PowerShell.

1. Open your $PROFILE with the following command.

   ```powershell
   PS C:\> Notepad $PROFILE
   ```

   If you do not have a $PROFILE, create a user profile using the following command.

   ```powershell
   PS C:\> if (!(Test-Path -Path $PROFILE ))
   { New-Item -Type File -Path $PROFILE -Force }
   ```

   For more information on PowerShell profiles, see How to Use Profiles in Windows PowerShell ISE on the Microsoft Docs website.

2. To enable command completion, add the following code block to your profile, save, and then close the file.

   ```powershell
   Register-ArgumentCompleter -Native -CommandName aws -ScriptBlock {
   param($commandName, $wordToComplete, $cursorPosition)
   $env:COMP_LINE=$wordToComplete
   if ($env:COMP_LINE.Length -lt $cursorPosition){
       $env:COMP_LINE=$env:COMP_LINE + " "
   }
   $env:COMP_POINT=$cursorPosition
   aws_completer.exe | ForEach-Object {
       'ParameterValue', $_)
   }
   Remove-Item Env:\COMP_LINE
   Remove-Item Env:\COMP_POINT
   }
   ```
3. After enabling command completion, reload your shell, enter a partial command, and press **Tab** to cycle through the available commands.

```
$ aws sTab
```

```
$ aws s3
```

To see all available commands available to your completion, enter a partial command and press **Ctrl + Space**.

```
$ aws sCtrl + Space
```

```
s3         ses       sqs       sts       swf
s3api      sns       storagegateway support
```

**AWS CLI retries**

This topic describes how the AWS CLI might see calls to AWS services fail due to unexpected issues. These issues can occur on the server side or might fail due to rate limiting from the AWS service you're attempting to call. These kinds of failures usually don’t require special handling and the call is automatically made again, often after a brief waiting period. The AWS CLI provides many features to assist in retrying client calls to AWS services when these kinds of errors or exceptions are experienced.

**Topics**

- Available retry modes
- Configuring a retry mode
- Viewing logs of retry attempts

**Available retry modes**

The AWS CLI has multiple modes to choose from depending on your version:

- Legacy retry mode
- Standard retry mode
- Adaptive retry mode
Legacy retry mode

Legacy mode uses an older retry handler that has limited functionality which includes:

- A default value of 4 for maximum retry attempts, making a total of 5 call attempts. This value can be overwritten through the `max_attempts` configuration parameter.
- DynamoDB has a default value of 9 for maximum retry attempts, making a total of 10 call attempts. This value can be overwritten through the `max_attempts` configuration parameter.
- Retry attempts for the following limited number of errors/exceptions:
  - General socket/connection errors:
    - `ConnectionError`
    - `ConnectionClosedError`
    - `ReadTimeoutError`
    - `EndpointConnectionError`
  - Service-side throttling/limit errors and exceptions:
    - `Throttling`
    - `ThrottlingException`
    - `ThrottledException`
    - `RequestThrottledException`
    - `ProvisionedThroughputExceededException`
- Retry attempts on several HTTP status codes, including 429, 500, 502, 503, 504, and 509.
- Any retry attempt will include an exponential backoff by a base factor of 2.

Standard retry mode

Standard mode is a standard set of retry rules across the AWS SDKs with more functionality than legacy. This mode is the default for AWS CLI version 2. Standard mode was created for the AWS CLI version 2 and is backported to AWS CLI version 1. Standard mode's functionality includes:

- A default value of 2 for maximum retry attempts, making a total of 3 call attempts. This value can be overwritten through the `max_attempts` configuration parameter.
- Retry attempts for the following expanded list of errors/exceptions:
  - Transient errors/exceptions
    - `RequestTimeout`
• RequestTimeoutException
• PriorRequestNotComplete
• ConnectionError
• HTTPClientError
• Service-side throttling/limit errors and exceptions:
  • Throttling
  • ThrottlingException
  • ThrottledException
  • RequestThrottledException
  • TooManyRequestsException
  • ProvisionedThroughputExceeded
  • TransactionInProgressException
  • RequestLimitExceeded
  • BandwidthLimitExceeded
  • LimitExceeded
  • RequestThrottled
  • SlowDown
  • EC2ThrottledException

• Retry attempts on nondescriptive, transient error codes. Specifically, these HTTP status codes: 500, 502, 503, 504.
• Any retry attempt will include an exponential backoff by a base factor of 2 for a maximum backoff time of 20 seconds.

Adaptive retry mode

⚠️ Warning
Adaptive mode is an experimental mode and is subject to change, both in features and behavior.
Adaptive retry mode is an experimental retry mode that includes all the features of standard mode. In addition to the standard mode features, adaptive mode also introduces client-side rate limiting through the use of a token bucket and rate-limit variables that are dynamically updated with each retry attempt. This mode offers flexibility in client-side retries that adapts to the error/exception state response from an AWS service.

With each new retry attempt, adaptive mode modifies the rate-limit variables based on the error, exception, or HTTP status code presented in the response from the AWS service. These rate-limit variables are then used to calculate a new call rate for the client. Each exception/error or non-success HTTP response (provided in the list above) from an AWS service updates the rate-limit variables as retries occur until success is reached, the token bucket is exhausted, or the configured maximum attempts value is reached.

Configuring a retry mode

The AWS CLI includes a variety of both retry configurations as well as configuration methods to consider when creating your client object.

Available configuration methods

In the AWS CLI, users can configure retries in the following ways:

- Environment variables
- AWS CLI configuration file

Users can customize the following retry options:

- Retry mode - Specifies which retry mode the AWS CLI uses. As described previously, there are three retry modes available: legacy, standard, and adaptive. The default value for the AWS CLI version 2 is standard.
- Max attempts - Specifies the value of maximum retry attempts the AWS CLI retry handler uses, where the initial call counts toward the value that you provide. The default value is 5.

Defining a retry configuration in your environment variables

To define your retry configuration for the AWS CLI, update your operating system's environment variables.

The retry environment variables are:
• AWS_RETRY_MODE
• AWS_MAX_ATTEMPTS

For more information on environment variables, see Environment variables to configure the AWS CLI.

Defining a retry configuration in your AWS configuration file

To change your retry configuration, update your global AWS configuration file. The default location for your AWS config file is ~/.aws/config.

The following is an example of an AWS config file:

```plaintext
[default]
retry_mode = standard
max_attempts = 6
```

For more information on configuration files, see Configuration and credential file settings.

Viewing logs of retry attempts

The AWS CLI uses Boto3’s retry methodology and logging. You can use the --debug option on any command to receive debug logs. For more information on how to use the --debug option, see Command line options.

If you search for "retry" in your debug logs, you'll find the retry information you need. The client log entries for retry attempts depend on which retry mode you’ve enabled.

Legacy mode:

Retry messages are generated by botocore.retryhandler. You’ll see one of three messages:

• No retry needed
• Retry needed, action of: `<action_name>`
• Reached the maximum number of retry attempts: `<attempt_number>`

Standard or adaptive mode:

Retry messages are generated by botocore.retries.standard. You’ll see one of three messages:
Use an HTTP proxy

To access AWS through proxy servers, you can configure the HTTP_PROXY and HTTPS_PROXY environment variables with either the DNS domain names or IP addresses and port numbers that your proxy servers use.

Topics

- Using the examples
- Authenticating to a proxy
- Using a proxy on Amazon EC2 instances
- Troubleshooting

Using the examples

⚠️ Note

The following examples show the environment variable name in all uppercase letters. However, if you specify a variable twice using different cases, the lowercase letters take precedence. We recommend that you define each variable only once to avoid system confusion and unexpected behavior.

The following examples show how you can use either the explicit IP address of your proxy or a DNS name that resolves to the IP address of your proxy. Either can be followed by a colon and the port number to which queries should be sent.

Linux or macOS

$ export HTTP_PROXY=http://10.15.20.25:1234
$ export HTTP_PROXY=http://proxy.example.com:1234
$ export HTTPS_PROXY=http://10.15.20.25:5678
$ export HTTPS_PROXY=http://proxy.example.com:5678

Windows Command Prompt

**To set for all sessions**

C:\> setx HTTP_PROXY http://10.15.20.25:1234
C:\> setx HTTP_PROXY http://proxy.example.com:1234
C:\> setx HTTPS_PROXY http://10.15.20.25:5678
C:\> setx HTTPS_PROXY http://proxy.example.com:5678

Using `setx` to set an environment variable changes the value used in both the current command prompt session and all command prompt sessions that you create after running the command. It does **not** affect other command shells that are already running at the time you run the command.

**To set for current session only**

Using `set` to set an environment variable changes the value used until the end of the current command prompt session, or until you set the variable to a different value.

C:\> set HTTP_PROXY=http://10.15.20.25:1234
C:\> set HTTP_PROXY=http://proxy.example.com:1234
C:\> set HTTPS_PROXY=http://10.15.20.25:5678
C:\> set HTTPS_PROXY=http://proxy.example.com:5678

**Authenticate to a proxy**

⚠️ **Note**

The AWS CLI doesn't support NTLM proxies. If you use an NTLM or Kerberos protocol proxy, you might be able to connect through an authentication proxy like Cntlm.

The AWS CLI supports HTTP Basic authentication. Specify the username and password in the proxy URL, as follows.
Linux or macOS

```bash
$ export HTTP_PROXY=http://username:password@proxy.example.com:1234
$ export HTTPS_PROXY=http://username:password@proxy.example.com:5678
```

Windows Command Prompt

**To set for all sessions**

```cmd
C:\> setx HTTP_PROXY http://username:password@proxy.example.com:1234
C:\> setx HTTPS_PROXY http://username:password@proxy.example.com:5678
```

**To set for current session only**

```cmd
C:\> set HTTP_PROXY=http://username:password@proxy.example.com:1234
C:\> set HTTPS_PROXY=http://username:password@proxy.example.com:5678
```

**Using a proxy on Amazon EC2 instances**

If you configure a proxy on an Amazon EC2 instance launched with an attached IAM role, ensure that you exempt the address used to access the instance metadata. To do this, set the NO_PROXY environment variable to the IP address of the instance metadata service, 169.254.169.254. This address does not vary.

Linux or macOS

```bash
$ export NO_PROXY=169.254.169.254
```

Windows Command Prompt

**To set for all sessions**

```cmd
C:\> setx NO_PROXY 169.254.169.254
```

**To set for current session only**

```cmd
C:\> set NO_PROXY=169.254.169.254
```
Troubleshooting

If you come across issues with the AWS CLI, see Troubleshoot errors for troubleshooting steps. For the most relevant troubleshooting steps, see the section called “SSL certificate errors”.

Use endpoints in the AWS CLI

To connect programmatically to an AWS service, you use an endpoint. An endpoint is the URL of the entry point for an AWS web service. The AWS Command Line Interface (AWS CLI) automatically uses the default endpoint for each service in an AWS Region, but you can specify an alternate endpoint for your API requests.

Endpoint topics

- Set endpoint for a single command
- Set global endpoint for all AWS services
- Set to use FIPs endpoints for all AWS services
- Set to use dual-stack endpoints for all AWS services
- Set service-specific endpoints
  - Service-specific endpoints: Environment variables
  - Service-specific endpoints: Shared config file
  - Service-specific endpoints: List of service-specific identifiers
- Endpoint configuration and settings precedence

Set endpoint for a single command

To override any endpoint settings or environment variables for a single command, use the `--endpoint-url` command line option. The following command example uses a custom Amazon S3 endpoint URL.

```
$ aws s3 ls --endpoint-url http://localhost:4567
```

Set global endpoint for all AWS services

To route requests for all services to a custom endpoint URL, use one of the following settings:

- Environment variables:
• **AWS_IGNORE_CONFIGURED_ENDPOINT_URLS** - Ignore configured endpoint URLs.

Linux or macOS

```bash
$ export AWS_IGNORE_CONFIGURED_ENDPOINT_URLS=true
```

Windows Command Prompt

**To set for all sessions**

```cmd
C:\> setx AWS_IGNORE_CONFIGURED_ENDPOINT_URLS=true
```

**To set for current session only**

```cmd
C:\> set AWS_IGNORE_CONFIGURED_ENDPOINT_URLS=true
```

PowerShell

```powershell
PS C:\> $Env:AWS_IGNORE_CONFIGURED_ENDPOINT_URLS="true"
```

• **AWS_ENDPOINT_URL** - Set global endpoint URL.

Linux or macOS

```bash
$ export AWS_ENDPOINT_URL=http://localhost:4567
```

Windows Command Prompt

**To set for all sessions**

```cmd
C:\> setx AWS_ENDPOINT_URL http://localhost:4567
```

**To set for current session only**

```cmd
C:\> set AWS_ENDPOINT_URL=http://localhost:4567
```

PowerShell

```powershell
PS C:\> $Env:AWS_ENDPOINT_URL="http://localhost:4567"
```
• The config file:
  • `ignore_configure_endpoint_urls` - Ignore configured endpoint URLs.
    ```
    ignore_configure_endpoint_urls = true
    ```
  • `endpoint_url` - Set global endpoint URL.
    ```
    endpoint_url = http://localhost:4567
    ```

Service-specific endpoints and the `--endpoint-url` command line option override any global endpoints.

**Set to use FIPs endpoints for all AWS services**

To route requests for all services to use FIPs endpoints, use one of the following:

• `AWS_USE_FIPS_ENDPOINT` environment variable.
  Linux or macOS
  ```
  $ export AWS_USE_FIPS_ENDPOINT=true
  ```
  Windows Command Prompt
  To set for all sessions
  ```
  C:\> setx AWS_USE_FIPS_ENDPOINT true
  ```
  To set for current session only
  ```
  C:\> set AWS_USE_FIPS_ENDPOINT=true
  ```
  PowerShell
  ```
  PS C:\> $Env:AWS_USE_FIPS_ENDPOINT="true"
  ```
  • `use_fips_endpoint` file setting.
    ```
    use_fips_endpoint = true
    ```
Some AWS services offer endpoints that support Federal Information Processing Standard (FIPS) 140-2 in some AWS Regions. When the AWS service supports FIPS, this setting specifies what FIPS endpoint the AWS CLI should use. Unlike standard AWS endpoints, FIPS endpoints use a TLS software library that complies with FIPS 140-2. These endpoints might be required by enterprises that interact with the United States government.

If this setting is enabled, but a FIPS endpoint does not exist for the service in your AWS Region, the AWS command may fail. In this case, manually specify the endpoint to use in the command using the --endpoint-url option or use service-specific endpoints.

For more information on specifying FIPS endpoints by AWS Region, see FIPS Endpoints by Service.

**Set to use dual-stack endpoints for all AWS services**

To route requests for all services to use dual-stack endpoints when available, use one of the following settings:

- **AWS_USE_DUALSTACK_ENDPOINT** environment variable.
  - Linux or macOS
    
    ```bash
    $ export AWS_USE_DUALSTACK_ENDPOINT=true
    ```
  - Windows Command Prompt
    
    **To set for all sessions**
    
    ```cmd
    C:\> setx AWS_USE_DUALSTACK_ENDPOINT true
    ```
    
    **To set for current session only**
    
    ```cmd
    C:\> set AWS_USE_DUALSTACK_ENDPOINT=true
    ```
  - PowerShell
    
    ```powershell
    PS C:\> $Env:AWS_USE_DUALSTACK_ENDPOINT="true"
    ```

- **use_dualstack_endpoint** file setting.
  
  ```
  use_dualstack_endpoint = true
  ```
Enables the use of dual-stack endpoints to send AWS requests. To learn more about dual-stack endpoints, which support both IPv4 and IPv6 traffic, see Using Amazon S3 dual-stack endpoints in the Amazon Simple Storage Service User Guide. Dual-stack endpoints are available for some services in some regions. If a dual-stack endpoint does not exist for the service or AWS Region, the request fails. This is disabled by default.

**Set service-specific endpoints**

Service-specific endpoint configuration provides the option to use a persistent endpoint of your choosing for AWS CLI requests. These settings provide flexibility to support local endpoints, VPC endpoints, and third-party local AWS development environments. Different endpoints can be used for testing and production environments. You can specify an endpoint URL for individual AWS services.

Service-specific endpoints can be specified in the following ways:

- The command line option `--endpoint-url` for a single command.

- Environment variables:
  - `AWS_IGNORE_CONFIGURED_ENDPOINT_URLS` - Ignore all configured endpoint URLs, unless specified on the command line.
  - `AWS_ENDPOINT_URL_<SERVICE>` - Specifies a custom endpoint that is used for a specific service, where `<SERVICE>` is replace with the AWS service identifier. For all service-specific variables, see the section called “List of service-specific identifiers”.

- config file:
  - `ignore_configure_endpoint_urls` - Ignore all configured endpoint URLs, unless specified using environment variables or on the command line.
  - The `services` section of the config file combined with the `endpoint_url` file setting.

**Service-specific endpoints topics:**

- Service-specific endpoints: Environment variables
- Service-specific endpoints: Shared config file
- Service-specific endpoints: List of service-specific identifiers
Service-specific endpoints: Environment variables

Environment variables override settings in your config file, but do not override options specified on the command line. Use environment variables if you want all profiles to use the same endpoints on your device.

The following are service-specific environment variables:

- **AWS_IGNORE_CONFIGURED_ENDPOINT_URLS** - Ignore all configured endpoint URLs, unless specified on the command line.

  **Linux or macOS**

  ```
  $ export AWS_IGNORE_CONFIGURED_ENDPOINT_URLS=true
  ```

  **Windows Command Prompt**

  **To set for all sessions**

  ```
  C:\> setx AWS_IGNORE_CONFIGURED_ENDPOINT_URLS true
  ```

  **To set for current session only**

  ```
  C:\> set AWS_IGNORE_CONFIGURED_ENDPOINT_URLS=true
  ```

  **PowerShell**

  ```
  PS C:\> $Env:AWS_IGNORE_CONFIGURED_ENDPOINT_URLS="true"
  ```

- **AWS_ENDPOINT_URL_<SERVICE>** - Specifies a custom endpoint that is used for a specific service, where `<SERVICE>` is replaced with the AWS service identifier. For all service-specific variables, see the section called “List of service-specific identifiers”.

  The following environment variable examples sets an endpoint for AWS Elastic Beanstalk:

  **Linux or macOS**

  ```
  $ export AWS_ENDPOINT_URL_ELASTIC_BEANSTALK=http://localhost:4567
  ```
Windows Command Prompt

To set for all sessions

C:\> setx AWS_ENDPOINT_URL_ELASTIC_BEANSTALK http://localhost:4567

To set for current session only

C:\> set AWS_ENDPOINT_URL_ELASTIC_BEANSTALK=http://localhost:4567

PowerShell

PS C:\> $Env:AWS_ENDPOINT_URL_ELASTIC_BEANSTALK="http://localhost:4567"

For more information on setting environment variables, see the section called “Environment Variables”.

Service-specific endpoints: Shared config file

In the shared config file, endpoint_url is used in multiple sections. To set a service-specific endpoint, use the endpoint_url setting nested under a service identifier key within a services section. For details on defining a services section in your shared config file, see the section called “services”.

The following example uses a services section to configure a service-specific endpoint URL for Amazon S3 and a custom global endpoint used for all other services:

```
[profile dev1]
endpoint_url = http://localhost:1234
services = s3-specific

[services testing-s3]
s3 =
  endpoint_url = http://localhost:4567
```

A single profile can configure endpoints for multiple services. The following example sets the service-specific endpoint URLs for Amazon S3 and AWS Elastic Beanstalk in the same profile.
For a list of all service identifier keys to use in the services section, see List of service-specific identifiers.

```bash
[profile dev1]
services = testing-s3-and-eb

[services testing-s3-and-eb]
s3 =
    endpoint_url = http://localhost:4567
elastic_beanstalk =
    endpoint_url = http://localhost:8000
```

The service configuration section can be used in multiple profiles. The following example has two profiles use the same services definition:

```bash
[profile dev1]
output = json
services = testing-s3

[profile dev2]
output = text
services = testing-s3

[services testing-s3]
s3 =
    endpoint_url = https://localhost:4567
```

**Service-specific endpoints: List of service-specific identifiers**

The AWS service identifier is based on the API model's serviceId by replacing all spaces with underscores and lowercasing all letters.

The following service identifier example uses AWS Elastic Beanstalk. AWS Elastic Beanstalk has a serviceId of Elastic_Beanstalk, therefore the service identifier key is elastic_beanstalk.

The following table lists all service-specific identifiers, config file keys, and environment variables.
<table>
<thead>
<tr>
<th>serviceId</th>
<th>Environment variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>AccessAnalyzer</td>
<td>AWS_ENDPOINT_URL_ACCESSANALYZER</td>
</tr>
<tr>
<td>Account</td>
<td>AWS_ENDPOINT_URL_ACCOUNT</td>
</tr>
<tr>
<td>ACM</td>
<td>AWS_ENDPOINT_URL_ACM</td>
</tr>
<tr>
<td>ACM PCA</td>
<td>AWS_ENDPOINT_URL_ACM_PCA</td>
</tr>
<tr>
<td>Alexa For Business</td>
<td>AWS_ENDPOINT_URL_ALEXA_FOR_BUSINESS</td>
</tr>
<tr>
<td>amp</td>
<td>AWS_ENDPOINT_URL_AMP</td>
</tr>
<tr>
<td>Amplify</td>
<td>AWS_ENDPOINT_URL_AMPLIFY</td>
</tr>
<tr>
<td>AmplifyBackend</td>
<td>AWS_ENDPOINT_URL_AMPLIFY_BACKEND</td>
</tr>
<tr>
<td>AmplifyUIBuilder</td>
<td>AWS_ENDPOINT_URL_AMPLIFYUIBUILDER</td>
</tr>
<tr>
<td>API Gateway</td>
<td>AWS_ENDPOINT_URL_API_GATEWAY</td>
</tr>
<tr>
<td>ApiGatewayManagementApi</td>
<td>AWS_ENDPOINT_URL_API_GATEWAYMANAGEMENTAPI</td>
</tr>
</tbody>
</table>

Set service-specific endpoints
<table>
<thead>
<tr>
<th>serviceId</th>
<th>AWS_ENDPOINT_URL_&lt;SERVICE&gt;</th>
<th>environment variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>ApiGatewayV2</td>
<td>AWS_ENDPOINT_URL_APIGATEWAYV2</td>
<td></td>
</tr>
<tr>
<td>AppConfig</td>
<td>AWS_ENDPOINT_URL_APPCONFIG</td>
<td></td>
</tr>
<tr>
<td>AppConfigData</td>
<td>AWS_ENDPOINT_URL_APPCONFIGDATA</td>
<td></td>
</tr>
<tr>
<td>Appflow</td>
<td>AWS_ENDPOINT_URL_APPFLOW</td>
<td></td>
</tr>
<tr>
<td>AppIntegrations</td>
<td>AWS_ENDPOINT_URL_APPINTEGRATIONS</td>
<td></td>
</tr>
<tr>
<td>Application Auto Scaling</td>
<td>AWS_ENDPOINT_URL_APPLICATION_AUTO_SCALING</td>
<td></td>
</tr>
<tr>
<td>Application Insights</td>
<td>AWS_ENDPOINT_URL_APPLICATION_INSIGHTS</td>
<td></td>
</tr>
<tr>
<td>ApplicationCostProfiler</td>
<td>AWS_ENDPOINT_URL_APPLICATIONCOSTPROFILER</td>
<td></td>
</tr>
<tr>
<td>App Mesh</td>
<td>AWS_ENDPOINT_URL_APP_MESH</td>
<td></td>
</tr>
<tr>
<td>serviceId</td>
<td>AWS_ENDPOINT_URL_&lt;SERVICE&gt;</td>
<td>environment variable</td>
</tr>
<tr>
<td>-----------------</td>
<td>---------------------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>AppRunner</td>
<td>AWS_ENDPOINT_URL_APPRUNNER</td>
<td></td>
</tr>
<tr>
<td>AppStream</td>
<td>AWS_ENDPOINT_URL_APPSTREAM</td>
<td></td>
</tr>
<tr>
<td>AppSync</td>
<td>AWS_ENDPOINT_URL_APPS SYNC</td>
<td></td>
</tr>
<tr>
<td>Athena</td>
<td>AWS_ENDPOINT_URL_Athena</td>
<td></td>
</tr>
<tr>
<td>AuditManager</td>
<td>AWS_ENDPOINT_URL_AUDITMANAGER</td>
<td></td>
</tr>
<tr>
<td>Auto Scaling</td>
<td>AWS_ENDPOINT_URL_AUTO_SCALING</td>
<td></td>
</tr>
<tr>
<td>Auto Scaling Plans</td>
<td>AWS_ENDPOINT_URL_AUTO_SCALING_PLANS</td>
<td></td>
</tr>
<tr>
<td>Backup</td>
<td>AWS_ENDPOINT_URL_BACKUP</td>
<td></td>
</tr>
<tr>
<td>Backup Gateway</td>
<td>AWS_ENDPOINT_URL_BACKUP_GATEWAY</td>
<td></td>
</tr>
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Set service-specific endpoints
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Set service-specific endpoints
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<th>environment variable</th>
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<td>m: AWS_ENDPOINT_URL_MOBILE</td>
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<tr>
<td>Personalize Events</td>
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<td>AWS_ENDPOINT_URL_{SERVICE} environment variable</td>
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<td>Personalize Runtime</td>
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Set service-specific endpoints
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Set service-specific endpoints
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<td>Set service-specific endpoints</td>
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Set service-specific endpoints
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<td>Support App</td>
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Set service-specific endpoints
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<td>AWS_ENDPOINT_URL_TIMESTREAM_QUERY</td>
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<td>Timestream Write</td>
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<td>AWS_ENDPOINT_URL_TRANSCRIBE</td>
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<tr>
<td>Transfer</td>
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<tr>
<td>Translate</td>
<td>AWS_ENDPOINT_URL_TRANSLATE</td>
</tr>
<tr>
<td>Voice ID</td>
<td>AWS_ENDPOINT_URL_VOICE_ID</td>
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<td>WAF Regional</td>
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<tr>
<td>WAFV2</td>
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</table>
### Endpoint configuration and settings precedence

Endpoint configuration settings are located in multiple places, such as the system or user environment variables, local AWS configuration files, or explicitly declared on the command line as a parameter. The AWS CLI endpoint configuration settings take precedence in the following order:

<table>
<thead>
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<tr>
<td>WellArchitected</td>
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<td>Wisdom</td>
<td>AWS_ENDPOINT_URL_WISDOM</td>
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<td>WorkDocs</td>
<td>AWS_ENDPOINT_URL_WORKDOCS</td>
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<td>WorkMail</td>
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<td>WorkMailMessageFlow</td>
<td>AWS_ENDPOINT_URL_WORKMAILMESSAGEFLOW</td>
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<td>WorkSpaces</td>
<td>AWS_ENDPOINT_URL_WORKSPACES</td>
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<td>WorkSpaces Web</td>
<td>AWS_ENDPOINT_URL_WORKSPACES_WEB</td>
</tr>
<tr>
<td>XRay</td>
<td>AWS_ENDPOINT_URL_XRAY</td>
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</tbody>
</table>

**Note:**
- The table above shows the precedence order of endpoint configuration settings across different services.
- The environment variables are prefixed with `AWS_ENDPOINT_URL_` followed by the service identifier.
- Setting a service identifier explicitly on the command line can override other settings.

**Example Usage:**
- For WellArchitected, you would use the endpoint URL configured in `AWS_ENDPOINT_URL_WELLARCHITECTED`.

This precedence order ensures that the most specific configuration settings are applied, followed by more generic settings, allowing for fine-grained control over endpoint configurations.
1. The `--endpoint-url` command line option.

2. If enabled, the `AWS_IGNORE_CONFIGURED_ENDPOINT_URLS` global endpoint environment variable or profile setting `ignore_configure_endpoint_urls` to ignore custom endpoints.

3. The value provided by a service-specific environment variable `AWS_ENDPOINT_URL_<SERVICE>`, such as `AWS_ENDPOINT_URL_DYNAMODB`.

4. The values provided by the `AWS_USE_DUALSTACK_ENDPOINT`, `AWS_USE_FIPS_ENDPOINT`, and `AWS_ENDPOINT_URL` environment variables.

5. The service-specific endpoint value provided by the `endpoint_url` setting within a services section of the shared config file.

6. The value provided by the `endpoint_url` setting within a profile of the shared config file.

7. `use_dualstack_endpoint`, `use_fips_endpoint`, and `endpoint_url` settings.

8. Any default endpoint URL for the respective AWS service is used last. For a list of the standard service endpoints available in each Region, see [AWS Regions and Endpoints](https://aws.amazon.com/documentation/regions/#endpoints) in the [Amazon Web Services General Reference](https://aws.amazon.com/documentation/s3/).
## Authentication and access credentials

You must establish how the AWS CLI authenticates with AWS when you develop with AWS services. To configure credentials for programmatic access for the AWS CLI, choose one of the following options. The options are in order of recommendation.

<table>
<thead>
<tr>
<th>Which user needs programmatic access?</th>
<th>Purpose</th>
<th>Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workforce identity (AWS IAM Identity Center users)</td>
<td><strong>Recommended</strong> Use short-term credentials.</td>
<td>the section called “IAM Identity Center authentication”</td>
</tr>
<tr>
<td>IAM</td>
<td>Use short-term credentials.</td>
<td>the section called “Short-term credentials”</td>
</tr>
<tr>
<td>IAM or Workforce identity (AWS IAM Identity Center users)</td>
<td>Use Amazon EC2 instance metadata for credentials.</td>
<td>the section called “Use credentials for Amazon EC2 instance metadata”</td>
</tr>
<tr>
<td>IAM or Workforce identity (AWS IAM Identity Center users)</td>
<td>Pair another credential method and assume a role for permissions.</td>
<td>the section called “IAM roles”</td>
</tr>
<tr>
<td>IAM</td>
<td><strong>Not recommended</strong> Use long-term credentials.</td>
<td>the section called “IAM users”</td>
</tr>
<tr>
<td>IAM or Workforce identity (AWS IAM Identity Center users)</td>
<td><strong>Not recommended</strong> Pair another credential method but use credential values stored in a location outside of the AWS CLI.</td>
<td>the section called “External credentials”</td>
</tr>
</tbody>
</table>
Configuration and credential precedence

Credentials and configuration settings are located in multiple places, such as the system or user environment variables, local AWS configuration files, or explicitly declared on the command line as a parameter. Certain authentication take precedence over others. The AWS CLI authentication settings take precedence in the following order:

1. **Command line options** – Overrides settings in any other location, such as the `--region`, `--output`, and `--profile` parameters.

2. **Environment variables** – You can store values in your system's environment variables.

3. **Assume role** – Assume the permissions of an IAM role through configuration or the `aws sts assume-role` command.

4. **Assume role with web identity** – Assume the permissions of an IAM role using web identity through configuration or the `aws sts assume-role` command.

5. **AWS IAM Identity Center** – The IAM Identity Center configuration settings are stored in the config file. Credentials are authenticated when you run the `aws configure sso` command. The config file is located at `~/.aws/config` on Linux or macOS, or at `C:\Users\USERNAME\.aws\config` on Windows.

6. **Credentials file** – The credentials and config file are updated when you run the command `aws configure`. The credentials file is located at `~/.aws/credentials` on Linux or macOS, or at `C:\Users\USERNAME\.aws\credentials` on Windows.

7. **Custom process** – Get your credentials from an external source.

8. **Configuration file** – The credentials and config file are updated when you run the command `aws configure`. The config file is located at `~/.aws/config` on Linux or macOS, or at `C:\Users\USERNAME\.aws\config` on Windows.

9. **Container credentials** – You can associate an IAM role with each of your Amazon Elastic Container Service (Amazon ECS) task definitions. Temporary credentials for that role are then available to that task's containers. For more information, see IAM Roles for Tasks in the Amazon Elastic Container Service Developer Guide.

10. **Amazon EC2 instance profile credentials** – You can associate an IAM role with each of your Amazon Elastic Compute Cloud (Amazon EC2) instances. Temporary credentials for that role are then available to code running in the instance. The credentials are delivered through the Amazon EC2 metadata service. For more information, see IAM Roles for Amazon EC2 in the Amazon EC2 User Guide for Linux Instances and Using Instance Profiles in the IAM User Guide.
Additional topics in this section

- the section called “IAM Identity Center authentication”
- the section called “Short-term credentials”
- the section called “IAM roles”
- the section called “IAM users”
- the section called “Use credentials for Amazon EC2 instance metadata”
- the section called “External credentials”

Configure the AWS CLI to use AWS IAM Identity Center

There are primarily two ways to authenticate users with AWS IAM Identity Center (IAM Identity Center) to get credentials to run AWS Command Line Interface (AWS CLI) commands through the config file:

- (Recommended) **SSO token provider configuration.** The SSO token provider configuration, your AWS SDK or tool can automatically retrieve refreshed authentication tokens.
- **Legacy non-refreshable configuration.** When using the legacy non-refreshable configuration, you need to manually refresh the token as it periodically expires.

When using IAM Identity Center, you can login to Active Directory, a built-in IAM Identity Center directory, or another IdP connected to IAM Identity Center. You can map these credentials to an AWS Identity and Access Management (IAM) role for you to run AWS CLI commands.

Regardless of which IdP you use, IAM Identity Center abstracts those distinctions away. For example, you can connect Microsoft Azure AD as described in the blog article *The Next Evolution in IAM Identity Center.*

**Note**

For information on using bearer auth, which uses no account ID and role, see Setting up to use the AWS CLI with CodeCatalyst in the Amazon CodeCatalyst User Guide.
Configure the AWS CLI to use IAM Identity Center token provider credentials with automatic authentication refresh

Legacy non-refreshable configuration for AWS IAM Identity Center

Use an IAM Identity Center named profile

Configure the AWS CLI to use IAM Identity Center token provider credentials with automatic authentication refresh

This topic describes how to configure the AWS CLI to authenticate users with the AWS IAM Identity Center (IAM Identity Center) token provider configuration. Using this SSO token provider configuration, your AWS SDK or tool can automatically retrieve refreshed authentication tokens.

When using IAM Identity Center, you can login to Active Directory, a built-in IAM Identity Center directory, or another IdP connected to IAM Identity Center. You can map these credentials to an AWS Identity and Access Management (IAM) role for you to run AWS CLI commands.

Regardless of which IdP you use, IAM Identity Center abstracts those distinctions away. For example, you can connect Microsoft Azure AD as described in the blog article The Next Evolution in IAM Identity Center.

Note
For information on using bearer auth, which uses no account ID and role, see Setting up to use the AWS CLI with CodeCatalyst in the Amazon CodeCatalyst User Guide.

You can use the SSO token provider configuration to automatically refresh authentication tokens as needed for your application, and to use extended session duration options. You can configure this in the following ways:

- Automatically, using the `aws configure sso` and `aws configure sso-session` commands. The following commands are wizards that guide you through configuring your profile and sso-session information are the following:
  - Use `aws configure sso` to create or edit both your config profiles and sso-session sections.
  - Use `aws configure sso-session` to create or edit only sso-session sections.
- Manually, by editing the config file that stores the named profiles.
Prerequisites

- Install the AWS CLI. For more information, see the section called “Install/Update”.
- You must first have access to SSO authentication within IAM Identity Center. Choose one of the following methods to access your AWS credentials.

I do not have established access through IAM Identity Center

Follow the instructions in Getting started in the AWS IAM Identity Center User Guide. This process activates IAM Identity Center, creates an administrative user, and adds an appropriate least-privilege permission set.

**Note**

For Step 6 – Create a permission set that applies least-privilege permissions. We recommend using the predefined PowerUserAccess permission set, unless your employer has created a custom permission set for this purpose.

Exit the portal and sign in again to see your AWS accounts and options for Administrator or PowerUserAccess. Select PowerUserAccess when working with the SDK. This also helps you find details about programmatic access.

I already have access to AWS through a federated identity provider managed by my employer (such as Azure AD or Okta)

Sign in to AWS through your identity provider’s portal. If your Cloud Administrator has granted you PowerUserAccess (developer) permissions, you see the AWS accounts that you have access to and your permission set. Next to the name of your permission set, you see options to access the accounts manually or programmatically using that permission set.

Custom implementations might result in different experiences, such as different permission set names. If you’re not sure which permission set to use, contact your IT team for help.

I already have access to AWS through the AWS access portal managed by my employer

Sign in to AWS through the AWS access portal. If your Cloud Administrator has granted you PowerUserAccess (developer) permissions, you see the AWS accounts that you have access to
and your permission set. Next to the name of your permission set, you see options to access the accounts manually or programmatcally using that permission set.

I already have access to AWS through a federated custom identity provider managed by my employer

Contact your IT team for help.

Configure your profile with the `aws configure sso` wizard

To configure both an IAM Identity Center profile and `sso-session` to your AWS CLI

1. Gather your IAM Identity Center information by performing the following:

   1. In the AWS access portal, select the permission set you use for development, and select the Command line or programmatic access link.
   2. In the Get credentials dialog box, choose either MacOS and Linux or Windows, depending on your operating system.
   3. Choose the IAM Identity Center credentials method to get the SSO Start URL and SSO Region values that you need to run `aws configure sso`.
   4. For information on which scopes value to register, see OAuth 2.0 Access scopes in the IAM Identity Center User Guide.

2. In your preferred terminal, run the `aws configure sso` command and provide your IAM Identity Center start URL and the AWS Region that hosts the Identity Center directory.

   ```bash
   $ aws configure sso
   SSO session name (Recommended): my-sso
   SSO start URL [None]: https://my-sso-portal.awsapps.com/start
   SSO region [None]: us-east-1
   SSO registration scopes [None]: sso:account:access
   ```

3. The AWS CLI attempts to open your default browser and begin the login process for your IAM Identity Center account.

   Attempting to automatically open the SSO authorization page in your default browser.

   **If the AWS CLI cannot open the browser**, the following message appears with instructions on how to manually start the login process.
If the browser does not open or you wish to use a different device to authorize this request, open the following URL:

https://device.sso.us-west-2.amazonaws.com/

Then enter the code:

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IAM Identity Center uses the code to associate the IAM Identity Center session with your current AWS CLI session. The IAM Identity Center browser page prompts you to log in with your IAM Identity Center credentials. This gives permissions to the AWS CLI to retrieve and display the AWS accounts and roles that you are authorized to use with IAM Identity Center.

**Note**

The sign in process may prompt you to allow the AWS CLI access to your data. Since the AWS CLI is built on top of the SDK for Python, permission messages may contain variations of the `botocore` name.

4. The AWS CLI displays the AWS accounts available for you to use. If you are authorized to use only one account, the AWS CLI selects that account for you automatically and skips the prompt. The AWS accounts that are available for you to use are determined by your user configuration in IAM Identity Center.

There are 2 AWS accounts available to you.

> DeveloperAccount, developer-account-admin@example.com (123456789011)

ProductionAccount, production-account-admin@example.com (123456789022)

Use the arrow keys to select the account you want to use. The ">" character on the left points to the current choice. Press ENTER to make your selection.

5. The AWS CLI confirms your account choice, and displays the IAM roles that are available to you in the selected account. If the selected account lists only one role, the AWS CLI selects that role for you automatically and skips the prompt. The roles that are available for you to use are determined by your user configuration in IAM Identity Center.

Using the account ID 123456789011

There are 2 roles available to you.
Use the arrow keys to select the IAM role you want to use and press <ENTER>.

6. Specify the default output format, the default AWS Region to send commands to, and providing a name for the profile so you can reference this profile from among all those defined on the local computer. In the following example, the user enters a default Region, default output format, and the name of the profile. If you have a previously existing configuration, you can alternatively press <ENTER> to select any default values that are shown between the square brackets. The suggested profile name is the account ID number followed by an underscore followed by the role name.

CLI default client Region [None]: us-west-2<ENTER>
CLI default output format [None]: json<ENTER>
CLI profile name [123456789011_ReadOnly]: my-dev-profile<ENTER>

Note
If you specify default as the profile name, this profile becomes the one used whenever you run an AWS CLI command and do not specify a profile name.

7. A final message describes the completed profile configuration.

To use this profile, specify the profile name using --profile, as shown:

aws s3 ls --profile my-dev-profile

8. This results in creating the sso-session section and named profile in ~/.aws/config that looks like the following:

[profile my-dev-profile]
sso_session = my-sso
sso_account_id = 123456789011
sso_role_name = readOnly
region = us-west-2
output = json

[sso-session my-sso]
sso_region = us-east-1
sso_start_url = https://my-sso-portal.awsapps.com/start
sso_registration_scopes = sso:account:access

You can now use this sso-session and profile to request refreshed credentials. Use the aws sso login command to request and retrieve the credentials needed to run commands. For instructions, see Use an IAM Identity Center named profile.

Configure only your sso-session section with aws configure sso-session wizard

The aws configure sso-session command only updates the sso-session sections in the ~/.aws/config file. This command can be used to create or updates your sessions. This is useful if you already have existing configuration settings and would like to create new or edit existing sso-session configuration.

Run the aws configure sso-session command and provide your IAM Identity Center start URL and the AWS Region that hosts the Identity Center directory.

$ aws configure sso-session
SSO session name: my-sso
SSO start URL [None]: https://my-sso-portal.awsapps.com/start
SSO region [None]: us-east-1
SSO registration scopes [None]: sso:account:access

After entering in your information a message describes the completed profile configuration.

Completed configuring SSO session: my-sso
Run the following to login and refresh access token for this session:

aws sso login --sso-session my-sso

⚠️ Note

If you are signed in to the sso-session you are updating, refresh your token by running the aws sso login command.
Manual configuration using the config file

The sso-session section of the config file is used to group configuration variables for acquiring SSO access tokens, which can then be used to acquire AWS credentials. The following settings are used:

- **(Required)** `sso_start_url`
- **(Required)** `sso_region`
- `sso_account_id`
- `sso_role_name`
- `sso_registration_scopes`

You define an sso-session section and associate it to a profile. `sso_region` and `sso_start_url` must be set within the sso-session section. Typically, `sso_account_id` and `sso_role_name` must be set in the profile section so that the SDK can request SSO credentials.

The following example configures the SDK to request SSO credentials and supports automated token refresh:

```
[profile dev]
  sso_session = my-sso
  sso_account_id = 111122223333
  sso_role_name = SampleRole

[sso-session my-sso]
  sso_region = us-east-1
  sso_start_url = https://my-sso-portal.awsapps.com/start
```

This also allows sso-session configurations to be reused across multiple profiles:

```
[profile dev]
  sso_session = my-sso
  sso_account_id = 111122223333
  sso_role_name = SampleRole

[profile prod]
  sso_session = my-sso
  sso_account_id = 111122223333
  sso_role_name = SampleRole2
```
However, sso_account_id and sso_role_name aren't required for all scenarios of SSO token configuration. If your application only uses AWS services that support bearer authentication, then traditional AWS credentials are not needed. Bearer authentication is an HTTP authentication scheme that uses security tokens called bearer tokens. In this scenario, sso_account_id and sso_role_name aren't required. See the individual guide for your AWS service to determine if it supports bearer token authorization.

Additionally, registration scopes can be configured as part of a sso-session. Scope is a mechanism in OAuth 2.0 to limit an application's access to a user's account. An application can request one or more scopes, and the access token issued to the application will be limited to the scopes granted. These scopes define the permissions requested to be authorized for the registered OIDC client and access tokens retrieved by the client. The following example sets sso_registration_scopes to provide access for listing accounts/roles:

```sh
[sso-session my-sso]
sso_region = us-east-1
sso_start_url = https://my-sso-portal.awsapps.com/start
sso_registration_scopes = sso:account:access
```

The authentication token is cached to disk under the `~/.aws/sso/cache` directory with a filename based on the session name.

## Legacy non-refreshable configuration for AWS IAM Identity Center

This topic describes how to configure the AWS CLI to authenticate users with AWS IAM Identity Center (IAM Identity Center) to get credentials to run AWS CLI commands using the legacy method. When using the legacy non-refreshable configuration, you need to manually refresh the token as it periodically expires.

When using IAM Identity Center, you can login to Active Directory, a built-in IAM Identity Center directory, or another IdP connected to IAM Identity Center. You can map these credentials to an AWS Identity and Access Management (IAM) role where you can run AWS CLI commands.

Regardless of which IdP you use, IAM Identity Center abstracts those distinctions away. For example, you can connect Microsoft Azure AD as described in the blog article [The Next Evolution in IAM Identity Center](https://aws.amazon.com/blogs/security/the-next-evolution-in-iam-identity-center/).
For information on using bearer auth, which uses no account ID and role, see Setting up to use the AWS CLI with CodeCatalyst in the Amazon CodeCatalyst User Guide.

You can configure one or more of your AWS CLI named profiles to use a role from a legacy IAM Identity Center in the following ways:

- **Automatically**, using the `aws configure sso` command.
- **Manually**, by editing the config file that stores the named profiles.

**Prerequisites**

- Install the AWS CLI. For more information, see the section called “Install/Update”.
- You must first have access to SSO authentication within IAM Identity Center. Choose one of the following methods to access your AWS credentials.

**I do not have established access through IAM Identity Center**

Follow the instructions in Getting started in the AWS IAM Identity Center User Guide. This process activates IAM Identity Center, creates an administrative user, and adds an appropriate least-privilege permission set.

For Step 6 – Create a permission set that applies least-privilege permissions. We recommend using the predefined PowerUserAccess permission set, unless your employer has created a custom permission set for this purpose.

Exit the portal and sign in again to see your AWS accounts and options for Administrator or PowerUserAccess. Select PowerUserAccess when working with the SDK. This also helps you find details about programmatic access.
I already have access to AWS through a federated identity provider managed by my employer (such as Azure AD or Okta)

Sign in to AWS through your identity provider’s portal. If your Cloud Administrator has granted you `PowerUserAccess (developer)` permissions, you see the AWS accounts that you have access to and your permission set. Next to the name of your permission set, you see options to access the accounts manually or programmatically using that permission set.

Custom implementations might result in different experiences, such as different permission set names. If you’re not sure which permission set to use, contact your IT team for help.

I already have access to AWS through the AWS access portal managed by my employer

Sign in to AWS through the AWS access portal. If your Cloud Administrator has granted you `PowerUserAccess (developer)` permissions, you see the AWS accounts that you have access to and your permission set. Next to the name of your permission set, you see options to access the accounts manually or programmatically using that permission set.

I already have access to AWS through a federated custom identity provider managed by my employer

Contact your IT team for help.

Automatic configuration for legacy configuration

To configure an IAM Identity Center profile to your AWS CLI

1. Run the `aws configure sso` command and provide your IAM Identity Center start URL and the AWS Region that hosts the Identity Center directory.

   ```
   $ aws configure sso
   SSO session name (Recommended):
   SSO start URL [None]: https://my-sso-portal.awsapps.com/start
   SSO region [None]: us-east-1
   ```

2. The AWS CLI attempts to open your default browser and begin the login process for your IAM Identity Center account.

   ```
   SSO authorization page has automatically been opened in your default browser. Follow the instructions in the browser to complete this authorization request.
   ```
If the AWS CLI cannot open the browser, the following message appears with instructions on how to manually start the login process.

Using a browser, open the following URL:

https://device.sso.us-west-2.amazonaws.com/

and enter the following code:

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IAM Identity Center uses the code to associate the IAM Identity Center session with your current AWS CLI session. The IAM Identity Center browser page prompts you to sign in with your IAM Identity Center credentials. This gives permissions to the AWS CLI to retrieve and display the AWS accounts and roles that you are authorized to use with IAM Identity Center.

3. Next, the AWS CLI displays the AWS accounts available for you to use. If you are authorized to use only one account, the AWS CLI selects that account for you automatically and skips the prompt. The AWS accounts that are available for you to use are determined by your user configuration in IAM Identity Center.

There are 2 AWS accounts available to you.
> DeveloperAccount, developer-account-admin@example.com (123456789011)
  ProductionAccount, production-account-admin@example.com (123456789022)

Use the arrow keys to select the account you want to use with this profile. The ">" character on the left points to the current choice. Press ENTER to make your selection.

4. Next, the AWS CLI confirms your account choice, and displays the IAM roles that are available to you in the selected account. If the selected account lists only one role, the AWS CLI selects that role for you automatically and skips the prompt. The roles that are available for you to use are determined by your user configuration in IAM Identity Center.

Using the account ID 123456789011
There are 2 roles available to you.
> ReadOnly
  FullAccess

Use the arrow keys to select the IAM role you want to use with this profile and press <ENTER>.

5. The AWS CLI confirms your role selection.
6. Finish the configuration of your profile by specifying the default output format, the default AWS Region to send commands to, and providing a name for the profile so you can reference this profile from among all those defined on the local computer. In the following example, the user enters a default Region, default output format, and the name of the profile. You can alternatively press <ENTER> to select any default values that are shown between the square brackets. The suggested profile name is the account ID number followed by an underscore followed by the role name.

CLI default client Region [None]: us-west-2<ENTER>
CLI default output format [None]: json<ENTER>
CLI profile name [123456789011_ReadOnly]: my-dev-profile<ENTER>

### Note
If you specify default as the profile name, this profile becomes the one used whenever you run an AWS CLI command and do not specify a profile name.

7. A final message describes the completed profile configuration.

To use this profile, specify the profile name using --profile, as shown:

```
aws s3 ls --profile my-dev-profile
```

8. The previous example entries would result in a named profile in ~/.aws/config that looks like the following example.

```
[profile my-dev-profile]
sso_start_url = https://my-sso-portal.awsapps.com/start
sso_region = us-east-1
sso_account_id = 123456789011
sso_role_name = readOnly
region = us-west-2
output = json
```
At this point, you have a profile that you can use to request temporary credentials. You must use the `aws sso login` command to actually request and retrieve the temporary credentials needed to run commands. For instructions, see Use an IAM Identity Center named profile.

**Manual configuration for legacy configuration**

Automated token refresh isn't supported using the legacy non-refreshable configuration. We recommend using the SSO token configuration.

To manually add IAM Identity Center support to a named profile, you must add the following keys and values to the profile definition in the file `~/.aws/config` (Linux or macOS) or `%USERPROFILE%/.aws/config` (Windows).

- `sso_start_url`
- `sso_region`
- `sso_account_id`
- `sso_role_name`

You can include any other keys and values that are valid in the `.aws/config` file, such as `region`, `output`, or `s3`. To prevent errors, don't include any credential related values, such as `role_arn` or `aws_secret_access_key`.

The following is an example IAM Identity Center profile in `.aws/config`:

```
[profile my-sso-profile]
sso_start_url = https://my-sso-portal.awsapps.com/start
sso_region = us-west-2
sso_account_id = 111122223333
sso_role_name = SSOReadOnlyRole
region = us-west-2
output = json
```

Your profile for temporary credentials is complete.

To run commands, you must first use the `aws sso login` command to request and retrieve your temporary credentials. For instructions, see the next section, Use an IAM Identity Center named profile. The authentication token is cached to disk under the `~/.aws/sso/cache` directory with a filename based on the `sso_start_url`.
Use an IAM Identity Center named profile

This topic describes how to use the AWS CLI to authenticate users with AWS IAM Identity Center (IAM Identity Center) to get credentials to run AWS CLI commands.

Note
Whether your credentials are temporary or automatically refreshing depends on how you previously configured your profile.

Topics

- Prerequisites
- Signing in and getting credentials
- Running a command with your IAM Identity Center profile
- Signing out of your IAM Identity Center sessions

Prerequisites

You've configured an IAM Identity Center profile. See the section called “Configure automatic token refresh” and the section called “Configure legacy non-refreshable” for more information.

Signing in and getting credentials

Note
The sign in process may prompt you to allow the AWS CLI access to your data. Since the AWS CLI is built on top of the SDK for Python, permission messages may contain variations of the botocore name.

After you configure a named profile, you can invoke it to request credentials from AWS. Before you can run an AWS CLI service command, you must retrieve and cache a set of credentials. To get these credentials, run the following command.

$ aws sso login --profile my-dev-profile
The AWS CLI opens your default browser and verifies your IAM Identity Center log in.

SSO authorization page has automatically been opened in your default browser. Follow the instructions in the browser to complete this authorization request. Successfully logged into Start URL: https://my-sso-portal.awsapps.com/start

If you are not currently signed into IAM Identity Center, you must provide your IAM Identity Center credentials.

If the AWS CLI can't open your browser, it prompts you to open it yourself and enter the specified code.

$ aws sso login --profile my-dev-profile
Using a browser, open the following URL:

https://device.sso.us-west-2.amazonaws.com/

and enter the following code:
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The AWS CLI opens your default browser (or you manually open the browser of your choice) to the specified page, and enter the provided code. The webpage then prompts you for your IAM Identity Center credentials.

Your IAM Identity Center session credentials are cached. If these credentials are temporary, it includes an expiration timestamp and when they expire, the AWS CLI requests you to sign in to IAM Identity Center again.

If your IAM Identity Center credentials are valid, the AWS CLI uses them to securely retrieve AWS credentials for the IAM role specified in the profile.

Welcome, you have successfully signed-in to the AWS-CLI.

You can also specify which sso-session profile to use when logging in using the --sso-session parameter of the aws sso login command.

$ aws sso login --sso-session my-dev-session
Attempting to automatically open the SSO authorization page in your default browser. If the browser does not open or you wish to use a different device to authorize this request, open the following URL:
and enter the following code:

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Successfully logged into Start URL: https://cli-reinvent.awsapps.com/start

Running a command with your IAM Identity Center profile

You can use these credentials to invoke an AWS CLI command with the associated named profile. The following example shows that the command was run under an assumed role that is part of the specified account.

```bash
$ aws sts get-caller-identity --profile my-dev-profile
{
   "UserId": "AROA12345678901234567:test-user@example.com",
   "Account": "123456789011",
   "Arn": "arn:aws:sts::123456789011:assumed-role/AWSPeregrine_readOnly_12321abc454d123/test-user@example.com"
}
```

As long as you signed in to IAM Identity Center and those cached credentials are not expired, the AWS CLI automatically renews expired AWS credentials when needed. However, if your IAM Identity Center credentials expire, you must explicitly renew them by logging in to your IAM Identity Center account again.

```bash
$ aws s3 ls --profile my-sso-profile
Your short-term credentials have expired. Please sign-in to renew your credentials
SSO authorization page has automatically been opened in your default browser.
Follow the instructions in the browser to complete this authorization request.
```

Signing out of your IAM Identity Center sessions

When you are done using your IAM Identity Center profiles, you can choose to do nothing and let the AWS temporary credentials and your IAM Identity Center credentials expire. However, you can also choose to run the following command to immediately delete all cached credentials in the SSO credential cache folder and all AWS temporary credentials that were based on the IAM Identity Center credentials. This makes those credentials unavailable to be used for any future command.

```bash
$ aws sso logout
```
Successfully signed out of all SSO profiles.

If you later want to run commands with one of your IAM Identity Center profiles, you must again run the `aws sso login` command (see the previous section) and specify the profile to use.

**Authenticate with short-term credentials**

We recommend configuring your SDK or tool to use IAM Identity Center authentication with extended session duration options. However, you can copy and use temporary credentials that are available in the AWS access portal. New credentials will need to be copied when these expire. You can use the temporary credentials in a profile or use them as values for system properties and environment variables.

1. [Sign in to the AWS access portal](https://aws.amazon.com/console/).
2. Follow these instructions to copy IAM role credentials from the AWS access portal.
   1. For step 2 in the linked instructions, choose the AWS account and IAM role name that grants access for your development needs. This role typically has a name like **PowerUserAccess** or **Developer**.
   2. For step 4, select the **Add a profile to your AWS credentials file** option and copy the contents.
3. Create or open the shared credentials file. This file is `~/.aws/credentials` on Linux and macOS systems, and `%USERPROFILE%\.aws\credentials` on Windows. For more information, see the section called “Configuration and credential file settings”.
4. Add the following text to the shared credentials file. Replace the sample values with the credentials you copied.

```
[dont] =
aws_access_key_id = AKIAIOSFODNN7EXAMPLE
aws_secret_access_key = wJalrXUtFEMI/K7MDENG/bPxRfiCYEXAMPLEKEY
aws_session_token = IQoJb3JpZ2luX2IQoJb3JpZ2luX2IQoJb3JpZ2luX2IQoJb3JpZVERYLONGSTRINGEXAMPLE
```
5. Add your preferred default region and format to the shared config file.

```
[dont]
region=us-west-2
output=json
```
When the SDK creates a service client, it will access these temporary credentials and use them for each request. The settings for the IAM role chosen in step 2a determine how long the temporary credentials are valid. The maximum duration is twelve hours.

Repeat these steps each time your credentials expire.

**Use an IAM role in the AWS CLI**

An AWS Identity and Access Management (IAM) role is an authorization tool that lets a user gain additional (or different) permissions, or get permissions to perform actions in a different AWS account.

**Topics**

- **Prerequisites**
- **Overview of using IAM roles**
- **Configuring and using a role**
- **Using multi-factor authentication**
- **Cross-account roles and external ID**
- **Specifying a role session name for easier auditing**
- **Assume role with web identity**
- **Clearing cached credentials**

**Prerequisites**

To run the `iam` commands, you need to install and configure the AWS CLI. For more information, see the section called “Install/Update”.

**Overview of using IAM roles**

You can configure the AWS Command Line Interface (AWS CLI) to use an IAM role by defining a profile for the role in the ~/.aws/config file.
The following example shows a role profile named marketingadmin. If you run commands with `--profile marketingadmin` (or specify it with the `AWS_PROFILE` environment variable), the AWS CLI uses the credentials defined in a separate profile user1 to assume the role with the Amazon Resource Name (ARN) `arn:aws:iam::123456789012:role/marketingadminrole`. You can run any operations that are allowed by the permissions assigned to that role.

```
[profile marketingadmin]
role_arn = arn:aws:iam::123456789012:role/marketingadminrole
source_profile = user1
```

You can then specify a `source_profile` that points to a separate named profile that contains user credentials with permission to use the role. In the previous example, the `marketingadmin` profile uses the credentials in the `user1` profile. When you specify that an AWS CLI command is to use the profile `marketingadmin`, the AWS CLI automatically looks up the credentials for the linked `user1` profile and uses them to request temporary credentials for the specified IAM role. The CLI uses the `sts:AssumeRole` operation in the background to accomplish this. Those temporary credentials are then used to run the requested AWS CLI command. The specified role must have attached IAM permission policies that allow the requested AWS CLI command to run.

To run an AWS CLI command from within an Amazon Elastic Compute Cloud (Amazon EC2) instance or an Amazon Elastic Container Service (Amazon ECS) container, you can use an IAM role attached to the instance profile or the container. If you specify no profile or set no environment variables, that role is used directly. This enables you to avoid storing long-lived access keys on your instances. You can also use those instance or container roles only to get credentials for another role. To do this, you use `credential_source` (instead of `source_profile`) to specify how to find the credentials. The `credential_source` attribute supports the following values:

- **Environment** – Retrieves the source credentials from environment variables.
- **Ec2InstanceMetadata** – Uses the IAM role attached to the Amazon EC2 instance profile.
- **EcsContainer** – Uses the IAM role attached to the Amazon ECS container.

The following example shows the same `marketingadminrole` role used by referencing an Amazon EC2 instance profile.

```
[profile marketingadmin]
role_arn = arn:aws:iam::123456789012:role/marketingadminrole
credential_source = Ec2InstanceMetadata
```
When you invoke a role, you have additional options that you can require, such as the use of multi-factor authentication and an External ID (used by third-party companies to access their clients' resources). You can also specify unique role session names that can be more easily audited in AWS CloudTrail logs.

## Configuring and using a role

When you run commands using a profile that specifies an IAM role, the AWS CLI uses the source profile's credentials to call AWS Security Token Service (AWS STS) and request temporary credentials for the specified role. The user in the source profile must have permission to call `sts:assume-role` for the role in the specified profile. The role must have a trust relationship that allows the user in the source profile to use the role. The process of retrieving and then using temporary credentials for a role is often referred to as **assuming the role**.

You can create a role in IAM with the permissions that you want users to assume by following the procedure under *Creating a Role to Delegate Permissions to an IAM user* in the *AWS Identity and Access Management User Guide*. If the role and the source profile's user are in the same account, you can enter your own account ID when configuring the role's trust relationship.

After creating the role, modify the trust relationship to allow the user to assume it.

The following example shows a trust policy that you could attach to a role. This policy allows the role to be assumed by any user in the account 123456789012, if the administrator of that account explicitly grants the `sts:AssumeRole` permission to the user.

```json
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Effect": "Allow",
            "Principal": {
                "AWS": "arn:aws:iam::123456789012:root"
            }
        },
        {
            "Action": "sts:AssumeRole"
        }
    ]
}
```

The trust policy doesn't actually grant permissions. The administrator of the account must delegate the permission to assume the role to individual users by attaching a policy with the appropriate...
permissions. The following example shows a policy that you can attach to a user that allows the user to assume only the `marketingadmin` role. For more information about granting a user access to assume a role, see [Granting a User Permission to Switch Roles](#) in the [IAM User Guide](#).

```json
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Action": "sts:AssumeRole",
      "Resource": "arn:aws:iam::123456789012:role/marketingadmin"
    }
  ]
}
```

The user doesn't need to have additional permissions to run the AWS CLI commands using the role profile. Instead, the permissions to run the command come from those attached to the role. You attach permission policies to the role to specify which actions can be performed against which AWS resources. For more information about attaching permissions to a role (which works identically to a user), see [Changing Permissions for an IAM user](#) in the [IAM User Guide](#).

Now that you have the role profile, role permissions, role trust relationship, and user permissions correctly configured, you can use the role at the command line by invoking the `--profile` option. For example, the following calls the Amazon S3 `ls` command using the permissions attached to the `marketingadmin` role as defined by the example at the beginning of this topic.

```
$ aws s3 ls --profile marketingadmin
```

To use the role for several calls, you can set the `AWS_PROFILE` environment variable for the current session from the command line. While that environment variable is defined, you don't have to specify the `--profile` option on each command.

### Linux or macOS

```
$ export AWS_PROFILE=marketingadmin
```

### Windows

```
C:\> setx AWS_PROFILE marketingadmin
```
For more information about configuring users and roles, see Users and Groups and Roles in the IAM User Guide.

**Using multi-factor authentication**

For additional security, you can require that users provide a one-time key generated from a multi-factor authentication (MFA) device, a U2F device, or mobile app when they attempt to make a call using the role profile.

First, you can choose to modify the trust relationship on the IAM role to require MFA. This prevents anyone from using the role without first authenticating by using MFA. For an example, see the Condition line in the following example. This policy allows the user named anika to assume the role the policy is attached to, but only if they authenticate by using MFA.

```json
{
   "Version": "2012-10-17",
   "Statement": [
      {
         "Sid": "",
         "Effect": "Allow",
         "Principal": { "AWS": "arn:aws:iam::123456789012:user/anika" },
         "Action": "sts:AssumeRole",
         "Condition": { "Bool": { "aws:multifactorAuthPresent": true } } }
   ]
}
```

Next, add a line to the role profile that specifies the ARN of the user's MFA device. The following sample config file entries show two role profiles that both use the access keys for the user anika to request temporary credentials for the role cli-role. The user anika has permissions to assume the role, granted by the role's trust policy.

```
[profile role-without-mfa]
region = us-west-2
role_arn= arn:aws:iam::128716708097:role/cli-role
source_profile=cli-user

[profile role-with-mfa]
region = us-west-2
role_arn= arn:aws:iam::128716708097:role/cli-role
source_profile = cli-user
```
The `mfa_serial` setting can take an ARN, as shown, or the serial number of a hardware MFA token.

The first profile, `role-without-mfa`, doesn't require MFA. However, because the previous example trust policy attached to the role requires MFA, any attempt to run a command with this profile fails.

```
$ aws iam list-users --profile role-without-mfa
An error occurred (AccessDenied) when calling the AssumeRole operation: Access denied
```

The second profile entry, `role-with-mfa`, identifies an MFA device to use. When the user attempts to run an AWS CLI command with this profile, the AWS CLI prompts the user to enter the one-time password (OTP) that the MFA device provides. If the MFA authentication succeeds, the command performs the requested operation. The OTP is not displayed on the screen.

```
$ aws iam list-users --profile role-with-mfa
Enter MFA code for arn:aws:iam::123456789012:mfa/cli-user:
{
  "Users": [
    {
      ...
```

### Cross-account roles and external ID

You can enable users to use roles that belong to different accounts by configuring the role as a cross-account role. During role creation, set the role type to **Another AWS account**, as described in [Creating a Role to Delegate Permissions to an IAM user](#). Optionally, select **Require MFA**. **Require MFA** configures the appropriate condition in the trust relationship, as described in [Using multi-factor authentication](#).

If you use an **external ID** to provide additional control over who can use a role across accounts, you must also add the `external_id` parameter to the role profile. You typically use this only when the other account is controlled by someone outside your company or organization.
Specifying a role session name for easier auditing

When many individuals share a role, auditing becomes more of a challenge. You want to associate each operation invoked with the individual who invoked the action. However, when the individual uses a role, the assumption of the role by the individual is a separate action from the invoking of an operation, and you must manually correlate the two.

You can simplify this by specifying unique role session names when users assume a role. You do this by adding a `role_session_name` parameter to each named profile in the config file that specifies a role. The `role_session_name` value is passed to the `AssumeRole` operation and becomes part of the ARN for the role session. It is also included in the AWS CloudTrail logs for all logged operations.

For example, you could create a role-based profile as follows.

```
[profile namedsessionrole]
role_arn = arn:aws:iam::234567890123:role/SomeRole
source_profile = default
role_session_name = Session_Maria_Garcia
```

This results in the role session having the following ARN.

```
arn:aws:iam::234567890123:assumed-role/SomeRole/Session_Maria_Garcia
```

Also, all AWS CloudTrail logs include the role session name in the information captured for each operation.

Assume role with web identity

You can configure a profile to indicate that the AWS CLI should assume a role using web identity federation and Open ID Connect (OIDC). When you specify this in a profile, the AWS CLI automatically makes the corresponding AWS STS `AssumeRoleWithWebIdentity` call for you.
Note

When you specify a profile that uses an IAM role, the AWS CLI makes the appropriate calls to retrieve temporary credentials. These credentials are stored in ~/.aws/cli/cache. Subsequent AWS CLI commands that specify the same profile use the cached temporary credentials until they expire. At that point, the AWS CLI automatically refreshes the credentials.

To retrieve and use temporary credentials using web identity federation, you can specify the following configuration values in a shared profile.

role_arn

Specifies the ARN of the role to assume.

web_identity_token_file

Specifies the path to a file which contains an OAuth 2.0 access token or OpenID Connect ID token that is provided by the identity provider. The AWS CLI loads this file and passes its content as the WebIdentityToken argument of the AssumeRoleWithWebIdentity operation.

role_session_name

Specifies an optional name applied to this assume-role session.

The following is an example of the minimal amount of configuration needed to configure an assume role with web identity profile.

```
# In ~/.aws/config

[profile web-identity]
role_arn=arn:aws:iam:123456789012:role/RoleNameToAssume
web_identity_token_file=/path/to/a/token
```

You can also provide this configuration by using environment variables.

AWS_ROLE_ARN

The ARN of the role to assume.
AWS Command Line Interface

AWS WEB_IDENTITY_TOKEN_FILE

The path to the web identity token file.

AWS ROLE_SESSION_NAME

The name applied to this assume-role session.

Note

These environment variables currently apply only to the assume role with web identity provider. They don't apply to the general assume role provider configuration.

Clearing cached credentials

When you use a role, the AWS CLI caches the temporary credentials locally until they expire. The next time you try to use them, the AWS CLI attempts to renew them on your behalf.

If your role's temporary credentials are revoked, they are not renewed automatically, and attempts to use them fail. However, you can delete the cache to force the AWS CLI to retrieve new credentials.

Linux or macOS

$ rm -r ~/.aws/cli/cache

Windows

C:\> del /s /q %UserProfile%\aws\cli\cache

Authenticate with IAM user credentials

Warning

To avoid security risks, don't use IAM users for authentication when developing purpose-built software or working with real data. Instead, use federation with an identity provider such as AWS IAM Identity Center.
This section explains how to configure basic settings with an IAM user. These include your security credentials using the `config` and `credentials` files. To instead see configuration instructions for AWS IAM Identity Center, see the section called “IAM Identity Center authentication”.

Topics

- **Step 1: Create your IAM user**
- **Step 2: Get your access keys**
- **Configure the AWS CLI**
  - Using `aws configure`
  - Importing access keys via .CSV file
  - Directly editing the `config` and `credentials` files

**Step 1: Create your IAM user**

Create your IAM user by following the [Creating IAM users (console)](https://console.aws.amazon.com/iam/) procedure in the *IAM User Guide*.

- For **Permission options**, choose **Attach policies directly** for how you want to assign permissions to this user.
- Most "Getting Started" SDK tutorials use the Amazon S3 service as an example. To provide your application with full access to Amazon S3, select the **AmazonS3FullAccess** policy to attach to this user.

**Step 2: Get your access keys**

1. Sign in to the AWS Management Console and open the IAM console at [https://console.aws.amazon.com/iam/](https://console.aws.amazon.com/iam/).
2. In the navigation pane of the IAM console, select **Users** and then select the **User name** of the user that you created previously.
3. On the user's page, select the **Security credentials** page. Then, under **Access keys**, select **Create access key**.
4. For **Create access key Step 1**, choose **Command Line Interface (CLI)**.
5. For **Create access key Step 2**, enter an optional tag and select **Next**.
6. For Create access key Step 3, select Download .csv file to save a .csv file with your IAM user's access key and secret access key. You need this information for later.

7. Select Done.

**Configure the AWS CLI**

For general use, the AWS CLI needs the following pieces of information:

- Access key ID
- Secret access key
- AWS Region
- Output format

The AWS CLI stores this information in a profile (a collection of settings) named default in the credentials file. By default, the information in this profile is used when you run an AWS CLI command that doesn't explicitly specify a profile to use. For more information on the credentials file, see [Configuration and credential file settings](#).

To configure the AWS CLI, use one of the following procedures:

**Topics**

- [Using aws configure](#)
- [Importing access keys via .CSV file](#)
- [Directly editing the config and credentials files](#)

**Using aws configure**

For general use, the aws configure command is the fastest way to set up your AWS CLI installation. This configure wizard prompts you for each piece of information you need to get started. Unless otherwise specified by using the --profile option, the AWS CLI stores this information in the default profile.

The following example configures a default profile using sample values. Replace them with your own values as described in the following sections.

```
$ aws configure
```
The following example configures a profile named `userprod` using sample values. Replace them with your own values as described in the following sections.

```
$ aws configure --profile userprod
```

### Importing access keys via .CSV file

Instead of using `aws configure` to enter in access keys, you can import the `.csv` file you downloaded after you created your access keys.

The `.csv` file must contain the following headers.

- **User Name** - This column must be added to your `.csv`. This is used to create the profile name when you import.
- **Access key ID**
- **Secret access key**

#### Note

During initial access keys creation, once you close the Download .csv file dialog box, you cannot access your secret access key after you close the dialog box. If you need a `.csv` file, you'll need to create one yourself with the required headers and your stored access keys information. If you do not have access to your access keys information, you need to create a new access keys.

To import the `.csv` file, use the `aws configure import` command with the `--csv` option as follows:
$ aws configure import --csv file://credentials.csv

For more information, see `aws_configure_import`.

Directly editing the config and credentials files

To directly edit the config and credentials files, perform the following.

1. Create or open the shared AWS credentials file. This file is `~/.aws/credentials` on Linux and macOS systems, and `%USERPROFILE%\aws\credentials` on Windows. For more information, see the section called “Configuration and credential file settings”.

2. Add the following text to the shared credentials file. Replace the sample values in the .csv file that you downloaded earlier and save the file.

   ```
   [default]
   aws_access_key_id = AKIAIOSFODNN7EXAMPLE
   aws_secret_access_key = wJalrXUttnFEMI/K7MDENG/bPxRfiCYEXAMPLEKEY
   ```

Use credentials for Amazon EC2 instance metadata

When you run the AWS CLI from within an Amazon Elastic Compute Cloud (Amazon EC2) instance, you can simplify providing credentials to your commands. Each Amazon EC2 instance contains metadata that the AWS CLI can directly query for temporary credentials. When an IAM role is attached to the instance, the AWS CLI automatically and securely retrieves the credentials from the instance metadata.

To disable this service, use the `AWS_EC2_METADATA_DISABLED` environment variable.

Topics

- Prerequisites
- Configuring a profile for Amazon EC2 metadata

Prerequisites

To use Amazon EC2 credentials with the AWS CLI, you need to complete the following:

- [default]
  aws_access_key_id = AKIAIOSFODNN7EXAMPLE
  aws_secret_access_key = wJalrXUttnFEMI/K7MDENG/bPxRfiCYEXAMPLEKEY
• Install and configure the AWS CLI. For more information, see the section called “Install/Update” and Authentication and access credentials.

• You understand configuration files and named profiles. For more information, see Configuration and credential file settings.

• You've created an AWS Identity and Access Management (IAM) role that has access to the resources needed, and attached that role to the Amazon EC2 instance when you launch it. For more information, see IAM policies for Amazon EC2 in the Amazon EC2 User Guide for Linux Instances and Granting Applications That Run on Amazon EC2 Instances Access to AWS Resources in the IAM User Guide.

**Configuring a profile for Amazon EC2 metadata**

To specify that you want to use the credentials available in the hosting Amazon EC2 instance profile, use the following syntax in the named profile in your configuration file. See the following steps for more instructions.

```
[profile profilename]
role_arn = arn:aws:iam::123456789012:role/rolename
credential_source = Ec2InstanceMetadata
region = region
```

1. Create a profile in your configuration file.

   ```
   [profile profilename]
   ```

2. Add your IAM arn role that has access to the resources needed.

   ```
   role_arn = arn:aws:iam::123456789012:role/rolename
   ```

3. Specify Ec2InstanceMetadata as your credential source.

   ```
   credential_source = Ec2InstanceMetadata
   ```

4. Set your Region.

   ```
   region = region
   ```
Example

The following example assumes the `marketingadminrole` role and uses the `us-west-2` Region in an Amazon EC2 instance profile named `marketingadmin`.

```ini
[profile marketingadmin]
role_arn = arn:aws:iam::123456789012:role/marketingadminrole
credential_source = Ec2InstanceMetadata
region = us-west-2
```

Source credentials with an external process

⚠️ Warning

This topic discusses sourcing credentials from an external process. This could be a security risk if the command to generate the credentials becomes accessible by non-approved processes or users. We recommend that you use the supported, secure alternatives provided by the AWS CLI and AWS to reduce the risk of compromising your credentials. Ensure that you secure the `config` file and any supporting files and tools to prevent disclosure.

Ensure that your custom credential tool does not write any secret information to `StdErr` because the SDKs and AWS CLI can capture and log such information, potentially exposing it to unauthorized users.

If you have a method to generate or look up credentials that isn't directly supported by the AWS CLI, you can configure the AWS CLI to use it by configuring the `credential_process` setting in the `config` file.

For example, you might include an entry similar to the following in the `config` file.

```ini
[profile developer]
credential_process = /opt/bin/awscreds-custom --username helen
```

Syntax

To create this string in a way that is compatible with any operating system, follow these rules:
• If the path or file name contains a space, surround the complete path and file name with double-quotiation marks (" "). The path and file name can consist of only the characters: A-Z a-z 0-9 - _ .

• If a parameter name or a parameter value contains a space, surround that element with double-quotiation marks (" "). Surround only the name or value, not the pair.

• Do not include any environment variables in the strings. For example, you can't include $HOME or %USERPROFILE%.

• Do not specify the home folder as ~. You must specify the full path.

**Example for Windows**

```bash
credential_process = "C:\Path\To\credentials.cmd" parameterWithoutSpaces "parameter with spaces"
```

**Example for Linux or macOS**

```bash
credential_process = "/Users/Dave/path/to/credentials.sh" parameterWithoutSpaces "parameter with spaces"
```

**Expected output from the Credentials program**

The AWS CLI runs the command as specified in the profile and then reads data from STDOUT. The command you specify must generate JSON output on STDOUT that matches the following syntax.

```json
{
    "Version": 1,
    "AccessKeyId": "an AWS access key",
    "SecretAccessKey": "your AWS secret access key",
    "SessionToken": "the AWS session token for temporary credentials",
    "Expiration": "ISO8601 timestamp when the credentials expire"
}
```

**Note**

As of this writing, the Version key must be set to 1. This might increment over time as the structure evolves.
The Expiration key is an ISO8601 formatted timestamp. If the Expiration key is not present in the tool's output, the CLI assumes that the credentials are long-term credentials that do not refresh. Otherwise the credentials are considered temporary credentials and are refreshed automatically by rerunning the credential_process command before they expire.

**Note**

The AWS CLI does *not* cache external process credentials the way it does assume-role credentials. If caching is required, you must implement it in the external process.

The external process can return a non-zero return code to indicate that an error occurred while retrieving the credentials.
Use the AWS CLI

This section provides information about general use, common features, and options available in the AWS Command Line Interface (AWS CLI), beyond what is written in the Configuration the section called “Endpoints” section. Instructions include how to write a command, basic structure, formatting, filtering, and locating the help content or documentation for a command.

For AWS service specific examples, see Code examples or the AWS CLI version 2 reference guide.

Note

By default, the AWS CLI sends requests to AWS services by using HTTPS on TCP port 443. To use the AWS CLI successfully, you must be able to make outbound connections on TCP port 443.

Topics in this guide

- Get help with the AWS CLI
- Command structure in the AWS CLI
- Specify parameter values for the AWS CLI
- Have the AWS CLI prompt you for commands
- Control command output from the AWS CLI
- Return codes from the AWS CLI
- Interactive commands using the AWS CLI wizards
- Create and use AWS CLI command shortcuts called aliases

Get help with the AWS CLI

This topic describes how to access help content for the AWS Command Line Interface (AWS CLI).

Topics

- The built-in AWS CLI help command
- AWS CLI reference guide
- API documentation
The built-in AWS CLI help command

You can get help with any command when using the AWS Command Line Interface (AWS CLI). To do so, simply type `help` at the end of a command name.

For example, the following command displays help for the general AWS CLI options and the available top-level commands.

```bash
$ aws help
```

The following command displays the available Amazon Elastic Compute Cloud (Amazon EC2) specific commands.

```bash
$ aws ec2 help
```

The following example displays detailed help for the Amazon EC2 DescribeInstances operation. The help includes descriptions of its input parameters, available filters, and what is included as output. It also includes examples showing how to type common variations of the command.

```bash
$ aws ec2 describe-instances help
```

The help for each command is divided into six sections:

**Name**

The name of the command.

```bash
NAME
describe-instances -
```

**Description**

A description of the API operation that the command invokes.
DESCRIPTION

Describes one or more of your instances.

If you specify one or more instance IDs, Amazon EC2 returns information for those instances. If you do not specify instance IDs, Amazon EC2 returns information for all relevant instances. If you specify an instance ID that is not valid, an error is returned. If you specify an instance that you do not own, it is not included in the returned results.

Synopsis

The basic syntax for using the command and its options. If an option is shown in square brackets, it's optional, has a default value, or has an alternative option that you can use.

SYNOPSIS

describe-instances
    [--dry-run | --no-dry-run]
    [--instance-ids <value>]
    [--filters <value>]
    [--cli-input-json <value>]
    [--starting-token <value>]
    [--page-size <value>]
    [--max-items <value>]
    [--generate-cli-skeleton]

For example, describe-instances has a default behavior that describes all instances in the current account and AWS Region. You can optionally specify a list of instance-ids to describe one or more instances; dry-run is an optional Boolean flag that doesn't take a value. To use a Boolean flag, specify either shown value, in this case --dry-run or --no-dry-run. Likewise, --generate-cli-skeleton doesn't take a value. If there are conditions on an option's use, they are described in the OPTIONS section, or shown in the examples.

Options

A description of each of the options shown in the synopsis.

OPTIONS

    --dry-run | --no-dry-run (boolean)
    Checks whether you have the required permissions for the action,
without actually making the request, and provides an error response. If you have the required permissions, the error response is **DryRunOperation**. Otherwise, it is **UnauthorizedOperation**.

`--instance-ids (list)`
One or more instance IDs.

Default: Describes all your instances.

Examples

Examples showing the usage of the command and its options. If no example is available for a command or use case that you need, request one using the feedback link on this page, or in the AWS CLI command reference on the help page for the command.

```
EXAMPLES
To describe an Amazon EC2 instance

Command:

```aws``` ec2 describe-instances --instance-ids i-5203422c

To describe all instances with the instance type m1.small

Command:

```aws``` ec2 describe-instances --filters "Name=instance-type,Values=m1.small"

To describe all instances with an Owner tag

Command:

```aws``` ec2 describe-instances --filters "Name=tag-key,Values=Owner"

```

Output

Descriptions of each of the fields and data types included in the response from AWS.

For `describe-instances`, the output is a list of reservation objects, each of which contains several fields and objects that contain information about the instances associated with it. This
information comes from the [API documentation for the reservation data type](http://example.com) used by Amazon EC2.

OUTPUT

```plaintext
Reservations -> (list)
    One or more reservations.

(structure)
    Describes a reservation.

    ReservationId -> (string)
        The ID of the reservation.

    OwnerId -> (string)
        The ID of the AWS account that owns the reservation.

    RequesterId -> (string)
        The ID of the requester that launched the instances on your behalf (for example, AWS Management Console or Auto Scaling).

Groups -> (list)
    One or more security groups.

(structure)
    Describes a security group.

    GroupName -> (string)
        The name of the security group.

    GroupId -> (string)
        The ID of the security group.

Instances -> (list)
    One or more instances.

(structure)
    Describes an instance.

    InstanceId -> (string)
        The ID of the instance.

    ImageId -> (string)
        The ID of the AMI used to launch the instance.
```
State -> (structure)
The current state of the instance.

Code -> (integer)
The low byte represents the state. The high byte is an opaque internal value and should be ignored.

When the AWS CLI renders the output into JSON, it becomes an array of reservation objects, similar to the following example.

```
{
  "Reservations": [
    {
      "OwnerId": "012345678901",
      "ReservationId": "r-4c58f8a0",
      "Groups": [],
      "RequesterId": "012345678901",
      "Instances": [
        {
          "Monitoring": {
            "State": "disabled"
          },
          "PublicDnsName": "ec2-52-74-16-12.us-west-2.compute.amazonaws.com",
          "State": {
            "Code": 16,
            "Name": "running"
          }
        }]
    }
  ]
}
```

Each reservation object contains fields describing the reservation and an array of instance objects, each with its own fields (for example, PublicDnsName) and objects (for example, State) that describe it.

**Windows users**

You can pipe (|) the output of the help command to the more command to view the help file one page at a time. Press the space bar or PgDn to view more of the document, and q to quit.
AWS CLI reference guide

The help files contain links that cannot be viewed or navigated to from the command line. You can view and interact with these links by using the online AWS CLI version 2 reference guide. The reference also contains the help content for all AWS CLI commands. The descriptions are presented for easy navigation and viewing on mobile, tablet, or desktop screens.

API documentation

All commands in the AWS CLI correspond to requests made to an AWS service's public API. Each service with a public API has an API reference that can be found on the service's home page on the AWS Documentation website. The content for an API reference varies based on how the API is constructed and which protocol is used. Typically, an API reference contains detailed information about the operations supported by the API, the data sent to and from the service, and any error conditions that the service can report.

API Documentation Sections

- **Actions** – Detailed information on each operation and its parameters (including constraints on length or content, and default values). It lists the errors that can occur for this operation. Each operation corresponds to a subcommand in the AWS CLI.

- **Data Types** – Detailed information about structures that a command might require as a parameter, or return in response to a request.

- **Common Parameters** – Detailed information about the parameters that are shared by all of action for the service.

- **Common Errors** – Detailed information about errors that can be returned by any of the service's operations.

The name and availability of each section can vary, depending on the service.


### Service-specific CLIs

Some services have a separate CLI that dates from before a single AWS CLI was created to work with all services. These service-specific CLIs have separate documentation that is linked from the service's documentation page. Documentation for service-specific CLIs do not apply to the AWS CLI.

### Troubleshooting errors

For help diagnosing and fixing AWS CLI errors, see [Troubleshoot errors](#).

### Additional help

For additional help with your AWS CLI issues, visit the [AWS CLI community](#) on GitHub.

### Command structure in the AWS CLI

This topic covers how AWS Command Line Interface (AWS CLI) command is structured, and how to use wait commands.

**Topics**

- [Command structure](#)
- [Wait commands](#)

#### Command structure

The AWS CLI uses a multipart structure on the command line that must be specified in this order:

1. The base call to the aws program.
2. The top-level command, which typically corresponds to an AWS service supported by the AWS CLI.
3. The subcommand that specifies which operation to perform.
4. General AWS CLI options or parameters required by the operation. You can specify these in any order as long as they follow the first three parts. If an exclusive parameter is specified multiple times, only the last value applies.
$ aws <command> <subcommand> [options and parameters]

Parameters can take various types of input values, such as numbers, strings, lists, maps, and JSON structures. What is supported is dependent upon the command and subcommand you specify.

Examples

Amazon S3

The following example lists all of your Amazon S3 buckets.

```
$ aws s3 ls
2018-12-11 17:08:50 my-bucket
2018-12-14 14:55:44 my-bucket2
```

For more information on the Amazon S3 commands, see `aws s3` in the AWS CLI Command Reference.

AWS CloudFormation

The following `create-change-set` command example changes the cloudformation stack name to `my-change-set`.

```
$ aws cloudformation create-change-set --stack-name my-stack --change-set-name my-change-set
```

For more information on the AWS CloudFormation commands, see `aws cloudformation` in the AWS CLI Command Reference.

Wait commands

Some AWS services have wait commands available. Any command that uses `aws` `wait` usually waits until a command is complete before it moves on to the next step. This is especially useful for multipart commands or scripting, as you can use a wait command to prevent moving to subsequent steps if the wait command fails.

The AWS CLI uses a multipart structure on the command line for the `wait` command that must be specified in this order:

1. The base call to the `aws` program.
2. The top-level `command`, which typically corresponds to an AWS service supported by the AWS CLI.

3. The `wait` command.

4. The `subcommand` that specifies which operation to perform.

5. General CLI options or parameters required by the operation. You can specify these in any order as long as they follow the first three parts. If an exclusive parameter is specified multiple times, only the last value applies.

```
$ aws <command> wait <subcommand> [options and parameters]
```

Parameters can take various types of input values, such as numbers, strings, lists, maps, and JSON structures. What is supported is dependent upon the command and subcommand you specify.

⚠️ Note

Not every AWS service supports `wait` commands. See the [AWS CLI version 2 reference guide](https://docs.aws.amazon.com/cli/latest/) to see if your service supports `wait` commands.

Examples

**AWS CloudFormation**

The following `wait change-set-create-complete` command examples pauses and resumes only after it can confirm that the `my-change-set` change set in the `my-stack` stack is ready to run.

```
$ aws cloudformation wait change-set-create-complete --stack-name my-stack --change-set-name my-change-set
```

For more information on the AWS CloudFormation `wait` commands, see `wait` in the [AWS CLI Command Reference](https://docs.aws.amazon.com/cli/latest/).

**AWS CodeDeploy**

The following `wait deployment-successful` command examples pauses until the `d-A1B2C3111` deployment completes successfully.
For more information on the AWS CodeDeploy wait commands, see `wait` in the *AWS CLI Command Reference*.

**Specify parameter values for the AWS CLI**

Many parameters used in the AWS Command Line Interface (AWS CLI) are simple string or numeric values, such as the key-pair name `my-key-pair` in the following example.

```
$ aws ec2 create-key-pair --key-name my-key-pair
```

Formatting between terminals can vary. For example, most terminals are case sensitive but PowerShell is case insensitive. This means the two following command examples would yield different results for case sensitive terminals as they view `MyFile*.txt` and `myfile*.txt` as different parameters.

However, PowerShell would process these requests as the same as it sees `MyFile*.txt` and `myfile*.txt` as the same parameters.

```
$ aws s3 cp . s3://my-bucket/path --include "MyFile*.txt"
$ aws s3 cp . s3://my-bucket/path --include "myfile*.txt"
```

For more information on PowerShell's case insensitivity, see `about_Case-Sensitivity` in the *PowerShell documentation*.

Sometimes you need to use quotation marks or literals around strings that include special or space characters. The rules around this formatting can also vary between terminals. For more information about using quotation marks around complex parameters, see `Quotation marks with strings in the AWS CLI`.

**Parameter topics**

- [Common AWS CLI parameter types](#)
- [Quotation marks with strings in the AWS CLI](#)
- [Load AWS CLI parameters from a file](#)
- [AWS CLI skeletons and input files](#)
- [Use shorthand syntax with the AWS CLI](#)
Common AWS CLI parameter types

This section describes some of the common parameter types and the typical required format.

If you are having trouble formatting a parameter for a specific command, check the help by entering `help` after the command name. The help for each subcommand includes an option's name and description. The option's parameter type is listed in parentheses. For more information on viewing help, see the section called “Get Help”.

Parameter types include:

- **String**
- **Timestamp**
- **List**
- **Boolean**
- **Integer**
- **Binary / blob (binary large object) and streaming blob**
- **Map**
- **Document**

**String**

String parameters can contain alphanumeric characters, symbols, and white spaces from the ASCII character set. Strings that contain white spaces must be surrounded by quotation marks. We recommend that you don't use symbols or white spaces other than the standard space character and to observe your terminal's quoting rules to prevent unexpected results.

Some string parameters can accept binary data from a file. See Binary files for an example.

**Timestamp**

Timestamps are formatted according to the ISO 8601 standard. These are often referred to as "DateTime" or "Date" parameters.

```
$ aws ec2 describe-spot-price-history --start-time 2014-10-13T19:00:00Z
```

Acceptable formats include:

- **YYYY-MM-DDThh:mm:ss.sssTZD (UTC)**, for example, 2014-10-01T20:30:00.000Z
• **YYYY-MM-DDThh:mm:ss.sssTZD (with offset)**, for example, 2014-10-01T12:30:00.000-08:00

• **YYYY-MM-DD**, for example, 2014-10-01

• Unix time in seconds, for example, 1412195400. This is sometimes referred to as Unix Epoch time and represents the number of seconds since midnight, January 1, 1970 UTC.

By default, the AWS CLI version 2 translates all response DateTime values to ISO 8601 format.

You can set the timestamp format by using the **cli_timestamp_format** file setting.

### List

One or more strings separated by spaces. If any of the string items contain a space, you must put quotation marks around that item. Observe your terminal's quoting rules to prevent unexpected results.

```
$ aws ec2 describe-spot-price-history --instance-types m1.xlarge m1.medium
```

### Boolean

Binary flag that turns an option on or off. For example, `ec2 describe-spot-price-history` has a Boolean `--dry-run` parameter that, when specified, validates the query with the service without actually running the query.

```
$ aws ec2 describe-spot-price-history --dry-run
```

The output indicates whether the command was well formed. This command also includes a `--no-dry-run` version of the parameter that you can use to explicitly indicate that the command should be run normally. Including it isn't necessary because this is the default behavior.

### Integer

An unsigned, whole number.

```
$ aws ec2 describe-spot-price-history --max-items 5
```
Binary / blob (binary large object) and streaming blob

In the AWS CLI, you can pass a binary value as a string directly on the command line. There are two types of blobs:

- **Blob**
- **Streaming blob**

**Blob**

To pass a value to a parameter with type `blob`, you must specify a path to a local file that contains the binary data using the `fileb://` prefix. Files referenced using the `fileb://` prefix are always treated as raw unencoded binary. The specified path is interpreted as being relative to the current working directory. For example, the `--plaintext` parameter for `aws kms encrypt` is a blob.

```bash
$ aws kms encrypt \
   --key-id 1234abcd-12ab-34cd-56ef-1234567890ab \
   --plaintext fileb://ExamplePlaintextFile \
   --output text \
   --query CiphertextBlob | base64 \
   --decode > ExampleEncryptedFile
```

**Note**

For backwards compatibility, you can use the `file://` prefix. There are two formats used based on the file setting `cli_binary_format` or `--cli-binary-format` command line option:

- Default for the AWS CLI version 2. If the setting's value is base64, files referenced using the `file://` prefix are treated as base64-encoded text.
- Default for the AWS CLI version 1. If the setting's value is `raw-in-base64-out`, files referenced using the `file://` prefix is read as text and then the AWS CLI attempts to encode it to binary.

For more information, see the file setting `cli_binary_format` or `--cli-binary-format` command line option.
Streaming blob

Streaming blobs such as `aws cloudsearchdomain upload-documents` do not use prefixes. Instead, streaming blob parameters are formatted using the direct file path. The following example uses the direct file path `document-batch.json` for the `aws cloudsearchdomain upload-documents` command:

```
$ aws cloudsearchdomain upload-documents \
   --endpoint-url https://doc-my-domain.us-west-1.cloudsearch.amazonaws.com \
   --content-type application/json \
   --documents document-batch.json
```

Map

A set of key-value pairs specified in JSON or by using the CLI's shorthand syntax. The following JSON example reads an item from an Amazon DynamoDB table named `my-table` with a map parameter, `--key`. The parameter specifies the primary key named `id` with a number value of 1 in a nested JSON structure.

For more advanced JSON usage in a command line, consider using a command line JSON processor, like `jq`, to create JSON strings. For more information on `jq`, see the `jq` repository on GitHub.

```
$ aws dynamodb get-item --table-name my-table --key '{"id": {"N":"1"}}'

{
   "Item": {
      "name": {
         "S": "John"
      },
      "id": {
         "N": "1"
      }
   }
}
```

Document

⚠️ Note

Shorthand syntax is not compatible with document types.
Document types are used to send data without needing to embed JSON inside strings. The document type enables services to provide arbitrary schemas for you to use more flexible data types.

This allows for sending JSON data without needing to escape values. For example, instead of using the following escaped JSON input:

```json
{"document": "{\"key\":true}\"}
```

You can use the following document type:

```json
{"document": {"key": true}}
```

**Valid values for document types**

Due to the flexible nature of document types, there are multiple valid value types. Valid values include the following:

**String**

```bash
--option "value"
```

**Number**

```bash
--option 123
--option 123.456
```

**Boolean**

```bash
--option true
```

**Null**

```bash
--option null
```

**Array**

```bash
--option ['value1', 'value2', 'value3']
```
Quotation marks with strings in the AWS CLI

There are primarily two ways single and double quotes are used in the AWS CLI.

- **Using quotation marks around strings that contain white spaces**
- **Using quotation marks inside strings**

**Using quotation marks around strings that contain white spaces**

Parameter names and their values are separated by spaces on the command line. If a string value contains an embedded space, then you must surround the entire string with quotation marks to prevent the AWS CLI from misinterpreting the space as a divider between the value and the next parameter name. Which type of quotation mark you use depends on the operating system you are running the AWS CLI on.

**Linux and macOS**

Use single quotation marks ' '

```bash
$ aws ec2 create-key-pair --key-name 'my key pair'
```

For more information on using quotes, see the user documentation for your preferred shell.

**PowerShell**

**Single quotations (recommended)**

Single quotation marks ' ' are called *verbatim* strings. The string is passed to the command exactly as you type it, which means PowerShell variables will not pass through.

```powershell
PS C:\> aws ec2 create-key-pair --key-name 'my key pair'
```
Double quotations

Double quotation marks " " are called expandable string. Variables can be passed in expandable strings.

```
PS C:\> aws ec2 create-key-pair --key-name "my key pair"
```

For more information on using quotes, see About Quoting Rules in the Microsoft PowerShell Docs.

Windows command prompt

Use double quotation marks " ".

```
C:\> aws ec2 create-key-pair --key-name "my key pair"
```

Optionally, you can separate the parameter name from the value with an equals sign = instead of a space. This is typically necessary only if the value of the parameter starts with a hyphen.

```
$ aws ec2 delete-key-pair --key-name=-mykey
```

Using quotation marks inside strings

Strings might contain quotation marks, and your shell might require escaping quotations for them to work properly. One of the common parameter value types is a JSON string. This is complex since it includes spaces and double quotation marks " " around each element name and value in the JSON structure. The way you enter JSON-formatted parameters on the command line differs depending on your operating system.

For more advanced JSON usage in the command line, consider using a command line JSON processor, like `jq`, to create JSON strings. For more information on `jq`, see the `jq repository` on GitHub.

Linux and macOS

For Linux and macOS to interpret strings literally use single quotation marks ’ ’ to enclose the JSON data structure, as in the following example. You do not need to escape double quotation marks embedded in the JSON string, as they are being treated literally. Since the JSON is
enclosed in single quotation marks, any single quotation marks in the string will need to be escaped, this is usually accomplished using a backslash before the single quote \\.

```
$ aws ec2 run-instances \
  --image-id ami-12345678 \
  --block-device-mappings \[{"DeviceName":"/dev/sdb","Ebs":\{""VolumeSize":20,"DeleteOnTermination":false,"VolumeType":"standard"\}}]\n```

For more information on using quotes, see the user documentation for your preferred shell.

**PowerShell**

Use single quotation marks ' ' or double quotation marks " ".

**Single quotations (recommended)**

Single quotation marks ' ' are called verbatim strings. The string is passed to the command exactly as you type it, which means PowerShell variables will not pass through.

Since JSON data structures include double quotes, we suggest single quotation marks ' ' to enclose it. If you use single quotation marks, you do not need to escape double quotation marks embedded in the JSON string. However, you need to escape each single quotation mark with a backtick ` within the JSON structure.

```
PS C:\> aws ec2 run-instances `\n  --image-id ami-12345678 `\n  --block-device-mappings \[{"DeviceName":"/dev/sdb","Ebs":\{""VolumeSize":20,"DeleteOnTermination":false,"VolumeType":"standard"\}}]\n```

**Double quotations**

Double quotation marks " " are called expandable strings. Variables can be passed in expandable strings.

If you use double quotation marks, you do not need to escape single quotation marks embedded in the JSON string. However, you need to escape each double quotation mark with a backtick ` within the JSON structure, as with the following example.

```
PS C:\> aws ec2 run-instances `\n  --image-id ami-12345678 `\n```
For more information on using quotes, see About Quoting Rules in the Microsoft PowerShell Docs.

⚠️ **Warning**

Before PowerShell sends a command to the AWS CLI, it determines if your command is interpreted using typical PowerShell or CommandLineToArgvW quoting rules. When PowerShell processes using CommandLineToArgvW, you must escape characters with a backslash `\`.

For more information on CommandLineToArgvW in PowerShell, see What’s up with the strange treatment of quotation marks and backslashes by CommandLineToArgvW in the Microsoft DevBlogs, Everyone quotes command line arguments the wrong way in the Microsoft Docs Blog, and CommandLineToArgvW function in the Microsoft Docs.

### Single quotations

Single quotation marks `' ' are called **verbatim** strings. The string is passed to the command exactly as you type it, which means PowerShell variables will not pass through. Escape characters with a backslash `\`.

```
PS C:\> aws ec2 run-instances \\
    --image-id ami-12345678 \\
    --block-device-mappings "[['DeviceName': '/dev/sdb', 'Ebs': \\
        ['VolumeSize': 20, 'DeleteOnTermination': false, 'VolumeType': 'standard']]]
```

### Double quotations

Double quotation marks " " are called **expandable** strings. Variables can be passed in expandable strings. For double quoted strings you have to escape twice using `\` for each quote instead of only using a backtick. The backtick escapes the backslash, and then the backslash is used as an escape character for the CommandLineToArgvW process.

```
PS C:\> aws ec2 run-instances \\
    --image-id ami-12345678 \\
    --block-device-mappings "[['DeviceName': '/dev/sdb', 'Ebs': \\
        ['VolumeSize': 20, 'DeleteOnTermination': false, 'VolumeType': 'standard']]]
```
Blobs (recommended)
To bypass PowerShell quoting rules for JSON data input, use Blobs to pass your JSON data directly to the AWS CLI. For more information on Blobs, see Blob.

Windows command prompt

The Windows command prompt requires double quotation marks " " to enclose the JSON data structure. Also, to prevent the command processor from misinterpreting the double quotation marks embedded in the JSON, you must also escape (precede with a backslash \ character) each double quotation mark " within the JSON data structure itself, as in the following example.

```
C:\> aws ec2 run-instances ^
    --image-id ami-12345678 ^
    --block-device-mappings "[
        "DeviceName": "/dev/sdb",
        "Ebs": {
            "VolumeSize": 20,
            "DeleteOnTermination": false,
            "VolumeType": "standard"
        }
    ]"
```

Only the outermost double quotation marks are not escaped.

Load AWS CLI parameters from a file

Some parameters expect file names as arguments, from which the AWS CLI loads the data. Other parameters enable you to specify the parameter value as either text typed on the command line or read from a file. Whether a file is required or optional, you must encode the file correctly so that the AWS CLI can understand it. The file's encoding must match the reading system's default locale. You can determine this by using the Python `locale.getpreferredencoding()` method.

Note

By default, Windows PowerShell outputs text as UTF-16, which conflicts with the UTF-8 encoding used by JSON files and many Linux systems. We recommend that you use `-Encoding ascii` with your PowerShell `Out-File` commands to ensure the AWS CLI can read the resulting file.

Topics

- How to load parameters from a file
Binary files

How to load parameters from a file

Sometimes it's convenient to load a parameter value from a file instead of trying to type it all as a command line parameter value, such as when the parameter is a complex JSON string. To specify a file that contains the value, specify a file URL in the following format.

```
file://complete/path/to/file
```

- The first two slash '//' characters are part of the specification. If the required path begins with a '/', the result is three slash characters: `file://folder/file`.
- The URL provides the path to the file that contains the actual parameter content.
- When using files with spaces or special characters, following the quoting and escaping rules for your terminal.

The file paths in the following examples are interpreted to be relative to the current working directory.

**Linux or macOS**

// Read from a file in the current directory
```
$ aws ec2 describe-instances --filters file://filter.json
```

// Read from a file in /tmp
```
$ aws ec2 describe-instances --filters file:///tmp/filter.json
```

// Read from a file with a filename with whitespaces
```
$ aws ec2 describe-instances --filters 'file://filter content.json'
```

**Windows command prompt**

// Read from a file in C:\temp
```
C:\> aws ec2 describe-instances --filters file://C:\temp\filter.json
```

// Read from a file with a filename with whitespaces
```
C:\> aws ec2 describe-instances --filters "file://C:\temp\filter content.json"
```
The `file://` prefix option supports Unix-style expansions, including "~/", "./", and ".../". On Windows, the "~/" expression expands to your user directory, stored in the `%USERPROFILE%` environment variable. For example, on Windows 10 you would typically have a user directory under `C:\Users\UserName`.

You must still escape JSON documents that are embedded as the value of another JSON document.

```bash
$ aws sqs create-queue --queue-name my-queue --attributes file://attributes.json
```

### attributes.json

```json
{
}
```

### Binary files

For commands that take binary data as a parameter, specify that the data is binary content by using the `fileb://` prefix. Commands that accept binary data include:

- `aws ec2 run-instances`: `--user-data` parameter.
- `aws s3api put-object`: `--sse-customer-key` parameter.
- `aws kms decrypt`: `--ciphertext-blob` parameter.

The following example generates a binary 256-bit AES key using a Linux command line tool, and then provides it to Amazon S3 to encrypt an uploaded file server-side.

```bash
$ dd if=/dev/urandom bs=1 count=32 > sse.key
32+0 records in
32+0 records out
32 bytes (32 B) copied, 0.000164441 s, 195 kB/s
$ aws s3api put-object \
   --bucket my-bucket \
   --key test.txt \
   --body test.txt \
   --sse-customer-key fileb://sse.key \
   --sse-customer-algorithm AES256
```
For another example referencing a file containing JSON-formatted parameters, see Attach an IAM managed policy to a user.

**AWS CLI skeletons and input files**

Most of the AWS CLI commands accept all parameter inputs from a file. These templates can be generated using the `--generate-cli-skeleton` option.

Topics

- About AWS CLI skeletons and input files
- Generating a command skeleton

**About AWS CLI skeletons and input files**

Most of the AWS Command Line Interface (AWS CLI) commands support the ability to accept all parameter inputs from a file using the `--cli-input-json` and `--cli-input-yaml` parameters.

Those same commands helpfully provide the `--generate-cli-skeleton` parameter to generate a file in either JSON or YAML format with all of the parameters that you can edit and fill in. Then you can run the command with the relevant `--cli-input-json` or `--cli-input-yaml` parameter and point to the filled-in file.

⚠️ Important

Several AWS CLI commands don't map directly to individual AWS API operations, such as the `aws s3` commands. Such commands don't support either the `--generate-cli-skeleton` or `--cli-input-json` and `--cli-input-yaml` parameters described in this topic. If you don't know whether a specific command supports these parameters, run the following command, replacing the `service` and `command` names with the ones you're interested in.

```bash
$ aws service command help
```
The output includes a Synopsis section that shows the parameters that the specified command supports.

```bash
$ aws iam list-users help
...
SYNOPSIS
  list-users
  ...
  [--cli-input-json | --cli-input-yaml]
  ...
  [--generate-cli-skeleton <value>]
...
```

The `--generate-cli-skeleton` parameter causes the command not to run, but instead to generate and display a parameter template that you can customize and use as input on a later command. The generated template includes all of the parameters that the command supports.

The `--generate-cli-skeleton` parameter accepts one of the following values:

- **input** – The generated template includes all input parameters formatted as JSON. This is the default value.
- **yaml-input** – The generated template includes all input parameters formatted as YAML.
- **output** – The generated template includes all output parameters formatted as JSON. You can't currently request the output parameters as YAML.

Because the AWS CLI is essentially a "wrapper" around the service's API, the skeleton file expects you to reference all parameters by their underlying API parameter names. This is likely different from the AWS CLI parameter name. For example, an AWS CLI parameter named `user-name` might map to the AWS service's API parameter named `UserName` (notice the altered capitalization and missing dash). We recommend that you use the `--generate-cli-skeleton` option to generate the template with the "correct" parameter names to avoid errors. You can also reference the API Reference Guide for the service to see the expected parameter names. You can delete any parameters from the template that are not required and for which you don't want to supply a value.
For example, if you run the following command, it generates the parameter template for the Amazon Elastic Compute Cloud (Amazon EC2) command **run-instances**.

### JSON

The following example shows how to generate a template formatted in JSON by using the default value (input) for the `--generate-cli-skeleton` parameter.

```bash
$ aws ec2 run-instances --generate-cli-skeleton
```

```json
{
   "DryRun": true,
   "ImageId": ",",
   "MinCount": 0,
   "MaxCount": 0,
   "KeyName": ",",
   "SecurityGroups": [null]
 },
   "SecurityGroupIds": [null]
 },
   "UserData": ",",
   "InstanceType": ",",
   "Placement": {
      "AvailabilityZone": ",",
      "GroupName": ",",
      "Tenancy": ","
 },
   "KernelId": ",",
   "RamdiskId": ",",
   "BlockDeviceMappings": [null]
}
```
YAML

The following example shows how to generate a template formatted in YAML by using the value `yaml-input` for the `--generate-cli-skeleton` parameter.
$ aws ec2 run-instances --generate-cli-skeleton yaml-input

BlockDeviceMappings: # The block device mapping entries.
- DeviceName: '' # The device name (for example, /dev/sdh or xvdh).
  VirtualName: '' # The virtual device name (ephemeralN).
  Ebs: # Parameters used to automatically set up Amazon EBS volumes when the
  instance is launched.
    DeleteOnTermination: true # Indicates whether the EBS volume is deleted on
    instance termination.
    Iops: 0 # The number of I/O operations per second (IOPS) that the volume
    supports.
    SnapshotId: '' # The ID of the snapshot.
    VolumeSize: 0 # The size of the volume, in GiB.
    VolumeType: st1 # The volume type. Valid values are: standard, io1, gp2, sc1,
    st1.
    Encrypted: true # Indicates whether the encryption state of an EBS volume is
    changed while being restored from a backing snapshot.
    KmsKeyId: '' # Identifier (key ID, key alias, ID ARN, or alias ARN) for a
    customer managed KMS key under which the EBS volume is encrypted.
    NoDevice: '' # Suppresses the specified device included in the block device
    mapping of the AMI.
  ImageId: '' # The ID of the AMI.
InstanceType: c4.4xlarge # The instance type. Valid values are: t1.micro, t2.nano,
  t2.micro, t2.small, t2.medium, t2.large, t2.xlarge, t2.2xlarge, t3.nano, t3.micro,
  t3.small, t3.medium, t3.large, t3.xlarge, t3.2xlarge, t3a.nano, t3a.micro,
  t3a.small, t3a.medium, t3a.large, t3a.xlarge, t3a.2xlarge, m1.small, m1.medium,
  m1.large, m1.xlarge, m3.medium, m3.large, m3.xlarge, m4.large,
  m4.xlarge, m4.2xlarge, m4.4xlarge, m4.10xlarge, m4.16xlarge, m2.xlarge, m2.2xlarge,
  m2.4xlarge, cr1.8xlarge, r3.large, r3.xlarge, r3.2xlarge, r3.4xlarge, r3.8xlarge,
  r4.large, r4.xlarge, r4.2xlarge, r4.4xlarge, r4.8xlarge, r4.16xlarge, r5.large,
  r5.xlarge, r5.2xlarge, r5.4xlarge, r5.8xlarge, r5.12xlarge, r5.16xlarge,
  r5.24xlarge, r5.32xlarge, r5.4xlarge, r5.8xlarge, r5.16xlarge, r5.24xlarge,
  r5.32xlarge, r5.4xlarge, r5.8xlarge, r5.16xlarge, r5.24xlarge, r5.32xlarge,
  r5.4xlarge, r5.8xlarge, r5.16xlarge, r5.24xlarge, r5.32xlarge, r5.4xlarge,
  r5.8xlarge, r5.16xlarge, r5.24xlarge, r5.32xlarge, r5.4xlarge, r5.8xlarge,
  r5.16xlarge, r5.24xlarge, r5.32xlarge, r5.4xlarge, r5.8xlarge, r5.16xlarge,
  r5.24xlarge, r5.32xlarge, r5.4xlarge, r5.8xlarge, r5.16xlarge, r5.24xlarge,
  r5.32xlarge, r5.4xlarge, r5.8xlarge, r5.16xlarge, r5.24xlarge, r5.32xlarge,
  r5.4xlarge, r5.8xlarge, r5.16xlarge, r5.24xlarge, r5.32xlarge, r5.4xlarge,
c5.24xlarge, c5.metal, c5d.large, c5d.xlarge, c5d.2xlarge, c5d.4xlarge, c5d.9xlarge, c5d.18xlarge, c5n.large, c5n.xlarge, c5n.2xlarge, c5n.4xlarge, c5n.9xlarge, c5n.18xlarge, cc1.4xlarge, cc2.8xlarge, g2.2xlarge, g2.8xlarge, g3.4xlarge, g3.8xlarge, g3.16xlarge, g3s.xlarge, g4dn.xlarge, g4dn.2xlarge, g4dn.4xlarge, g4dn.8xlarge, g4dn.12xlarge, g4dn.16xlarge, cg1.4xlarge, p2.xlarge, p2.8xlarge, p2.16xlarge, p3.2xlarge, p3.8xlarge, p3.16xlarge, p3dn.24xlarge, d2.xlarge, d2.2xlarge, d2.4xlarge, d2.8xlarge, t2.xlarge, t2.2xlarge, t2.3xlarge, t2.4xlarge, t2.5xlarge, t2.9xlarge, t2n.2xlarge, t2n.4xlarge, t2n.8xlarge, t2n.16xlarge, m5.large, m5.xlarge, m5.2xlarge, m5.4xlarge, m5.8xlarge, m5.12xlarge, m5.16xlarge, m5.24xlarge, m5.large, m5a.large, m5a.xlarge, m5a.2xlarge, m5a.4xlarge, m5a.8xlarge, m5a.12xlarge, m5a.16xlarge, m5a.24xlarge, m5d.large, m5d.xlarge, m5d.2xlarge, m5d.4xlarge, m5d.8xlarge, m5d.12xlarge, m5d.16xlarge, m5d.24xlarge, m5d.large, m5ad.large, m5ad.xlarge, m5ad.2xlarge, m5ad.4xlarge, m5ad.8xlarge, m5ad.12xlarge, m5ad.16xlarge, m5ad.24xlarge, h1.2xlarge, h1.4xlarge, h1.8xlarge, h1.16xlarge, z1d.large, z1d.xlarge, z1d.2xlarge, z1d.3xlarge, z1d.6xlarge, z1d.12xlarge, z1d.metal, u-6tb1.metal, u-9tb1.metal, u-12tb1.metal, u-18tb1.metal, u-24tb1.metal, a1.medium, a1.large, a1.xlarge, a1.2xlarge, a1.4xlarge, a1.metal, m5dn.large, m5dn.xlarge, m5dn.2xlarge, m5dn.4xlarge, m5dn.8xlarge, m5dn.12xlarge, m5dn.16xlarge, m5dn.24xlarge, m5n.large, m5n.xlarge, m5n.2xlarge, m5n.4xlarge, m5n.8xlarge, m5n.12xlarge, m5n.16xlarge, m5n.24xlarge, r5dn.large, r5dn.xlarge, r5dn.2xlarge, r5dn.4xlarge, r5dn.8xlarge, r5dn.12xlarge, r5dn.16xlarge, r5dn.24xlarge, r5n.large, r5n.xlarge, r5n.2xlarge, r5n.4xlarge, r5n.8xlarge, r5n.12xlarge, r5n.16xlarge, r5n.24xlarge.

Ipv6AddressCount: 0 # [EC2-VPC] The number of IPv6 addresses to associate with the primary network interface.

Ipv6Addresses: # [EC2-VPC] The IPv6 addresses from the range of the subnet to associate with the primary network interface.

- Ipv6Address: '' # The IPv6 address.

KeyId: '' # The ID of the key pair.

MaxCount: 0 # [REQUIRED] The maximum number of instances to launch.

MinCount: 0 # [REQUIRED] The minimum number of instances to launch.

Monitoring: # Specifies whether detailed monitoring is enabled for the instance.

   Enabled: true # [REQUIRED] Indicates whether detailed monitoring is enabled.

Placement: # The placement for the instance.

   AvailabilityZone: '' # The Availability Zone of the instance.

   Affinity: '' # The affinity setting for the instance on the Dedicated Host.

   GroupName: '' # The name of the placement group the instance is in.

   PartitionNumber: 0 # The number of the partition the instance is in.

   HostId: '' # The ID of the Dedicated Host on which the instance resides.

   Tenancy: dedicated # The tenancy of the instance (if the instance is running in a VPC). Valid values are: default, dedicated, host.

   SpreadDomain: '' # Reserved for future use.

   RamdiskId: '' # The ID of the RAM disk to select.

SecurityGroupIds: # The IDs of the security groups.
SecurityGroups: # [default VPC] The names of the security groups.
SubnetId: '' # [EC2-VPC] The ID of the subnet to launch the instance into.
UserData: '' # The user data to make available to the instance.
AdditionalInfo: '' # Reserved.
ClientToken: '' # Unique, case-sensitive identifier you provide to ensure the idempotency of the request.
DisableApiTermination: true # If you set this parameter to true, you can't terminate the instance using the Amazon EC2 console, CLI, or API; otherwise, you can.
DryRun: true # Checks whether you have the required permissions for the action, without actually making the request, and provides an error response.
EbsOptimized: true # Indicates whether the instance is optimized for Amazon EBS I/O.
IamInstanceProfile: # The IAM instance profile.
  Arn: '' # The Amazon Resource Name (ARN) of the instance profile.
  Name: '' # The name of the instance profile.
InstanceInitiatedShutdownBehavior: stop # Indicates whether an instance stops or terminates when you initiate shutdown from the instance (using the operating system command for system shutdown). Valid values are: stop, terminate.
NetworkInterfaces: # The network interfaces to associate with the instance.
  AssociatePublicIpAddress: true # Indicates whether to assign a public IPv4 address to an instance you launch in a VPC.
  DeleteOnTermination: true # If set to true, the interface is deleted when the instance is terminated.
  Description: '' # The description of the network interface.
  DeviceIndex: 0 # The position of the network interface in the attachment order.
  Groups: # The IDs of the security groups for the network interface.
  Ipv6AddressCount: 0 # A number of IPv6 addresses to assign to the network interface.
  Ipv6Addresses: # One or more IPv6 addresses to assign to the network interface.
    Ipv6Address: '' # The IPv6 address.
    NetworkInterfaceId: '' # The ID of the network interface.
    PrivateIpAddress: '' # The private IPv4 address of the network interface.
    PrivateIpAddresses: # One or more private IPv4 addresses to assign to the network interface.
      Primary: true # Indicates whether the private IPv4 address is the primary private IPv4 address.
      SecondaryPrivateIpAddressCount: 0 # The number of secondary private IPv4 addresses.
      SubnetId: '' # The ID of the subnet associated with the network interface.
      InterfaceType: '' # The type of network interface.
      PrivateIpAddress: '' # [EC2-VPC] The primary IPv4 address.
ElasticGpuSpecification: # An elastic GPU to associate with the instance.

ElasticInferenceAccelerators: # An elastic inference accelerator to associate with the instance.
- Type: '' # [REQUIRED] The type of elastic inference accelerator.

TagSpecifications: # The tags to apply to the resources during launch.
  Tags: # The tags to apply to the resource.
    - Key: '' # The key of the tag.
      Value: '' # The value of the tag.

LaunchTemplate: # The launch template to use to launch the instances.
  LaunchTemplateId: '' # The ID of the launch template.
  LaunchTemplateName: '' # The name of the launch template.
  Version: '' # The version number of the launch template.

InstanceMarketOptions: # The market (purchasing) option for the instances.
  MarketType: spot # The market type. Valid values are: spot.
  SpotOptions: # The options for Spot Instances.
    MaxPrice: '' # The maximum hourly price you're willing to pay for the Spot Instances.
  SpotInstanceType: one-time # The Spot Instance request type. Valid values are: one-time, persistent.
  BlockDurationMinutes: 0 # The required duration for the Spot Instances (also known as Spot blocks), in minutes.
  ValidUntil: 1970-01-01 00:00:00 # The end date of the request.
  InstanceInterruptionBehavior: terminate # The behavior when a Spot Instance is interrupted. Valid values are: hibernate, stop, terminate.

CreditSpecification: # The credit option for CPU usage of the T2 or T3 instance.
  CpuCredits: '' # [REQUIRED] The credit option for CPU usage of a T2 or T3 instance.
  CpuOptions: # The CPU options for the instance.
    CoreCount: 0 # The number of CPU cores for the instance.
    ThreadsPerCore: 0 # The number of threads per CPU core.

CapacityReservationSpecification: # Information about the Capacity Reservation targeting option.
  CapacityReservationPreference: none # Indicates the instance's Capacity Reservation preferences. Valid values are: open, none.
  CapacityReservationTarget: # Information about the target Capacity Reservation.
Generating a command skeleton

To generate and use a parameter skeleton file

1. Run the command with the --generate-cli-skeleton parameter to produce either JSON or YAML and direct the output to a file to save it.

   JSON

   ```bash
   aws ec2 run-instances --generate-cli-skeleton input > ec2runinst.json
   ```

   YAML

   ```bash
   aws ec2 run-instances --generate-cli-skeleton yaml-input > ec2runinst.yaml
   ```

2. Open the parameter skeleton file in your text editor and remove any of the parameters that you don't need. For example, you might strip the template down to the following. Be sure that the file is still valid JSON or YAML after you remove the elements you don't need.

   JSON

   ```json
   {
     "DryRun": true,
     "ImageId": "",
     "KeyName": "",
     "SecurityGroups": [
       ""
     ],
     "InstanceType": "",
     "Monitoring": {
       "Enabled": true
     }
   }
   ```
YAML

```yaml
DryRun: true
ImageId: ''
KeyName: ''
SecurityGroups:
- ''
InstanceType: 
Monitoring:
  Enabled: true
```

In this example, we leave the DryRun parameter set to true to use the Amazon EC2 dry run feature. This feature lets you safely test the command without actually creating or modifying any resources.

3. Fill in the remaining values with values appropriate for your scenario. In this example, we provide the instance type, key name, security group, and identifier of the Amazon Machine Image (AMI) to use. This example assumes the default AWS Region. The AMI ami-dfc39aef is a 64-bit Amazon Linux image hosted in the us-west-2 Region. If you use a different Region, you must find the correct AMI ID to use.

JSON

```json
{
  "DryRun": true,
  "ImageId": "ami-dfc39aef",
  "KeyName": "mykey",
  "SecurityGroups": [
    "my-sg"
  ],
  "InstanceType": "t2.micro",
  "Monitoring": {
    "Enabled": true
  }
}
```
YAML

```
DryRun: true
ImageId: 'ami-dfc39aef'
KeyName: 'mykey'
SecurityGroups:
  - 'my-sg'
InstanceType: 't2.micro'
Monitoring:
  Enabled: true
```

4. Run the command with the completed parameters by passing the completed template file to either the `--cli-input-json` or `--cli-input-yaml` parameter by using the `file://` prefix. The AWS CLI interprets the path to be relative to your current working directory, so in the following example that displays only the file name with no path, it looks for the file directly in the current working directory.

**JSON**

```
$ aws ec2 run-instances --cli-input-json file://ec2runinst.json
```

A client error (DryRunOperation) occurred when calling the RunInstances operation: Request would have succeeded, but DryRun flag is set.

**YAML**

```
$ aws ec2 run-instances --cli-input-yaml file://ec2runinst.yaml
```

A client error (DryRunOperation) occurred when calling the RunInstances operation: Request would have succeeded, but DryRun flag is set.

The dry run error indicates that the JSON or YAML is formed correctly and that the parameter values are valid. If other issues are reported in the output, fix them and repeat the previous step until the "Request would have succeeded" message is displayed.

5. Now you can set the DryRun parameter to false to disable dry run.
6. Run the command, and `run-instances` actually launches an Amazon EC2 instance and displays the details generated by the successful launch. The format of the output is controlled by the `--output` parameter, separately from the format of your input parameter template.

**JSON**

```json
{
   "DryRun": false,
   "ImageId": "ami-dfc39aef",
   "KeyName": "mykey",
   "SecurityGroups": [
      "my-sg"
   ],
   "InstanceType": "t2.micro",
   "Monitoring": {
      "Enabled": true
   }
}
```

**YAML**

```
DryRun: false
ImageId: 'ami-dfc39aef'
KeyName: 'mykey'
SecurityGroups:
- 'my-sg'
InstanceType: 't2.micro'
Monitoring:
  Enabled: true
```

```
$ aws ec2 run-instances --cli-input-json file://ec2runinst.json --output json
```

```
{
   "OwnerId": "123456789012",
   "ReservationId": "r-d94a2b1",
   "Groups": [],
   "Instances": [
   ...
```

**Generate a CLI Skeleton Template**
Use shorthand syntax with the AWS CLI

The AWS Command Line Interface (AWS CLI) can accept many of its option parameters in JSON format. However, it can be tedious to enter large JSON lists or structures on the command line. To make this easier, the AWS CLI also supports a shorthand syntax that enables a simpler representation of your option parameters than using the full JSON format.

Topics

- Structure parameters
- Using shorthand syntax with the AWS Command Line Interface

Structure parameters

The shorthand syntax in the AWS CLI makes it easier for users to input parameters that are flat (non-nested structures). The format is a comma-separated list of key-value pairs. Be sure to use the quoting and escaping rules appropriate for your terminal as shorthand syntax are strings.

Linux or macOS

```bash
--option key1=value1,key2=value2,key3=value3
```

PowerShell

```powershell
--option "key1=value1,key2=value2,key3=value3"
```
These are both equivalent to the following example, formatted in JSON.

```
--option '{"key1":"value1","key2":"value2","key3":"value3"}'
```

There must be no white space between each comma-separated key-value pair. Here is an example of the Amazon DynamoDB update-table command with the `--provisioned-throughput` option specified in shorthand.

```
$ aws dynamodb update-table \
   --provisioned-throughput ReadCapacityUnits=15,WriteCapacityUnits=10 \
   --table-name MyDDBTable
```

This is equivalent to the following example formatted in JSON.

```
$ aws dynamodb update-table \
   --provisioned-throughput '{"ReadCapacityUnits":15,"WriteCapacityUnits":10}' \
   --table-name MyDDBTable
```

## Using shorthand syntax with the AWS Command Line Interface

You can specify Input parameters in a list form in two ways: JSON or shorthand. The AWS CLI shorthand syntax is designed to make it easier to pass in lists with number, string, or non-nested structures.

The basic format is shown here, where values in the list are separated by a single space.

```
--option value1 value2 value3
```

This is equivalent to the following example, formatted in JSON.

```
--option '[value1,value2,value3]
```

As previously mentioned, you can specify a list of numbers, a list of strings, or a list of non-nested structures in shorthand. The following is an example of the `stop-instances` command for Amazon Elastic Compute Cloud (Amazon EC2), where the input parameter (list of strings) for the `--instance-ids` option is specified in shorthand.

```
$ aws ec2 stop-instances \
```
--instance-ids  *i-1486157a  i-1286157c  i-ec3a7e87*

This is equivalent to the following example formatted in JSON.

```bash
$ aws ec2 stop-instances \
   --instance-ids  '["i-1486157a","i-1286157c","i-ec3a7e87"]'
```

The following example shows the Amazon EC2 create-tags command, which takes a list of non-nested structures for the --tags option. The --resources option specifies the ID of the instance to tag.

```bash
$ aws ec2 create-tags \
   --resources i-1286157c \
   --tags  Key=My1stTag,Value=Value1  Key=My2ndTag,Value=Value2  
   Key=My3rdTag,Value=Value3
```

This is equivalent to the following example, formatted in JSON. The JSON parameter is written over multiple lines for readability.

```bash
$ aws ec2 create-tags \
   --resources i-1286157c \
   --tags '[
       {"Key": "My1stTag", "Value": "Value1"},
       {"Key": "My2ndTag", "Value": "Value2"},
       {"Key": "My3rdTag", "Value": "Value3"}
    ]'
```

**Have the AWS CLI prompt you for commands**

You can have the AWS CLI version 2 prompt you commands, parameters, and resources when you run an `aws` command.

**Topics**

- [How it works](#)
- [Auto-prompt features](#)
- [Auto-prompt modes](#)
- [Configure auto-prompt](#)
How it works

If enabled, the auto-prompt enables you to use the ENTER key to complete a partially entered command. After pressing the ENTER key, commands, parameters, and resources are suggested based on what you continue to type. The suggestions list the name of the command, parameter, or resource on the left and a description of it on the right. To select and use a suggestion, use the arrows keys to highlight a row, and then press the SPACE key. When you've finished entering in your command, press ENTER to use the command. The following example demonstrates what a suggested list from auto-prompt looks like.

```
$ aws
> aws a
    accessanalyzer                Access Analyzer
    acm                           AWS Certificate Manager
    acm-pca                       AWS Certificate Manager Private Certificate
    Authority
    alexaforbusiness              Alexa For Business
    amplify                       AWS Amplify
```

Auto-prompt features

The auto-prompt contains the following useful features:

Documentation panel

> Provides the help documentation for the current command. To open the documentation, press the F3 key.

Command completion

> Suggests aws commands to use. To see a list, partially enter the command. The following example is searching for a service starting with the letter a.

```
$ aws
> aws a
    accessanalyzer                Access Analyzer
    acm                           AWS Certificate Manager
    acm-pca                       AWS Certificate Manager Private Certificate
    Authority
    alexaforbusiness              Alexa For Business
    amplify                       AWS Amplify
```
Parameter completion

After a command is typed, auto-prompt starts to suggest parameters. The descriptions for the parameters include the value type, and a description of what the parameter is. Required parameters are listed first, and are labeled as required. The following example shows the auto-prompt list of parameters for `aws dynamodb describe-table`.

```
$ aws dynamodb describe-table
 > aws dynamodb describe-table
     --table-name (required) [string] The name of the table to describe.
     --cli-input-json [string] Reads arguments from the JSON string provided. The JSON string follows the format provide...
     --cli-input-yaml [string] Reads arguments from the YAML string provided. The YAML string follows the format provide...
     --generate-cli-skeleton [string] Prints a JSON skeleton to standard output without sending an API request. If provided wit...
```

Resource completion

The auto-prompt makes AWS API calls using available AWS resource properties to suggest resource values. This allows for auto-prompt to suggest possible resources you own when entering in parameters. In the following example auto-prompt lists your table names when filling in the `--table-name` parameter for the `aws dynamodb describe-table` command.

```
$ aws dynamodb describe-table
 > aws dynamodb describe-table --table-name

Table1
Table2
Table3
```

Shorthand completion

For parameters that use shorthand syntax, auto-prompt suggests values to use. In the following example, auto-prompt lists shorthand syntax values for the `--placement` parameter in the `aws ec2 run-instances` command.

```
$ aws ec2 run-instances
 > aws ec2 run-instances --placement
   AvailabilityZone= [string] The Availability Zone of the instance. If not specified, an Availability Zone wil...
```
Affinity=  [string] The affinity setting for the instance on the Dedicated Host. This parameter is no...
GroupName=  [string] The name of the placement group the instance is in.
PartitionNumber=  [integer] The number of the partition the instance is in. Valid only if the placement grou...

**File completion**

When filling out parameters in `aws` commands, auto-complete suggests local filenames after using the prefix `file://` or `fileb://`. In the following example, auto-prompt suggests local files after entering in `--item file://` for the `aws ec2 run-instances` command.

```
$ aws ec2 run-instances
> aws ec2 run-instances --item file://
   item1.txt
   file1.json
   file2.json
```

**Region completion**

When using the global parameter `--region`, auto-prompt lists possible Regions to select from. In the following example, auto-prompt suggests Regions in alphabetical order after entering in `--region` for the `aws dynamodb list-tables` command.

```
$ aws dynamodb list-tables
> aws dynamodb list-tables --region
   af-south-1
   ap-east-1
   ap-northeast-1
   ap-northeast-2
```

**Profile completion**

When using the global parameter `--profile`, auto-prompt lists your profiles. In the following example, auto-prompt suggests your profiles after entering in `--profile` for the `aws dynamodb list-tables` command.

```
$ aws dynamodb list-tables
> aws dynamodb list-tables --profile
   profile1
```
Fuzzy searching

Complete commands and values that contain a specific set of characters. In the following example, auto-prompt suggests Regions that contain eu after entering in `--region eu` for the `aws dynamodb list-tables` command.

```
$ aws dynamodb list-tables
  > aws dynamodb list-tables --region west
eu-west-1
eu-west-2
eu-west-3
us-west-1
```

History

To view and run previously used commands in auto-prompt mode, press `CTRL + R`. History lists previous commands that you can select by using the arrow keys. In the following example, the auto-prompt mode history is displayed.

```
$ aws
  > aws
dynamodb list-tables
  s3 ls
```

Auto-prompt modes

Auto-prompt for the AWS CLI version 2 has 2 modes that can be configured:

- **Full mode**: Uses auto-prompt each time you attempt to run an `aws` command, whether you manually call it using the `--cli-auto-prompt` parameter or permanently enabled it. This includes pressing `ENTER` after both a complete command or incomplete command.

- **Partial mode**: Uses auto-prompt if a command is incomplete or cannot be run due to client-side validation errors. This mode is particular useful if you have pre-existing scripts, runbooks, or you only want to be auto-prompted for commands you are unfamiliar with rather than prompted on every command.
Configure auto-prompt

To configure auto-prompt you can use the following methods in order of precedence:

- **Command line options** enable or disable auto-prompt for a single command. Use `--cli-auto-prompt` to call auto-prompt and `--no-cli-auto-prompt` to disable auto-prompt.

- **Environment variables** use the `aws_cli_auto_prompt` variable.

- **Shared config files** use the `cli_auto_prompt` setting.

Control command output from the AWS CLI

This section describes the different ways to control the output from the AWS Command Line Interface (AWS CLI). Customizing the AWS CLI output in your terminal can improve readability, streamline scripting automation and provide easier navigation through larger data sets.

The AWS CLI supports multiple output formats, including `json`, `text`, `yaml`, and `table`. Some services have server-side pagination for their data and the AWS CLI provides its own client-side features for additional pagination options.

Lastly, the AWS CLI has both server-side and client-side filtering that you can use individually or together to filter your AWS CLI output. Server-side filtering is processed first and returns your output for client-side filtering. Server-side filtering is supported by the service API. Client-side filtering is supported by the AWS CLI client using the `--query` parameter.

Server-side vs client-side output options

**Server-side** output options are features directly supported by the AWS service API. Any data that is filtered or paged out is not sent to the client, which can speed up HTTP response times and improve bandwidth for larger data sets.

**Client-side** output options are features created by the AWS CLI. All data is sent to the client, then the AWS CLI filters or pages the content displayed. Client-side operations do not save on speed or bandwidth for larger datasets. When server-side and client-side options are used together, server-side operations are completed first and then sent to the client for client-side operations. This uses the potential speed and bandwidth savings of server-side options, while using additional AWS CLI features to get your desired output.
Topics

- Set the AWS CLI output format
- Use AWS CLI pagination options
- Filter AWS CLI output

Set the AWS CLI output format

This topic describes the different output formats for the AWS Command Line Interface (AWS CLI). The AWS CLI supports the following output formats:

- **json** – The output is formatted as a JSON string.
- **yaml** – The output is formatted as a YAML string.
- **yaml-stream** – The output is streamed and formatted as a YAML string. Streaming allows for faster handling of large data types.
- **text** – The output is formatted as multiple lines of tab-separated string values. This can be useful to pass the output to a text processor, like grep, sed, or awk.
- **table** – The output is formatted as a table using the characters +|- to form the cell borders. It typically presents the information in a "human-friendly" format that is much easier to read than the others, but not as programmatically useful.

How to select the output format

As explained in the configuration topic, you can specify the output format in three ways:

- **Using the output option in a named profile in the config file** – The following example sets the default output format to text.

  ```
  [default]
  output=text
  ```

- **Using the AWS_DEFAULT_OUTPUT environment variable** – The following output sets the format to table for the commands in this command line session until the variable is changed or the session ends. Using this environment variable overrides any value set in the config file.

  ```
  $ export AWS_DEFAULT_OUTPUT="table"
  ```
• Using the **--output** option on the command line – The following example sets the output of only this one command to json. Using this option on the command overrides any currently set environment variable or the value in the config file.

$ aws swf list-domains --registration-status REGISTERED --output json

**Important**

The output type you specify changes how the **--query** option operates:

• If you specify **--output text**, the output is paginated *before* the **--query** filter is applied, and the AWS CLI runs the query once on *each page* of the output. Due to this, the query includes the first matching element on each page which can result in unexpected extra output. To additionally filter the output, you can use other command line tools such as *head* or *tail*.

• If you specify **--output json**, **--output yaml**, or **--output yaml-stream** the output is completely processed as a single, native structure before the **--query** filter is applied. The AWS CLI runs the query only once against the entire structure, producing a filtered result that is then output.

**JSON output format**

JSON is the default output format of the AWS CLI. Most programming languages can easily decode JSON strings using built-in functions or with publicly available libraries. You can combine JSON output with the **--query option** in powerful ways to filter and format the AWS CLI JSON-formatted output.

For more advanced filtering that you might not be able to do with **--query**, you can consider *jq*, a command line JSON processor. You can download it and find the official tutorial at [http://stedolan.github.io/jq/](http://stedolan.github.io/jq/).

The following is an example of JSON output.

$ aws iam list-users --output json

```
{
```

Output Format
"Users": [  
  
  "Path": "/",
  "UserName": "Admin",
  "UserId": "AIDA1111111111EXAMPLE",
  "Arn": "arn:aws:iam::123456789012:user/Admin",
  "CreateDate": "2014-10-16T16:03:09+00:00",
  "PasswordLastUsed": "2016-06-03T18:37:29+00:00"
  
  },

  
  "Path": "/backup/",
  "UserName": "backup-user",
  "UserId": "AIDA2222222222EXAMPLE",
  "Arn": "arn:aws:iam::123456789012:user/backup/backup-user",
  "CreateDate": "2019-09-17T19:30:40+00:00"

  
  },

  
  "Path": "/",
  "UserName": "cli-user",
  "UserId": "AIDA3333333333EXAMPLE",
  "Arn": "arn:aws:iam::123456789012:user/cli-user",
  "CreateDate": "2019-09-17T19:11:39+00:00"

  
  ]
}

**YAML output format**

YAML is a good choice for handling the output programmatically with services and tools that emit or consume YAML-formatted strings, such as AWS CloudFormation with its support for YAML-formatted templates.

For more advanced filtering that you might not be able to do with --query, you can consider yq, a command line YAML processor. You can download yq in the [yq repository on GitHub](https://github.com/khollander/yq).

The following is an example of YAML output.

```bash
$ aws iam list-users --output yaml
```

**Output Format**

Users:
- Arn: arn:aws:iam::123456789012:user/Admin
  CreateDate: '2014-10-16T16:03:09+00:00'
YAML stream output format

The yaml-stream format takes advantage of the YAML format while providing more responsive/faster viewing of large data sets by streaming the data to you. You can start viewing and using YAML data before the entire query downloads.

For more advanced filtering that you might not be able to do with --query, you can consider yq, a command line YAML processor. You can download yq in the yq repository on GitHub.

The following is an example of yaml-stream output.

```
$ aws iam list-users --output yaml-stream

- IsTruncated: false
  Users:
  - Arn: arn:aws:iam::123456789012:user/Admin
    CreateDate: '2014-10-16T16:03:09+00:00'
    PasswordLastUsed: '2016-06-03T18:37:29+00:00'
    Path: /
    UserId: AIDA1111111111EXAMPLE
    UserName: Admin
  - Arn: arn:aws:iam::123456789012:user/backup/backup-user
    CreateDate: '2019-09-17T19:30:40+00:00'
    Path: /backup/
    UserId: AIDA2222222222EXAMPLE
    UserName: arq-45EFD6D1-CE56-459B-B39F-F9C1F78FBE19
  - Arn: arn:aws:iam::123456789012:user/cli-user
    CreateDate: '2019-09-17T19:30:40+00:00'
    Path: /
    UserId: AIDA3333333333EXAMPLE
    UserName: cli-user
```
The following is an example of yaml-stream output in conjunction with using the --page-size parameter to paginate the streamed YAML content.

```bash
$ aws iam list-users --output yaml-stream --page-size 2
```

- IsTruncated: true
  Marker: ab1234cdef5ghi67jk8lmo9p/q012rs3t445uv678w0x1y2z/345a6b78c9d00/1efgh234ij56klmno78pqrsstu90vwxy
  Users:
  - Arn: arn:aws:iam::123456789012:user/Admin
   CreateDate: '2014-10-16T16:03:09+00:00'
    PasswordLastUsed: '2016-06-03T18:37:29+00:00'
    Path: /
    UserId: AIDA111111111EXMPL
    UserName: Admin
  - Arn: arn:aws:iam::123456789012:user/backup/backup-user
    CreateDate: '2019-09-17T19:30:40+00:00'
    Path: /backup/
    UserId: AIDA222222222EXMPL
    UserName: arq-45EF6D1-CE56-459B-B39F-F9C1F78FBE19
  - IsTruncated: false
  Users:
  - Arn: arn:aws:iam::123456789012:user/cli-user
    CreateDate: '2019-09-17T19:30:40+00:00'
    Path: /
    UserId: AIDA333333333EXMPL
    UserName: cli-user

**Text output format**

The text format organizes the AWS CLI output into tab-delimited lines. It works well with traditional Unix text tools such as `grep`, `sed`, and `awk`, and the text processing performed by PowerShell.

The text output format follows the basic structure shown below. The columns are sorted alphabetically by the corresponding key names of the underlying JSON object.
The following is an example of text output. Each field is tab separated from the others, with an extra tab where there is an empty field.

```
$ aws iam list-users --output text

<table>
<thead>
<tr>
<th>USERS</th>
<th>arn:aws:iam::123456789012:user/Admin</th>
<th>2014-10-16T16:03:09+00:00</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>arn:aws:iam::123456789012:user/Admin</td>
<td>2016-06-03T18:37:29+00:00</td>
</tr>
<tr>
<td></td>
<td>/AIDA1111111111EXAMPLE</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AIDA1111111111EXAMPLE Admin</td>
<td></td>
</tr>
<tr>
<td>USERS</td>
<td>arn:aws:iam::123456789012:user/backup/backup-user</td>
<td>2019-09-17T19:30:40+00:00</td>
</tr>
<tr>
<td></td>
<td>/backup/AIDA2222222222EXAMPLE</td>
<td>backup-user</td>
</tr>
<tr>
<td>USERS</td>
<td>arn:aws:iam::123456789012:user/cli-user</td>
<td>2019-09-17T19:11:39+00:00</td>
</tr>
<tr>
<td></td>
<td>/AIDA3333333333EXAMPLE</td>
<td>cli-user</td>
</tr>
</tbody>
</table>
```

The fourth column is the PasswordLastUsed field, and is empty for the last two entries because those users never sign in to the AWS Management Console.

⚠️ **Important**

_We strongly recommend that if you specify text output, you also always use the _--query_ option to ensure consistent behavior._

This is because the text format alphabetically orders output columns by the key name of the underlying JSON object returned by the AWS service, and similar resources might not have the same key names. For example, the JSON representation of a Linux-based Amazon EC2 instance might have elements that are not present in the JSON representation of a Windows-based instance, or vice versa. Also, resources might have key-value elements added or removed in future updates, altering the column ordering. This is where _--query_ augments the functionality of the text output to provide you with complete control over the output format.

In the following example, the command specifies which elements to display and _defines the ordering_ of the columns with the list notation `[key1, key2, ...]`. This gives you full confidence that the correct key values are always displayed in the expected column. Finally, notice how the AWS CLI outputs `None` as the value for keys that don't exist.

```
$ aws iam list-users --output text --query 'Users[*].[UserName,Arn,CreateDate,PasswordLastUsed,UserId]'
```
The following example shows how you can use `grep` and `awk` with the text output from the `aws ec2 describe-instances` command. The first command displays the Availability Zone, current state, and the instance ID of each instance in text output. The second command processes that output to display only the instance IDs of all running instances in the `us-west-2a` Availability Zone.

```
$ aws ec2 describe-instances --query 'Reservations[*].Instances[*].[Placement.AvailabilityZone, State.Name, InstanceId]' --output text

us-west-2a      running i-4b41a37c
us-west-2a      stopped i-a071c394
us-west-2b      stopped i-97a217a0
us-west-2a      running i-3045b007
us-west-2a      running i-6fc67758

$ aws ec2 describe-instances --query 'Reservations[*].Instances[*].[State.Name, InstanceId]' --output text | grep stopped | awk '{print $2}'

i-4b41a37c
i-3045b007
i-6fc67758
```

The following example goes a step further and shows not only how to filter the output, but how to use that output to automate changing instance types for each stopped instance.

```
$ aws ec2 describe-instances --query 'Reservations[*].Instances[*].[State.Name, InstanceId]' --output text | grep stopped | awk '{print $2}' |
```

Output Format
> while read line;
> do aws ec2 modify-instance-attribute --instance-id $line --instance-type '{"Value": "m1.medium"}';
> done

The text output can also be useful in PowerShell. Because the columns in text output are tab delimited, you can easily split the output into an array by using PowerShell's `t` delimiter. The following command displays the value of the third column (InstanceId) if the first column (AvailabilityZone) matches the string us-west-2a.

```
PS C:\>aws ec2 describe-instances --query 'Reservations[*].Instances[*].[Placement.AvailabilityZone, State.Name, InstanceId]' --output text | %{if ($_.split("t")[0] -match "us-west-2a") { $_.split("t")[2]; } }
```

```
-4b41a37c
i-a071c394
i-3045b007
i-6fc67758
```

Notice that although the previous example does show how to use the --query parameter to parse the underlying JSON objects and pull out the desired column, PowerShell has its own ability to handle JSON, if cross-platform compatibility isn't a concern. Instead of handling the output as text, as most command shells require, PowerShell lets you use the ConvertFrom-Json cmdlet to produce a hierarchically structured object. You can then directly access the member you want from that object.

```
(aws ec2 describe-instances --output json | ConvertFrom-Json).Reservations.Instances.InstanceId
```

**Tip**

If you output text, and filter the output to a single field using the --query parameter, the output is a single line of tab-separated values. To get each value onto a separate line, you can put the output field in brackets, as shown in the following examples.

Tab separated, single-line output:

```
$ aws iam list-groups-for-user --user-name susan --output text --query "Groups[].GroupName"
```
Table output format

The table format produces human-readable representations of complex AWS CLI output in a tabular form.

$ aws iam list-users --output table

<table>
<thead>
<tr>
<th>ListUsers</th>
</tr>
</thead>
</table>
| +-----------------+----------------+----------------+----------------+
| Users            |
| +-----------------+----------------+----------------+----------------+|
| Arn              | Path            | UserId          | UserName        |
| +-----------------+----------------+----------------+----------------+|
| arn:aws:iam::123456789012:user/Admin | /              | AIDA1111111111EXAMPLE | Admin           |
| arn:aws:iam::123456789012:user/backup/backup-user | /backup/ | AIDA2222222222EXAMPLE | backup-user     |
| arn:aws:iam::123456789012:user/cli-user     | /              | AIDA3333333333EXAMPLE | cli-user        |
You can combine the `--query` option with the `table` format to display a set of elements preselected from the raw output. Notice the output differences between dictionary and list notations: in the first example, column names are ordered alphabetically, and in the second example, unnamed columns are ordered as defined by the user. For more information about the `--query` option, see Filter AWS CLI output.

```bash
$ aws ec2 describe-volumes --query 'Volumes[*].{ID:VolumeId,InstanceId:Attachments[0].InstanceId,AZ:AvailabilityZone,Size:Size}' --output table
```

```
+------------+----------------+--------------+-------+
|     AZ     |      ID        | InstanceId   | Size  |
+------------+----------------+--------------+-------+
|  us-west-2a|  vol-e11a5288  |  i-a071c394  |  30   |
|  us-west-2a|  vol-2e410a47  |  i-4b41a37c  |  8    |
+------------+----------------+--------------+-------+
```

```bash
$ aws ec2 describe-volumes --query 'Volumes[*].[VolumeId,Attachments[0].InstanceId,AvailabilityZone,Size]' --output table
```

```
+--------------+--------------+--------------+-----+
|  vol-e11a5288|  i-a071c394  |  us-west-2a  |  30 |
|  vol-2e410a47|  i-4b41a37c  |  us-west-2a  |  8  |
+--------------+--------------+--------------+-----+
```

**Use AWS CLI pagination options**

This topic describes the different ways to paginate output from the AWS CLI.

There are primarily two ways to control pagination from the AWS CLI.

- **Using server-side pagination parameters.**
- **Using your default output client-side paging program.**
Server-side pagination parameters process first and any output is sent to client-side pagination.

**Server-side pagination**

For commands that can return a large list of items, the AWS Command Line Interface (AWS CLI) has multiple options to control the number of items included in the output when the AWS CLI calls a service's API to populate the list.

**The options include the following:**

- [How to use the --no-paginate parameter](#)
- [How to use the --page-size parameter](#)
- [How to use the --max-items parameter](#)
- [How to use the --starting-token parameter](#)

By default, the AWS CLI uses a page size determined by the individual service and retrieves all available items. For example, Amazon S3 has a default page size of 1000. If you run `aws s3api list-objects` on an Amazon S3 bucket that contains 3,500 objects, the AWS CLI automatically makes four calls to Amazon S3, handling the service-specific pagination logic for you in the background and returning all 3,500 objects in the final output.

**How to use the --no-paginate parameter**

The `--no-paginate` option disables following pagination tokens on the client side. When using a command, by default the AWS CLI automatically makes multiple calls to return all possible results to create pagination. One call for each page. Disabling pagination has the AWS CLI only call once for the first page of command results.

For example, if you run `aws s3api list-objects` on an Amazon S3 bucket that contains 3,500 objects, the AWS CLI only makes the first call to Amazon S3, returning only the first 1,000 objects in the final output.

```
$ aws s3api list-objects
   --bucket my-bucket
   --no-paginate
{
   "Contents": [
...
```
How to use the --page-size parameter

If you see issues when running list commands on a large number of resources, the default page size might be too high. This can cause calls to AWS services to exceed the maximum allowed time and generate a "timed out" error. You can use the --page-size option to specify that the AWS CLI request a smaller number of items from each call to the AWS service. The AWS CLI still retrieves the full list, but performs a larger number of service API calls in the background and retrieves a smaller number of items with each call. This gives the individual calls a better chance of succeeding without a timeout. Changing the page size doesn't affect the output; it affects only the number of API calls that need to be made to generate the output.

```
$ aws s3api list-objects \
   --bucket my-bucket \
   --page-size 100
{
   "Contents": [
   ...
```

How to use the --max-items parameter

To include fewer items at a time in the AWS CLI output, use the --max-items option. The AWS CLI still handles pagination with the service as described previously, but prints out only the number of items at a time that you specify.

```
$ aws s3api list-objects \
   --bucket my-bucket \
   --max-items 100
{
   "NextToken": "eyJNYXJrZXIiOiBudWxsLCAiYm90b190cnVuY2F0ZV9hbW91bnQiOiAxfQ==",
   "Contents": [
   ...
```

How to use the --starting-token parameter

If the number of items output (--max-items) is fewer than the total number of items returned by the underlying API calls, the output includes a NextToken that you can pass to a subsequent command to retrieve the next set of items. The following example shows how to use the NextToken value returned by the previous example, and enables you to retrieve the second 100 items.
**Note**

The parameter `--starting-token` cannot be null or empty. If the previous command does not return a `NextToken` value, there are no more items to return and you do not need to call the command again.

```
$ aws s3api list-objects
  --bucket my-bucket
  --max-items 100 
  --starting-token eyJNYXJrZXIiOiBudWxsLCAiYm90b190cnVuY2F0ZV9hbW91bnQiOiIxfQ==
{
  "Contents": [ ...
```

The specified AWS service might not return items in the same order each time you call. If you specify different values for `--page-size` and `--max-items`, you can get unexpected results with missing or duplicated items. To prevent this, use the same number for `--page-size` and `--max-items` to sync the AWS CLI pagination with the pagination of the underlying service. You can also retrieve the whole list and perform any necessary paging operations locally.

**Client-side pager**

AWS CLI version 2 provides the use of a client-side pager program for output. By default, this feature returns all output through your operating system's default pager program.

In order of precedence, you can specify the output pager in the following ways:

- Using the `cli_pager` setting in the `config` file in the default or named profile.
- Using the `AWS_PAGER` environment variable.
- Using the `PAGER` environment variable.

In order of precedence, you can disable all use of an external paging program in the following ways:

- Use the `--no-cli-pager` command line option to disable the pager for a single command use.
- Set the `cli_pager` setting or `AWS_PAGER` variable to an empty string.
Client-side pager topics:

- How to use the cli_pager setting
- How to use the AWS_PAGER environment variable
- How to use the --no-cli-pager option
- How to use pager flags

How to use the cli_pager setting

You can save your frequently used configuration settings and credentials in files that are maintained by the AWS CLI. Settings in a name profile take precedence over settings in the default profile. For more information on configuration settings, see Configuration and credential file settings.

The following example sets the default output pager to the less program.

```
[default]
cli_pager=less
```

The following example sets the default to disable the use of a pager.

```
[default]
cli_pager=
```

How to use the AWS_PAGER environment variable

The following example sets the default output pager to the less program. For more information on environment variables, see Environment variables to configure the AWS CLI.

Linux and macOS

```
$ export AWS_PAGER="less"
```

Windows

```
C: \> setx AWS_PAGER "less"
```

The following example disables the use of a pager.
Linux and macOS

```bash
$ export AWS_PAGER=""
```

Windows

```bash
C:\> setx AWS_PAGER ""
```

### How to use the `--no-cli-pager` option

To disable the use of a pager on a single command, use the `--no-cli-pager` option. For more information on command line options, see [Command line options](#).

```bash
$ aws s3api list-objects \
   --bucket my-bucket \
   --no-cli-pager
{
   "Contents": [ ...
```

### How to use pager flags

You can specify flags to use automatically with your paging program. Flags are dependent on the paging program you use. The below examples are for the typical defaults of `less` and `more`.

#### Linux and macOS

If you do not specify otherwise, the pager AWS CLI version 2 uses by default is `less`. If you don't have the LESS environment variable set, the AWS CLI version 2 uses the FRX flags. You can combine flags by specifying them when setting the AWS CLI pager.

The following example uses the S flag. This flag then combines with the default FRX flags to create a final FRXS flag.

```bash
$ export AWS_PAGER="less -S"
```

If you don't want any of the FRX flags, you can negate them. The following example negates the F flag to create a final RX flag.

```bash
$ export AWS_PAGER="less -+F"
```
For more information on `less` flags see `less` on `manpages.org`.

Windows

If you do not specify otherwise, the pager AWS CLI version 2 uses by default is `more` with no additional flags.

The following example uses the `/c` parameter.

```
C:\> setx AWS_PAGER "more /c"
```

For more information on `more` flags see `more` on `Microsoft Docs`.

Filter AWS CLI output

The AWS Command Line Interface (AWS CLI) has both server-side and client-side filtering that you can use individually or together to filter your AWS CLI output. Server-side filtering is processed first and returns your output for client-side filtering.

- Server-side filtering is supported by the API, and you usually implement it with a `--filter` parameter. The service only returns matching results which can speed up HTTP response times for large data sets.
- Client-side filtering is supported by the AWS CLI client using the `--query` parameter. This parameter has capabilities the server-side filtering might not have.

Topics

- [Server-side filtering](#)
- [Client-side filtering](#)
- [Combining server-side and client-side filtering](#)
- [Additional resources](#)

Server-side filtering

Server-side filtering in the AWS CLI is provided by the AWS service API. The AWS service only returns the records in the HTTP response that match your filter, which can speed up HTTP response times for large data sets. Since server-side filtering is defined by the service API, the parameter names and functions vary between services. Some common parameter names used for filtering are:
• --filter such as ses and ce.
• --filters such as ec2, autoscaling, and rds.
• Names starting with the word filter, for example --filter-expression for the aws dynamodb scan command.

For information about whether a specific command has server-side filtering and the filtering rules, see the AWS CLI version 2 reference guide.

Client-side filtering

The AWS CLI provides built-in JSON-based client-side filtering capabilities with the --query parameter. The --query parameter is a powerful tool you can use to customize the content and style of your output. The --query parameter takes the HTTP response that comes back from the server and filters the results before displaying them. Since the entire HTTP response is sent to the client before filtering, client-side filtering can be slower than server-side filtering for large datasets.

Querying uses JMESPath syntax to create expressions for filtering your output. To learn JMESPath syntax, see Tutorial on the JMESPath website.

⚠️ Important

The output type you specify changes how the --query option operates:

• If you specify --output text, the output is paginated before the --query filter is applied, and the AWS CLI runs the query once on each page of the output. Due to this, the query includes the first matching element on each page which can result in unexpected extra output. To additionally filter the output, you can use other command line tools such as head or tail.
• If you specify --output json, --output yaml, or --output yaml-stream the output is completely processed as a single, native structure before the --query filter is applied. The AWS CLI runs the query only once against the entire structure, producing a filtered result that is then output.

Client-side filtering topics

• Before you start
• **Identifiers**

• **Selecting from a list**

• **Filtering nested data**

• **Flattening results**

• **Filtering for specific values**

• **Piping expressions**

• **Filtering for multiple identifier values**

• **Adding labels to identifier values**

• **Functions**

• **Advanced --query examples**

**Before you start**

When using filter expressions used in these examples, be sure to use the correct quoting rules for your terminal shell. For more information, see the section called “Quotes with Strings”.

The following JSON output shows an example of what the `--query` parameter can produce. The output describes three Amazon EBS volumes attached to separate Amazon EC2 instances.

**Example output**

```
$ aws ec2 describe-volumes
{
  "Volumes": [
    {
      "AvailabilityZone": "us-west-2a",
      "Attachments": [
        {
          "AttachTime": "2013-09-17T00:55:03.000Z",
          "InstanceId": "i-a071c394",
          "VolumeId": "vol-e11a5288",
          "State": "attached",
          "DeleteOnTermination": true,
          "Device": "/dev/sda1"
        }
      ],
      "VolumeType": "standard",
      "VolumeId": "vol-e11a5288",
      "State": "in-use",
    },
    {
      "AvailabilityZone": "us-west-2b",
      "Attachments": [
        {
          "AttachTime": "2013-09-17T00:55:03.000Z",
          "InstanceId": "i-a071c394",
          "VolumeId": "vol-e11a5288",
          "State": "attached",
          "DeleteOnTermination": true,
          "Device": "/dev/sdb1"
        }
      ],
      "VolumeType": "standard",
      "VolumeId": "vol-e11a5288",
      "State": "in-use",
    },
    {
      "AvailabilityZone": "us-west-2c",
      "Attachments": [
        {
          "AttachTime": "2013-09-17T00:55:03.000Z",
          "InstanceId": "i-a071c394",
          "VolumeId": "vol-e11a5288",
          "State": "attached",
          "DeleteOnTermination": true,
          "Device": "/dev/sdc1"
        }
      ],
      "VolumeType": "standard",
      "VolumeId": "vol-e11a5288",
      "State": "in-use",
    }
  ],

Filter output
"SnapshotId": "snap-f23ec1c8",
"CreateTime": "2013-09-17T00:55:03.000Z",
"Size": 30
},
{
"AvailabilityZone": "us-west-2a",
"Attachments": [
{
"AttachTime": "2013-09-18T20:26:16.000Z",
"InstanceId": "i-4b41a37c",
"VolumeId": "vol-2e410a47",
"State": "attached",
"DeleteOnTermination": true,
"Device": "/dev/sda1"
}
],
"VolumeType": "standard",
"VolumeId": "vol-2e410a47",
"State": "in-use",
"SnapshotId": "snap-708e8348",
"CreateTime": "2013-09-18T20:26:15.000Z",
"Size": 8
},
{
"AvailabilityZone": "us-west-2a",
"Attachments": [
{
"AttachTime": "2020-11-20T19:54:06.000Z",
"InstanceId": "i-1jd73kv8",
"VolumeId": "vol-a1b3c7nd",
"State": "attached",
"DeleteOnTermination": true,
"Device": "/dev/sda1"
}
],
"VolumeType": "standard",
"VolumeId": "vol-a1b3c7nd",
"State": "in-use",
"SnapshotId": "snap-234087fb",
"CreateTime": "2020-11-20T19:54:05.000Z",
"Size": 15
]
Identifiers

Identifier are the labels for output values. When creating filters, you use identifiers to narrow down your query results. In the following output example, all identifiers such as Volumes, AvailabilityZone, and AttachTime are highlighted.

```bash
$ aws ec2 describe-volumes
{
   "Volumes": [
      {
         "AvailabilityZone": "us-west-2a",
         "Attachments": [
            {
               "AttachTime": "2013-09-17T00:55:03.000Z",
               "InstanceId": "i-a071c394",
               "VolumeId": "vol-e11a5288",
               "State": "attached",
               "DeleteOnTermination": true,
               "Device": "/dev/sda1"
            }
         ],
         "VolumeType": "standard",
         "VolumeId": "vol-e11a5288",
         "State": "in-use",
         "SnapshotId": "snap-f23ec1c8",
         "CreateTime": "2013-09-17T00:55:03.000Z",
         "Size": 30
      },
      {
         "AvailabilityZone": "us-west-2a",
         "Attachments": [
            {
               "AttachTime": "2013-09-18T20:26:16.000Z",
               "InstanceId": "i-4b41a37c",
               "VolumeId": "vol-2e410a47",
               "State": "attached",
               "DeleteOnTermination": true,
               "Device": "/dev/sda1"
            }
         ],
         "VolumeType": "standard",
```
"VolumeId": "vol-2e410a47",
"State": "in-use",
"SnapshotId": "snap-708e8348",
"CreateTime": "2013-09-18T20:26:15.000Z",
"Size": 8
},
{
"AvailabilityZone": "us-west-2a",
"Attachments": [
{
"AttachTime": "2020-11-20T19:54:06.000Z",
"InstanceId": "i-1jd73kv8",
"VolumeId": "vol-a1b3c7nd",
"State": "attached",
"DeleteOnTermination": true,
"Device": "/dev/sda1"
}
],
"VolumeType": "standard",
"VolumeId": "vol-a1b3c7nd",
"State": "in-use",
"SnapshotId": "snap-234087fb",
"CreateTime": "2020-11-20T19:54:05.000Z",
"Size": 15
]
]

For more information, see Identifiers on the JMESPath website.

Selecting from a list

A list or array is an identifier that is followed by a square bracket "[" such as Volumes and Attachments in the the section called “Before you start”.

Syntax

<listName>[ ]

To filter through all output from an array, you can use the wildcard notation. Wildcard expressions are expressions used to return elements using the * notation.

The following example queries all Volumes content.
$ aws ec2 describe-volumes \
   --query 'Volumes[*]' \
[
  {
    "AvailabilityZone": "us-west-2a",
    "Attachments": [
      {
        "AttachTime": "2013-09-17T00:55:03.000Z",
        "InstanceId": "i-a071c394",
        "VolumeId": "vol-e11a5288",
        "State": "attached",
        "DeleteOnTermination": true,
        "Device": "/dev/sda1"
      }
    ],
    "VolumeType": "standard",
    "VolumeId": "vol-e11a5288",
    "State": "in-use",
    "SnapshotId": "snap-f23ec1c8",
    "CreateTime": "2013-09-17T00:55:03.000Z",
    "Size": 30
  },
  {
    "AvailabilityZone": "us-west-2a",
    "Attachments": [
      {
        "AttachTime": "2020-11-20T19:54:06.000Z",
        "InstanceId": "i-1jd73kv8",
        "VolumeId": "vol-a1b3c7nd",
        "State": "attached",
        "DeleteOnTermination": true,
        "Device": "/dev/sda1"
      }
    ],
    "VolumeType": "standard",
    "VolumeId": "vol-a1b3c7nd",
    "State": "in-use",
    "SnapshotId": "snap-234087fb",
    "CreateTime": "2020-11-20T19:54:05.000Z",
    "Size": 15
  }
]
To view a specific volume in the array by index, you call the array index. For example, the first item in the Volumes array has an index of 0, resulting in the Volumes[0] query. For more information about array indexes, see index expressions on the JMESPath website.

```
$ aws ec2 describe-volumes \
   --query 'Volumes[0]'
{
   "AvailabilityZone": "us-west-2a",
   "Attachments": [
   {
   "AttachTime": "2013-09-17T00:55:03.000Z",
   "InstanceId": "i-a071c394",
   "VolumeId": "vol-e11a5288",
   "State": "attached",
   "DeleteOnTermination": true,
   "Device": "/dev/sda1"
   }
   ],
   "VolumeType": "standard",
   "VolumeId": "vol-e11a5288",
   "State": "in-use",
   "SnapshotId": "snap-f23ec1c8",
   "CreateTime": "2013-09-17T00:55:03.000Z",
   "Size": 30

To view a specific range of volumes by index, use slice with the following syntax, where start is the starting array index, stop is the index where the filter stops processing, and step is the skip interval.

**Syntax**

```
<arrayName>[<start>:<stop>:<step>]```

If any of these are omitted from the slice expression, they use the following default values:

- Start – The first index in the list, 0.
- Stop – The last index in the list.
- Step – No step skipping, where the value is 1.
To return only the first two volumes, you use a start value of 0, a stop value of 2, and a step value of 1 as shown in the following example.

```bash
$ aws ec2 describe-volumes \
   --query 'Volumes[0:2:1]'
[
  {
    "AvailabilityZone": "us-west-2a",
    "Attachments": [
      {
        "AttachTime": "2013-09-17T00:55:03.000Z",
        "InstanceId": "i-a071c394",
        "VolumeId": "vol-e11a5288",
        "State": "attached",
        "DeleteOnTermination": true,
        "Device": "/dev/sda1"
      }
    ],
    "VolumeType": "standard",
    "VolumeId": "vol-e11a5288",
    "State": "in-use",
    "SnapshotId": "snap-f23ec1c8",
    "CreateTime": "2013-09-17T00:55:03.000Z",
    "Size": 30
  },
  {
    "AvailabilityZone": "us-west-2a",
    "Attachments": [
      {
        "AttachTime": "2013-09-18T20:26:16.000Z",
        "InstanceId": "i-4b41a37c",
        "VolumeId": "vol-2e410a47",
        "State": "attached",
        "DeleteOnTermination": true,
        "Device": "/dev/sda1"
      }
    ],
    "VolumeType": "standard",
    "VolumeId": "vol-2e410a47",
    "State": "in-use",
    "SnapshotId": "snap-708e8348",
    "CreateTime": "2013-09-18T20:26:15.000Z",
    "Size": 8
  }
]
```
Since this example contains default values, you can shorten the slice from `Volumes[0:2:1]` to `Volumes[:2]`.

The following example omits default values and returns every two volumes in the entire array.

```
$ aws ec2 describe-volumes \
   --query 'Volumes[::2]'  

[
  {
    "AvailabilityZone": "us-west-2a",
    "Attachments": [ 
      {
        "AttachTime": "2013-09-17T00:55:03.000Z",
        "InstanceId": "i-a071c394",
        "VolumeId": "vol-e11a5288",
        "State": "attached",
        "DeleteOnTermination": true,
        "Device": "/dev/sda1"
      }
    ],
    "VolumeType": "standard",
    "VolumeId": "vol-e11a5288",
    "State": "in-use",
    "SnapshotId": "snap-f23ec1c8",
    "CreateTime": "2013-09-17T00:55:03.000Z",
    "Size": 30
  },
  {
    "AvailabilityZone": "us-west-2a",
    "Attachments": [ 
      {
        "AttachTime": "2020-11-20T19:54:06.000Z",
        "InstanceId": "i-1jd73kv8",
        "VolumeId": "vol-a1b3c7nd",
        "State": "attached",
        "DeleteOnTermination": true,
        "Device": "/dev/sdal"
      }
    ],
    "VolumeType": "standard",
    "VolumeId": "vol-a1b3c7nd",
    "State": "in-use",
    "SnapshotId": "snap-345e768a",
    "CreateTime": "2020-11-20T19:54:06.000Z",
    "Size": 30
  }
]
```
Steps can also use negative numbers to filter in the reverse order of an array as shown in the following example.

```
$ aws ec2 describe-volumes \\
    --query 'Volumes[::2]'
[
    {
        "AvailabilityZone": "us-west-2a",
        "Attachments": [
            {
                "AttachTime": "2020-11-20T19:54:06.000Z",
                "InstanceId": "i-1jd73kv8",
                "VolumeId": "vol-a1b3c7nd",
                "State": "attached",
                "DeleteOnTermination": true,
                "Device": "/dev/sda1"
            }
        ],
        "VolumeType": "standard",
        "VolumeId": "vol-a1b3c7nd",
        "State": "in-use",
        "SnapshotId": "snap-234087fb",
        "CreateTime": "2020-11-20T19:54:05.000Z",
        "Size": 15
    },
    {
        "AvailabilityZone": "us-west-2a",
        "Attachments": [
            {
                "AttachTime": "2013-09-17T00:55:03.000Z",
                "InstanceId": "i-a071c394",
                "VolumeId": "vol-e11a5288",
                "State": "attached",
                "DeleteOnTermination": true,
                "Device": "/dev/sda1"
            }
        ],
        "VolumeType": "standard",
        "VolumeId": "vol-e11a5288",
        "State": "in-use",
        "SnapshotId": "snap-234087fb",
        "CreateTime": "2020-11-20T19:54:05.000Z",
        "Size": 15
    }
]
```
Filtering nested data

To narrow the filtering of the Volumes[*] for nested values, you use subexpressions by appending a period and your filter criteria.

Syntax

<expression>.<expression>

The following example shows all Attachments information for all volumes.

```
$ aws ec2 describe-volumes \
   --query 'Volumes[*].Attachments'
```

Filter output

For more information, see Slices on the JMESPath website.
To filter further into the nested values, append the expression for each nested identifier. The following example lists the State for all Volumes.

```
$ aws ec2 describe-volumes \
    --query 'Volumes[*].Attachments[*].State'
```

Flattening results

For more information, see SubExpressions on the JMESPath website.

You can flatten the results for Volumes[*].Attachments[*].State by removing the wildcard notation resulting in the Volumes[*].Attachments[].State query. Flattening often is useful to improve the readability of results.

```
$ aws ec2 describe-volumes \
```
For more information, see Flatten on the JMESPath website.

Filtering for specific values

To filter for specific values in a list, you use a filter expression as shown in the following syntax.

**Syntax**

```
? <expression> <comparator> <expression>
```

Expression comparators include ==, !=, <, <=, >, and >=. The following example filters for the VolumeIds for all Volumes in an AttachedState.

```
$ aws ec2 describe-volumes \
   --query 'Volumes[*].Attachments[?State==`attached`].VolumeId'
[
   [ 
     "vol-e11a5288"
   ],
   [ 
     "vol-2e410a47"
   ],
   [ 
     "vol-a1b3c7nd"
   ]
]
```

This can then be flattened resulting in the following example.

```
$ aws ec2 describe-volumes \
   --query 'Volumes[*].Attachments[?State==`attached`].VolumeId[]'
[ 
  "vol-e11a5288",
  "vol-2e410a47",
  "vol-a1b3c7nd"
]
The following example filters for the VolumeIds of all Volumes that have a size less than 20.

```
$ aws ec2 describe-volumes \
   --query 'Volumes[?Size < `20`].VolumeId'
[
   "vol-2e410a47",
   "vol-a1b3c7nd"
]
```

For more information, see Filter Expressions on the JMESPath website.

**Piping expressions**

You can pipe results of a filter to a new list, and then filter the result with another expression using the following syntax:

**Syntax**

```
<expression> | <expression>
```

The following example takes the filter results of the Volumes[*].Attachments[].InstanceId expression and outputs the first result in the array.

```
$ aws ec2 describe-volumes \
   --query 'Volumes[*].Attachments[].InstanceId | [0]'
"i-a071c394"
```

This example does this by first creating the array from the following expression.

```
$ aws ec2 describe-volumes \
   --query 'Volumes[*].Attachments[].InstanceId'
"i-a071c394",
"i-4b41a37c",
"i-1jd73kv8"
```

And then returns the first element in that array.

"i-a071c394"
Filtering for multiple identifier values

To filter for multiple identifiers, you use a multiselect list by using the following syntax:

**Syntax**

```
<listName>[][<expression>, <expression>]
```

In the following example, `VolumeId` and `VolumeType` are filtered in the `Volumes` list resulting in the following expression.

```
$ aws ec2 describe-volumes \
   --query 'Volumes[][VolumeId, VolumeType]' \
[
  [
    "vol-e11a5288",
    "standard"
  ],
  [
    "vol-2e410a47",
    "standard"
  ],
  [
    "vol-a1b3c7nd",
    "standard"
  ]
]
```

To add nested data to the list, you add another multiselect list. The following example expands on the previous example by also filtering for `InstanceId` and `State` in the nested `Attachments` list. This results in the following expression.

```
$ aws ec2 describe-volumes \
   --query 'Volumes[][VolumeId, VolumeType, Attachments[][InstanceId, State]]'
[
  [
    "vol-e11a5288",
    "standard",
    [
      [
        "vol-a1b3c7nd",
        "standard"
      ]
    ]
  ]
]
To be more readable, flatten out the expression as shown in the following example.

```
$ aws ec2 describe-volumes \
   --query 'Volumes[].[VolumeId, VolumeType, Attachments[].[InstanceId, State][]][]'
```

```
[ "vol-e11a5288", "standard", 
  [ "i-a071c394", "attached" ]
], 
[ "vol-2e410a47", "standard", 
  [ "i-4b41a37c", "attached" ]
]
```

For more information, see [Multiselect list](https://docs.aws.amazon.com/jmespath/latest/dg/MultiselectLists.html) on the [JMESPath website](https://docs.aws.amazon.com/AmazonS3/latest/API/RESTRequestSyntax.html).

### Adding labels to identifier values

To make this output easier to read, use a multiselect hash with the following syntax.

**Syntax**

```
<listName>[].{<label>: <expression>, <label>: <expression>}
```

Your identifier label does not need to be the same as the name of the identifier. The following example uses the label `VolumeType` for the `VolumeType` values.

```
$ aws ec2 describe-volumes \
   --query 'Volumes[].{VolumeType: VolumeType}'
[
  {
    "VolumeType": "standard",
  },
  {
    "VolumeType": "standard",
  },
  {
    "VolumeType": "standard",
  }
]
```

For simplicity, the following example keeps the identifier names for each label and displays the `VolumeId`, `VolumeType`, `InstanceId`, and `State` for all volumes:

```
$ aws ec2 describe-volumes \
   --query 'Volumes[].{VolumeId: VolumeId, VolumeType: VolumeType, InstanceId: Attachments[0].InstanceId, State: Attachments[0].State}'
```
For more information, see [Multiselect hash](#) on the [JMESPath website](#).

**Functions**

The JMESPath syntax contains many functions that you can use for your queries. For information on JMESPath functions, see [Built-in Functions](#) on the JMESPath website.

To demonstrate how you can incorporate a function into your queries, the following example uses the `sort_by` function. The `sort_by` function sorts an array using an expression as the sort key using the following syntax:

**Syntax**

```bash
sort_by(<listName>, <sort expression>)[].<expression>
```

The following example uses the previous [multiselect hash example](#) and sorts the output by `VolumeId`.

```bash
$ aws ec2 describe-volumes \
    --query 'sort_by(Volumes, &VolumeId)[].{VolumeId: VolumeId, VolumeType: VolumeType, InstanceId: Attachments[0].InstanceId, State: Attachments[0].State}'
```
For more information, see sort_by on the JMESPath website.

**Advanced --query examples**

**To extract information from a specific item**

The following example uses the --query parameter to find a specific item in a list and then extracts information from that item. The example lists all of the AvailabilityZones associated with the specified service endpoint. It extracts the item from the ServiceDetails list that has the specified ServiceName, then outputs the AvailabilityZones field from that selected item.

```
$ aws --region us-east-1 ec2 describe-vpc-endpoint-services \
   --query 'ServiceDetails[?ServiceName==`com.amazonaws.us-east-1.ecs`].AvailabilityZones'

[  
  [  
    "us-east-1a",
    "us-east-1b",
    "us-east-1c",
    "us-east-1d",
    "us-east-1e",
    "us-east-1f"
  ]
]
```
To show snapshots after the specified creation date

The following example shows how to list all of your snapshots that were created after a specified date, including only a few of the available fields in the output.

```bash
$ aws ec2 describe-snapshots --owner self \\
   --output json \\
   --query 'Snapshots[?StartTime>=`2018-02-07`].
   {Id:SnapshotId,VId:VolumeId,Size:VolumeSize}'

[
  {
    "id": "snap-0effb42b7a1b2c3d4",
    "vid": "vol-0be9bb0bf12345678",
    "Size": 8
  }
]
```

To show the most recent AMIs

The following example lists the five most recent Amazon Machine Images (AMIs) that you created, sorted from most recent to oldest.

```bash
$ aws ec2 describe-images \\
   --owners self \\
   --query 'reverse(sort_by(Images,&CreationDate))[:5].{id:ImageId,date:CreationDate}'

[
  {
    "id": "ami-0a1b2c3d4e5f60001",
    "date": "2018-11-28T17:16:38.000Z"
  },
  {
    "id": "ami-0a1b2c3d4e5f60002",
    "date": "2018-09-15T13:51:22.000Z"
  },
  {
    "id": "ami-0a1b2c3d4e5f60003",
    "date": "2018-08-19T10:22:45.000Z"
  },
  {
    "id": "ami-0a1b2c3d4e5f60004",
    "date": "2018-07-25T10:01:45.000Z"
  },
  {
    "id": "ami-0a1b2c3d4e5f60005",
    "date": "2018-06-20T12:03:24.000Z"
  }
]
To show unhealthy Auto Scaling instances

The following example shows only the InstanceId for any unhealthy instances in the specified Auto Scaling group.

```
$ aws autoscaling describe-auto-scaling-groups \
   --auto-scaling-group-name My-AutoScaling-Group-Name \
   --output text \
   --query 'AutoScalingGroups[*].Instances[?HealthStatus==`Unhealthy`].InstanceId'
```

To include volumes with the specified tag

The following example describes all instances with a test tag. As long as there is another tag beside test attached to the volume, the volume is still returned in the results.

The below expression to return all tags with the test tag in an array. Any tags that are not the test tag contain a null value.

```
$ aws ec2 describe-volumes \
   --query 'Volumes.Tags[?Value == `test`]'
```

To exclude volumes with the specified tag

The following example describes all instances without a test tag. Using a simple ?Value != `test` expression does not work for excluding a volume as volumes can have multiple tags. As long as there is another tag beside test attached to the volume, the volume is still returned in the results.

To exclude all volumes with the test tag, start with the below expression to return all tags with the test tag in an array. Any tags that are not the test tag contain a null value.

```
$ aws ec2 describe-volumes \
   --query 'Volumes.Tags[?Value == `test`]'
Then filter out all the positive test results using the `not_null` function.

```
$ aws ec2 describe-volumes \
   --query 'Volumes[!null(Tags[?Value == `test`].Value)]'
```

Pipe the results to flatten out the results resulting in the following query.

```
$ aws ec2 describe-volumes \
   --query 'Volumes[!null(Tags[?Value == `test`].Value)] | []'
```

**Combining server-side and client-side filtering**

You can use server-side and client-side filtering together. Server-side filtering is completed first, which sends the data to the client that the `--query` parameter then filters. If you're using large data sets, using server-side filtering first can lower the amount of data sent to the client for each AWS CLI call, while still keeping the powerful customization that client-side filtering provides.

The following example lists Amazon EC2 volumes using both server-side and client-side filtering. The service filters a list of all attached volumes in the `us-west-2a` Availability Zone. The `--query` parameter further limits the output to only those volumes with a `Size` value that is larger than 50, and shows only the specified fields with user-defined names.

```
$ aws ec2 describe-volumes \
   --filters "Name=availability-zone,Values=us-west-2a" "Name=status,Values=attached" \
   --query 'Volumes[?Size > `50`].{Id:VolumeId,Size:Size,Type:VolumeType}'
[
  {
    "Id": "vol-0be9bb0bf12345678",
    "Size": 80,
    "VolumeType": "gp2"
  }
]
```

The following example retrieves a list of images that meet several criteria. It then uses the `--query` parameter to sort the output by `CreationDate`, selecting only the most recent. Finally, it displays the `ImageId` of that one image.

```
$ aws ec2 describe-images \
   --owners amazon \
   --query 'Images[?isPublic==true].{ImageId:imageId,CreationDate:CreationDate}
```
The following example displays the number of available volumes that are more than 1000 IOPS by using \texttt{length} to count how many are in a list.

$$\texttt{aws ec2 describe-volumes} \backslash$$

\texttt{--filters "Name=status,Values=available" \backslash}

\texttt{--query 'length(Volumes[?Iops > \textasciitilde 1000])'}

\texttt{3}

\textbf{Additional resources}

\textbf{AWS CLI autoprompt}

When beginning to use filter expressions, you can use the auto-prompt feature in the AWS CLI version 2. The auto-prompt feature provides a preview when you press the \texttt{F5} key. For more information, see the section called “Auto-prompt”.

\textbf{JMESPath Terminal}

JMESPath Terminal is an interactive terminal command to experiment with JMESPath expressions that are used for client-side filtering. Using the \texttt{jpterm} command, the terminal shows immediate query results as you're typing. You can directly pipe AWS CLI output to the terminal, enabling advanced querying experimentation.

The following example pipes \texttt{aws ec2 describe-volumes} output directly to JMESPath Terminal.

$$\texttt{aws ec2 describe-volumes | jpterm}$$

For more information on JMESPath Terminal and installation instructions, see \texttt{JMESPath Terminal} on \texttt{GitHub}.

\textbf{jq utility}

The \texttt{jq} utility provides you a way to transform your output on the client-side to an output format you desire. For more information on \texttt{jq} and installation instructions, see \texttt{jq} on \texttt{GitHub}.
Return codes from the AWS CLI

The return code is usually a hidden code sent after running a AWS Command Line Interface (AWS CLI) command which describes the status of the command. You can use the `echo` command to display the code sent from the last AWS CLI command and use these codes to determine if a command was successful or if it failed, and why a command might have an error. In addition to the return codes, you can view more details about a failure by running your commands with the `--debug` switch. This switch produces a detailed report of the steps the AWS CLI uses to process the command, and what the result of each step was.

To determine the return code of an AWS CLI command, run one of the following commands immediately after running the CLI command.

**Linux and macOS**

```bash
$ echo $?  
0
```

**Windows PowerShell**

```powershell
PS> echo $lastexitcode  
0
```

**Windows Command Prompt**

```cmd
C:\> echo %errorlevel%  
0
```

The following are the return code values that can be returned at the end of running an AWS Command Line Interface (AWS CLI) command.

<table>
<thead>
<tr>
<th>Code</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>The service responded with an HTTP response status code of 200 indicating that there were no errors generated by the AWS CLI and AWS service the request was sent to.</td>
</tr>
<tr>
<td>1</td>
<td>One or more Amazon S3 transfer operations failed. <em>Limited to S3 commands.</em></td>
</tr>
<tr>
<td>Code</td>
<td>Meaning</td>
</tr>
<tr>
<td>------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>2</td>
<td>The meaning of this return code depends on the command:</td>
</tr>
<tr>
<td></td>
<td>• <strong>Applicable to all AWS CLI commands</strong> – the command entered couldn't be parsed. Parsing failures can be caused by, but aren't limited to, missing required subcommands or arguments, or using unknown commands or arguments.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Limited to S3 commands</strong> – One or more files marked for transfer were skipped during the transfer process. However, all other files marked for transfer were successfully transferred. Files that are skipped during the transfer process include: files that don't exist; files that are character special devices, block special device, FIFO queues, or sockets; and files that the user doesn't have read permissions to.</td>
</tr>
<tr>
<td>130</td>
<td>The command was interrupted by a SIGINT. This is the signal sent by you to cancel a command with Ctrl+C.</td>
</tr>
<tr>
<td>252</td>
<td>Command syntax was invalid, an unknown parameter was provided, or a parameter value was incorrect and prevented the command from running.</td>
</tr>
<tr>
<td>253</td>
<td>The system environment or configuration was invalid. While the command provided might be syntactically valid, missing configuration or credentials prevented the command from running.</td>
</tr>
<tr>
<td>254</td>
<td>The command successfully parsed and a request made to the specified service but the service returned an error. This will generally indicate incorrect API usage or other service specific issues.</td>
</tr>
<tr>
<td>255</td>
<td>The command failed. There were errors generated by the AWS CLI or by the AWS service to which the request was sent.</td>
</tr>
</tbody>
</table>

**Interactive commands using the AWS CLI wizards**

The AWS Command Line Interface (AWS CLI) provides the ability to use a wizard for some commands. To contribute or view the full list of available AWS CLI wizards, see the [AWS CLI wizards folder](https://github.com/aws/awscli) on GitHub.
How it works

Similar to the AWS console, the AWS CLI has a UI wizard that guides you through managing your AWS resources. To use the wizard, you call the wizard subcommand and the wizard name after the service name in a command. The command structure is as follows:

Syntax:

```bash
$ aws <command> wizard <wizardName>
```

The following example is calling the wizard to create a new dynamodb table.

```bash
$ aws dynamodb wizard new-table
```

`aws configure` is the only wizard that does not have a wizard name. When running the wizard, run the `aws configure wizard` command as the following example demonstrates:

```bash
$ aws configure wizard
```

After calling a wizard, a form in the shell is displayed. For each parameter, you are either provided a list of options to select from or prompted to enter in a string. To select from a list, use your up and down arrow keys and press ENTER. To view details on an option, press the right arrow key. When you've finished filling out a parameter, press ENTER.

```bash
$ aws configure wizard
What would you like to configure
> Static Credentials
   > Assume Role
   > Process Provider
   > Additional CLI configuration
Enter the name of the profile:
Enter your Access Key Id:
Enter your Secret Access Key:
```

To edit previous prompts, use SHIFT + TAB. For some wizards, after filling in all prompts, you can preview an AWS CloudFormation template or the AWS CLI command filled with your information. This preview mode is useful to learn the AWS CLI, service APIs, and creating templates for scripts.

Press ENTER after previewing or the last prompt to run the final command.
Create and use AWS CLI command shortcuts called aliases

Aliases are shortcuts you can create in the AWS Command Line Interface (AWS CLI) to shorten commands or scripts that you frequently use. You create aliases in the alias file located in your configuration folder.

Topics
- Prerequisites
- Step 1: Creating the alias file
- Step 2: Creating an alias
- Step 3: Calling an alias
- Alias repository examples
- Resources

Prerequisites

To use alias commands, you need to complete the following:

- Install and configure the AWS CLI. For more information, see the section called “Install/Update” and Authentication and access credentials.
- Use a minimum AWS CLI version of 1.11.24 or 2.0.0.
- (Optional) To use AWS CLI alias bash scripts, you must use a bash-compatible terminal.

Step 1: Creating the alias file

To create the alias file, you can use your file navigation and a text editor, or use your preferred terminal by using the step-by-step procedure. To quickly create your alias file, use the following command block.
To create the alias file

1. Create a folder named `cli` in your AWS CLI configuration folder. By default the configuration folder is `~/.aws/` on Linux or macOS and `%USERPROFILE%\.aws\` on Windows. You can create this through your file navigation or by using the following command.

   Linux and macOS
   
   $ mkdir -p ~/.aws/cli
   $ echo '[toplevel]' > ~/.aws/cli/alias

   Windows
   
   C:\> md %USERPROFILE%\.aws\cli
   C:\> echo [toplevel] > %USERPROFILE%\.aws\cli/alias

2. In the `cli` folder, create a text file named `alias` with no extension and add `[toplevel]` to the first line. You can create this file through your preferred text editor or use the following command.

   Linux and macOS
   
   $ echo '[toplevel]' > ~/.aws/cli/alias

   Windows
   
   C:\> echo [toplevel] > %USERPROFILE%\.aws\cli/alias
Step 2: Creating an alias

You can create an alias using basic commands or bash scripting.

Creating a basic command alias

You can create your alias by adding a command using the following syntax in the alias file you created in the previous step.

Syntax

```
aliasname = command [--options]
```

The `aliasname` is what you call your alias. The `command` is the command you want to call, which can include other aliases. You can include options or parameters in your alias, or add them when calling your alias.

The following example creates an alias named `aws whoami` using the `aws sts get-caller-identity` command. Since this alias calls an existing AWS CLI command, you can write the command without the `aws` prefix.

```
whoami = sts get-caller-identity
```

The following example takes the previous `whoami` example and adds the `Account` filter and text output options.

```
whoami2 = sts get-caller-identity --query Account --output text
```

Creating a sub-command alias

⚠️ **Note**

The sub-command alias feature requires a minimum AWS CLI version of 1.11.24 or 2.0.0

You can create an alias for sub-commands by adding a command using the following syntax in the alias file you created in the previous step.

Syntax
[command commandGroup]
aliasname = command [--options]

The `commandGroup` is the command namespace, e.g. The command `aws ec2 describe-regions` is under the `ec2` command group. The `aliasname` is what you call your alias. The `command` is the command you want to call, which can include other aliases. You can include options or parameters in your alias, or add them when calling your alias.

The following example creates an alias named `aws ec2 regions` using the `aws ec2 describe-regions` command. Since this alias calls an existing AWS CLI command under the `ec2` command namespace, you can write the command without the `aws ec2` prefix.

```
[command ec2]
regions = describe-regions --query Regions[].RegionName
```

To create aliases from commands outside of the command namespace, prefix the full command with an exclamation mark. The following example creates an alias named `aws ec2 instance-profiles` using the `aws iam list-instance-profiles` command.

```
[command ec2]
instance-profiles = !aws iam list-instance-profiles
```

⚠️ **Note**

Aliases only use existing command namespaces and you cannot create new ones. e.g. You can't create an alias with the `[command johnsmith]` section as the `johnsmith` command namespace does not already exist.

Creating a bash scripting alias

⚠️ **Warning**

To use AWS CLI alias bash scripts, you must use a bash-compatible terminal

You can create an alias using bash scripts for more advanced processes using the following syntax.
Syntax

```
aliasname =
    !f() {
        script content
    };
```

The `aliasname` is what you call your alias and `script content` is the script you want to run when you call the alias.

The following example uses opendns to output your current IP address. Since you can use aliases in other aliases, the following `myip` alias is useful to allow or revoke access for your IP address from within other aliases.

```
myip =
    !f() {
        dig +short myip.opendns.com @resolver1.opendns.com
    };
```

The following script example calls the previous `aws myip` alias to authorize your IP address for an Amazon EC2 security group ingress.

```
authorize-my-ip =
    !f() {
        ip=$(aws myip)
        aws ec2 authorize-security-group-ingress --group-id ${1} --cidr $ip/32 --protocol tcp --port 22
    };
```

When you call aliases that use bash scripting, the variables are always passed in the order that you entered them. In bash scripting, the variable names are not taken into consideration, only the order they appear. In the following `textalert` alias example, the variable for the `--message` option is first and `--phone-number` option is second.

```
textalert =
    !f() {
        aws sns publish --message "${1}" --phone-number ${2}
    };
```
Step 3: Calling an alias

To run the alias you created in your alias file use the following syntax. You can add additional options when you call your alias.

Syntax

```
$ aws aliasname
```

The following example uses the `aws whoami` command alias.

```
$ aws whoami
    {  
        "UserId": "A12BCD34E5FGHI6JKLM",  
        "Account": "1234567890987",  
        "Arn": "arn:aws:iam::1234567890987:user/userName"
    }
```

The following example uses the `aws whoami` alias with additional options to only return the Account number in text output.

```
$ aws whoami --query Account --output text
1234567890987
```

The following example uses the `aws ec2 regions` sub-command alias.

```
$ aws ec2 regions
[  
    "ap-south-1",  
    "eu-north-1",  
    "eu-west-3",  
    "eu-west-2",  
    ...
]
```

Calling an alias using bash scripting variables

When you call aliases that use bash scripting, variables are passed in the order they are entered. In bash scripting, the name of the variables are not taken into consideration, only the order they
appear. For example, in the following `textalert` alias, the variable for the option `--message` is first and `--phone-number` is second.

```bash
textalert =
  !f() {
    aws sns publish --message "${1}" --phone-number ${2}
  }; f
```

When you call the `textalert` alias, you need to pass variables in the same order as they are run in the alias. In the following example we use the variables `$message` and `$phone`. The `$message` variable is passed as `${1}` for the `--message` option and the `$phone` variable is passed as `${2}` for the `--phone-number` option. This results in successfully calling the `textalert` alias to send a message.

```bash
$ aws textalert $message $phone
{
  "MessageId": "1ab2cd3e4-fg56-7h89-i01j-2klmn34567"
}
```

In the following example, the order is switched when calling the alias to `$phone` and `$message`. The `$phone` variable is passed as `${1}` for the `--message` option and the `$message` variable is passed as `${2}` for the `--phone-number` option. Since the variables are out of order, the alias passes the variables incorrectly. This causes an error because the contents of `$message` do not match the phone number formatting requirements for the `--phone-number` option.

```bash
$ aws textalert $phone $message
usage: aws [options] <command> <subcommand> [...][parameters]
To see help text, you can run:

    aws help
    aws <command> help
    aws <command> <subcommand> help

Unknown options: text
Alias repository examples

The AWS CLI alias repository on GitHub contains AWS CLI alias examples created by the AWS CLI developer team and community. You can use the entire alias file example or take individual aliases for your own use.

⚠️ Warning

Running the commands in this section deletes your existing alias file. To avoid overwriting your existing alias file, change your download location.

To use aliases from the repository

1. Install Git. For installation instructions, see Getting Started - Installing Git in the Git Documentation.

2. Install the jp command. The jp command is used in the tostring alias. For installation instructions, see the JMESPath (jp) README.md on GitHub.

3. Install the jq command. The jq command is used in the tostring-with-jq alias. For installation instructions, see the JSON processor (jq) on GitHub.

4. Download the alias file by doing one of the following:

   • Run the following commands that downloads from the repository and copies the alias file to your configuration folder.

     **Linux and macOS**

     ```
     $ git clone https://github.com/awslabs/awscli-aliases.git
     $ mkdir -p ~/.aws/cli
     $ cp awscli-aliases/alias ~/.aws/cli/alias
     ```

     **Windows**

     ```
     C:\> git clone https://github.com/awslabs/awscli-aliases.git
     C:\> md %USERPROFILE%\aws\cli
     C:\> copy awscli-aliases\alias %USERPROFILE%\aws\cli
     ```
Download directly from the repository and save to the cli folder in your AWS CLI configuration folder. By default the configuration folder is ~/.aws/ on Linux or macOS and %USERPROFILE%\aws\ on Windows.

5. To verify the aliases are working, run the following alias.

$ aws whoami

This displays the same response as the aws sts get-caller-identity command:

```
{
    "Account": "012345678901",
    "UserId": "AIUAINBADX2VEG2TC6HD6",
    "Arn": "arn:aws:iam::012345678901:user/myuser"
}
```

Resources

- The [AWS CLI alias repository](https://github.com/aws/aws-cli) on GitHub contains AWS CLI alias examples created by the AWS CLI developer team and the contribution of the AWS CLI community.
- The alias feature announcement from [AWS re:Invent 2016: The Effective AWS CLI User](https://www.youtube.com/watch?v=example_video) on YouTube.
- `aws sts get-caller-identity`
- `aws ec2 describe-instances`
- `aws sns publish`
Code examples

This chapter provides a collection of examples that show you how to use the AWS Command Line Interface (AWS CLI) with AWS services.

The AWS CLI has the following types of examples in this guide:

- **Guided command examples** - Guided command examples for the AWS CLI User Guide on how to use the AWS CLI with some AWS services. These are often more detailed examples than the examples from the AWS CLI version 2 reference guide.

- **AWS CLI command examples** - Open source command examples that are also available in the AWS CLI version 2 reference guide. Command examples are hosted in the AWS CLI repository on GitHub.

- **AWS CLI using Bash scripting code examples** - Open source bash scripting examples. Bash scripting examples are hosted in the AWS Code Examples Repository on GitHub.

Example feedback

Can't find what you need? Request a command example by using the Provide feedback link at the bottom of this page or on the relevant command page in the AWS CLI version 2 reference guide. Want to contribute? Contribute AWS CLI command examples in the AWS Code Examples Repository on GitHub. For more information on contributing, see AWS CLI code example contribution quick steps on GitHub pages.

Guided AWS CLI command examples

This section provides examples that show how to use the AWS Command Line Interface (AWS CLI) to access various AWS services.

Note

For a complete reference of all the available commands for each service, see the AWS CLI version 2 reference guide, or use the built-in command line help. For more information, see Get help with the AWS CLI.
Services

- Use Amazon DynamoDB with the AWS CLI
- Use Amazon EC2 with the AWS CLI
- Use Amazon S3 Glacier with the AWS CLI
- Use AWS Identity and Access Management from the AWS CLI
- Use Amazon S3 with the AWS CLI
- Use Amazon SNS with the AWS CLI

Use Amazon DynamoDB with the AWS CLI

An introduction to Amazon DynamoDB

What is Amazon DynamoDB?

The AWS Command Line Interface (AWS CLI) provides support for all of the AWS database services, including Amazon DynamoDB. You can use the AWS CLI for impromptu operations, such as creating a table. You can also use it to embed DynamoDB operations within utility scripts.

For more information about using the AWS CLI with DynamoDB, see `dynamodb` in the AWS CLI Command Reference.

To list the AWS CLI commands for DynamoDB, use the following command.

```
$ aws dynamodb help
```

Topics

- Prerequisites
- Creating and using DynamoDB tables
- Using DynamoDB Local
- Resources

Prerequisites

To run the dynamodb commands, you need to:
• Install and configure the AWS CLI. For more information, see the section called “Install/Update” and Authentication and access credentials.

Creating and using DynamoDB tables

The command line format consists of a DynamoDB command name, followed by the parameters for that command. The AWS CLI supports the CLI shorthand syntax for the parameter values, and full JSON.

The following example creates a table named MusicCollection.

```
$ aws dynamodb create-table \
   --table-name MusicCollection \
   --attribute-definitions AttributeName=Artist,AttributeType=S 
   AttributeName=SongTitle,AttributeType=S \
   --key-schema AttributeName=Artist,KeyType=HASH 
   AttributeName=SongTitle,KeyType=RANGE \
   --provisioned-throughput ReadCapacityUnits=1,WriteCapacityUnits=1
```

You can add new lines to the table with commands similar to those shown in the following example. These examples use a combination of shorthand syntax and JSON.

```
$ aws dynamodb put-item \
   --table-name MusicCollection \
   --item '{
       "Artist": {"S": "No One You Know"},
       "SongTitle": {"S": "Call Me Today"},
       "AlbumTitle": {"S": "Somewhat Famous"}
   }' \
   --return-consumed-capacity TOTAL

{
   "ConsumedCapacity": {
       "CapacityUnits": 1.0,
       "TableName": "MusicCollection"
   }
}

$ aws dynamodb put-item \
   --table-name MusicCollection \
   --item '{
```
It can be difficult to compose valid JSON in a single-line command. To make this easier, the AWS CLI can read JSON files. For example, consider the following JSON snippet, which is stored in a file named `expression-attributes.json`.

```
{
  "::v1": {"S": "No One You Know"},
  "::v2": {"S": "Call Me Today"}
}
```

You can use that file to issue a query request using the AWS CLI. In the following example, the content of the `expression-attributes.json` file is used as the value for the `--expression-attribute-values` parameter.

```
$ aws dynamodb query --table-name MusicCollection \
--key-condition-expression "Artist = :v1 AND SongTitle = :v2" \
--expression-attribute-values file://expression-attributes.json
```

```json
{
  "Count": 1,
  "Items": [
    {
      "AlbumTitle": {
        "S": "Somewhat Famous"
      },
      "SongTitle": {
        "S": "Call Me Today"
      },
      "Artist": {
        "S": "No One You Know"
      }
    }
  ]
}
```
Using DynamoDB Local

In addition to DynamoDB, you can use the AWS CLI with DynamoDB Local. DynamoDB Local is a small client-side database and server that mimics the DynamoDB service. DynamoDB Local enables you to write applications that use the DynamoDB API, without manipulating any tables or data in the DynamoDB web service. Instead, all of the API actions are rerouted to a local database. This lets you save on provisioned throughput, data storage, and data transfer fees.

For more information about DynamoDB Local and how to use it with the AWS CLI, see the following sections of the Amazon DynamoDB Developer Guide:

- [DynamoDB Local](#)
- [Using the AWS CLI with DynamoDB Local](#)

Resources

AWS CLI reference:

- `aws dynamodb`
- `aws dynamodb create-table`
- `aws dynamodb put-item`
- `aws dynamodb query`

Service reference:

- [DynamoDB Local](#) in the Amazon DynamoDB Developer Guide
- [Using the AWS CLI with DynamoDB Local](#) in the Amazon DynamoDB Developer Guide
Use Amazon EC2 with the AWS CLI

You can access the features of Amazon Elastic Compute Cloud (Amazon EC2) using the AWS Command Line Interface (AWS CLI). To list the AWS CLI commands for Amazon EC2, use the following command.

```
aws ec2 help
```

Before you run any commands, set your default credentials. For more information, see Configure the AWS CLI.

This topic shows short-form examples of AWS CLI commands that perform common tasks for Amazon EC2.

For long-form examples of AWS CLI commands, see AWS CLI code examples repository on GitHub.

Topics

- Create, display, and delete Amazon EC2 key pairs
- Create, configure, and delete security groups for Amazon EC2
- Launch, list, and terminate Amazon EC2 instances
- Change an Amazon EC2 instance type with a bash script

Create, display, and delete Amazon EC2 key pairs

You can use the AWS Command Line Interface (AWS CLI) to create, display, and delete your key pairs for Amazon Elastic Compute Cloud (Amazon EC2). You use key pairs to connect to an Amazon EC2 instance.

You must provide the key pair to Amazon EC2 when you create the instance, and then use that key pair to authenticate when you connect to the instance.
For additional command examples, see the AWS CLI reference guide.

Topics

• Prerequisites
• Create a key pair
• Display your key pair
• Delete your key pair
• References

Prerequisites

To run the ec2 commands, you need to:

• Install and configure the AWS CLI. For more information, see the section called “Install/Update” and Authentication and access credentials.
• Set your IAM permissions to allow for Amazon EC2 access. For more information about IAM permissions for Amazon EC2, see IAM policies for Amazon EC2 in the Amazon EC2 User Guide for Linux Instances.

Create a key pair

To create a key pair, use the `aws ec2 create-key-pair` command with the `--query` option, and the `--output text` option to pipe your private key directly into a file.

```
$ aws ec2 create-key-pair --key-name MyKeyPair --query 'KeyMaterial' --output text
> MyKeyPair.pem
```

For PowerShell, the > file redirection defaults to UTF-8 encoding, which cannot be used with some SSH clients. So, you must convert the output by piping it to the out-file command and explicitly set the encoding to ascii.

```
PS C:\>aws ec2 create-key-pair --key-name MyKeyPair --query 'KeyMaterial' --output text
| out-file -encoding ascii -filepath MyKeyPair.pem
```
The resulting `MyKeyPair.pem` file looks similar to the following.

```
-----BEGIN RSA PRIVATE KEY-----
EXAMPLEKEYKCAQEAy7WZhaDsra1W3mRlQtvhwyORRX8ngxDafRt/gx42kWXsT4rXE/b5CpSgie/ 
vBoU7jLxx9z2PHoFhByP+Dc21eyyzy6CvjTmWA0JwFiWi5/akH7i05dSrvc7d0kW2dU5VuUdeEQWZ/ 
anXnMni1QE6XAgfwlnXVbwrerrQo+ZWQeQiUwWkuEbeJFLhMCVYURpUMSC1oehm44911x9X1F 
G50TCFeOsf18ddqCP6GzbPaijiU1x9x/azOR9V+tpU0zEl+wxmXnZt3/nHPQ5xvD20JH67km6SuPW 
opZev/D8Vx+4bHthfsj59Y7DvQfjfbvWxHigBdtZcEU/wei8D/HYwIDAQAABaoIBAGZ1kaEvrnqu 
uler7vgIn5m71NLKw4hJLAIWtUT/fzvtcHK0skbCQXuHmQmQyJX/0kn2NfjLV/ufGxbL1 
mb5qwMGUnEpjaZD6Q5s3kIClwWUYuI6fc0uiSbmJoap/GTLU0W5Mfcv36PaBUny5p53VG7GhXb2 
bahyWyJNfjLe4M8yd2YK3V2CMk+x/X/BosShn336+hjrXPPWmV3N9zEmCdjJ+aK15DYmhmt/tJWSD9 
81oGk9TopEp7CkIfatEATyyZiVq0rQ6k64iuM9JkA30zdXzMQexXVJ1TLZVEH0E7bh1Y9d801ozr 
0Qs/FizNAX2iijCWyv0lpjE73+kCgYE9amZtyhkkFdpwSM1APAa80NAAbbwweEy7Z5MfqQ+1Ip1 
YkriL0dBxL1vRAH+yHPRit2hH0jtUNzth4Axv+cpg09bqUII3+43eEy24B7G/Uh+GTFbjsXs0QxQ/x 
p9otyVweC7hsQSTA5Pzb+mvkJ30BEKzet9XcKwONBYELGhnEpe7CCgYEA06VgoV6YHleHu1hKuw 
ayav0elc5zKxjF9nFHF3ry21R1ttrwV2dpn+9g481Urp2WVOEihvm+xTmazlSp/1kqq5XDwnU 
WA8gnk603Qe3Fq2y9N9BULsAkdJfJSRL1HvGQTe10HLYXpJnEkHv+Un1zajLIvWUt5PBrxKbUC 
gYbjbo+OZk8scCzpZ29sbzjypjddErySylRX5g2uNqwaJdP9Pn295yQ+BxMBXi5cyWCQwQw0hB 
oMo7yykABY70zd5wQeboQ4AdS1WXS4nGdtsFXwI5sKuAAeOcbTosy1s8w8fxoJ5Tz1sdoxNeGs 
Arq6Wv/G16zQaAE0zKvWkhG+09VI/lwJBirsDG29whWVFpRkTNJvZJzzYt69qezxLsJgFshy 
WBhd4xHZtmCqBP1AyMehrj/T0lbxyArMxnMWANXMB4K5G5lyI1mszSVAOQ+fQr+cJ30doyP1lj 
jjb0Ed/NY8frlNdAVHE8BSkdsx2f6ELEYBKJSR9msnRaoGAMTwmYeXzvTsk/SF5yu01eogLDa 
NwuH38v/nDqGePzXD5Hn3qAEcjuIjmbv1wtW+nY2jvhv7UgduMjwuUTNGLd7b6nsYqM2swF3sQ 
VRKAKKYYeGjkpUFvT1w0YFyXkfczr/V+QFL50ndHAJKJxJW7a4ejLncTzmZSpYzWAp=-----END RSA PRIVATE KEY-----
```

Your private key isn't stored in AWS and can be retrieved only when it's created. You can't recover it later. Instead, if you lose the private key, you must create a new key pair.

If you're connecting to your instance from a Linux computer, we recommend that you use the following command to set the permissions of your private key file so that only you can read it.

```
$ chmod 400 MyKeyPair.pem
```

Display your key pair

A "fingerprint" is generated from your key pair, and you can use it to verify that the private key that you have on your local machine matches the public key that's stored in AWS.

The fingerprint is an SHA1 hash of the private key. This value is captured when the key pair is created, and is stored in AWS with the public key. You can view the
fingerprints in the Amazon EC2 console or by running the AWS CLI command `aws ec2 describe-key-pairs`.

The following example displays the fingerprint for `MyKeyPair`.

```bash
$ aws ec2 describe-key-pairs --key-name MyKeyPair
{
    "KeyPairs": [
    {
        "KeyName": "MyKeyPair",
    }
    ]
}
```

For more information about keys and fingerprints, see Amazon EC2 Key Pairs in the Amazon EC2 User Guide for Linux Instances.

Delete your key pair

To delete a key pair, run the `aws ec2 delete-key-pair` command, substituting `MyKeyPair` with the name of the pair to delete.

```bash
$ aws ec2 delete-key-pair --key-name MyKeyPair
```

References

AWS CLI reference:

- `aws ec2`
- `aws ec2 create-key-pair`
- `aws ec2 delete-key-pair`
- `aws ec2 describe-key-pairs`

Other reference:

- Amazon Elastic Compute Cloud Documentation
- To view and contribute to AWS SDK and AWS CLI code examples, see the AWS Code Examples Repository on GitHub.
Create, configure, and delete security groups for Amazon EC2

You can create a security group for your Amazon Elastic Compute Cloud (Amazon EC2) instances that essentially operates as a firewall, with rules that determine what network traffic can enter and leave.

Use the AWS Command Line Interface (AWS CLI) to create a security group, add rules to existing security groups, and delete security groups.

⚠️ Note
For additional command examples, see the AWS CLI reference guide.

Topics

- **Prerequisites**
- **Create a security group**
- **Add rules to your security group**
- **Delete your security group**
- **References**

Prerequisites

To run the ec2 commands, you need to:

- Install and configure the AWS CLI. For more information, see the section called “Install/Update” and Authentication and access credentials.
- Set your IAM permissions to allow for Amazon EC2 access. For more information about IAM permissions for Amazon EC2, see IAM policies for Amazon EC2 in the Amazon EC2 User Guide for Linux Instances.

Create a security group

You can create security groups associated with virtual private clouds (VPCs).

The following aws_ec2_create-security-group example shows how to create a security group for a specified VPC.
$ aws ec2 create-security-group --group-name my-sg --description "My security group" --vpc-id vpc-1a2b3c4d
{
    "GroupId": "sg-903004f8"
}

To view the initial information for a security group, run the `aws ec2 describe-security-groups` command. You can reference an EC2-VPC security group only by its `vpc-id`, not its name.

$ aws ec2 describe-security-groups --group-ids sg-903004f8
{
    "SecurityGroups": [
        {
            "IpPermissionsEgress": [
                {
                    "IpProtocol": "-1",
                    "IpRanges": [
                        {
                            "CidrIp": "0.0.0.0/0"
                        }
                    ],
                    "UserIdGroupPairs": []
                },
                "Description": "My security group"
            ],
            "GroupName": "my-sg",
            "VpcId": "vpc-1a2b3c4d",
            "OwnerId": "123456789012",
            "GroupId": "sg-903004f8"
        }
    ]
}

Add rules to your security group

When you run an Amazon EC2 instance, you must enable rules in the security group to allow incoming network traffic for your means of connecting to the image.

For example, if you're launching a Windows instance, you typically add a rule to allow inbound traffic on TCP port 3389 to support Remote Desktop Protocol (RDP). If you're launching a
Linux instance, you typically add a rule to allow inbound traffic on TCP port 22 to support SSH connections.

Use the `aws ec2 authorize-security-group-ingress` command to add a rule to your security group. A required parameter of this command is the public IP address of your computer, or the network (in the form of an address range) that your computer is attached to, in CIDR notation.

**Note**

We provide the following service, `https://checkip.amazonaws.com/`, to enable you to determine your public IP address. To find other services that can help you identify your IP address, use your browser to search for "what is my IP address". If you connect through an ISP or from behind your firewall using a dynamic IP address (through a NAT gateway from a private network), your address can change periodically. In that case, you must find out the range of IP addresses used by client computers.

The following example shows how to add a rule for RDP (TCP port 3389) to an EC2-VPC security group with the ID `sg-903004f8` using your IP address.

To start, find your IP address.

```
$ curl https://checkip.amazonaws.com
x.x.x.x
```

You can then add the IP address to your security group by running the `aws ec2 authorize-security-group-ingress` command.

```
$ aws ec2 authorize-security-group-ingress --group-id sg-903004f8 --protocol tcp --port 3389 --cidr x.x.x.x/x
```

The following command adds another rule to enable SSH to instances in the same security group.

```
$ aws ec2 authorize-security-group-ingress --group-id sg-903004f8 --protocol tcp --port 22 --cidr x.x.x.x/x
```

To view the changes to the security group, run the `aws ec2 describe-security-groups` command.

```
$ aws ec2 describe-security-groups --group-ids sg-903004f8
```
Delete your security group

To delete a security group, run the `aws ec2 delete-security-group` command.

⚠️ Note

You can't delete a security group if it's currently attached to an environment.
The following command example deletes an EC2-VPC security group.

$ aws ec2 delete-security-group --group-id sg-903004f8

References

AWS CLI reference:

- aws ec2
- aws ec2 authorize-security-group-ingress
- aws ec2 create-security-group
- aws ec2 delete-security-group
- aws ec2 describe-security-groups

Other reference:

- Amazon Elastic Compute Cloud Documentation
- To view and contribute to AWS SDK and AWS CLI code examples, see the AWS Code Examples Repository on GitHub.

Launch, list, and terminate Amazon EC2 instances

You can use the AWS Command Line Interface (AWS CLI) to launch, list, and terminate Amazon Elastic Compute Cloud (Amazon EC2) instances. If you launch an instance that isn't within the AWS Free Tier, you are billed after you launch the instance and charged for the time that the instance is running, even if it remains idle.

⚠️ Note

For additional command examples, see the AWS CLI reference guide.

Topics

- Prerequisites
- Launch your instance
- Add a block device to your instance
Prerequisites

To run the ec2 commands in this topic, you need to:

- Install and configure the AWS CLI. For more information, see the section called “Install/Update” and Authentication and access credentials.
- Set your IAM permissions to allow for Amazon EC2 access. For more information about IAM permissions for Amazon EC2, see IAM policies for Amazon EC2 in the Amazon EC2 User Guide for Linux Instances.
- Create a key pair and a security group.
- Select an Amazon Machine Image (AMI) and note the AMI ID. For more information, see Finding a Suitable AMI in the Amazon EC2 User Guide for Linux Instances.

Launch your instance

To launch an Amazon EC2 instance using the AMI you selected, use the aws ec2 run-instances command. You can launch the instance into a virtual private cloud (VPC).

Initially, your instance appears in the pending state, but changes to the running state after a few minutes.

The following example shows how to launch a t2.micro instance in the specified subnet of a VPC. Replace the italicized parameter values with your own.

```bash
$ aws ec2 run-instances --image-id ami-xxxxxxxx --count 1 --instance-type t2.micro --key-name MyKeyPair --security-group-ids sg-903004f8 --subnet-id subnet-6e7f829e
{
    "OwnerId": "123456789012",
    "ReservationId": "r-5875ca20",
    "Groups": [
        {
            "GroupName": "my-sg",
```
"GroupId": "sg-903004f8"
],
"Instances": [
{
 "Monitoring": {
 "State": "disabled"
 },
 "PublicDnsName": null,
 "Platform": "windows",
 "State": {
 "Code": 0,
 "Name": "pending"
 },
 "EbsOptimized": false,
 "LaunchTime": "2013-07-19T02:42:39.000Z",
 "PrivateIpAddress": "10.0.1.114",
 "ProductCodes": [],
 "VpcId": "vpc-1a2b3c4d",
 "InstanceId": "i-5203422c",
 "ImageId": "ami-173d747e",
 "PrivateDnsName": "ip-10-0-1-114.ec2.internal",
 "KeyName": "MyKeyPair",
 "SecurityGroups": [
 {  
 "GroupName": "my-sg",
 "GroupId": "sg-903004f8"
 }
],
 "ClientToken": null,
 "SubnetId": "subnet-6e7f829e",
 "InstanceType": "t2.micro",
 "NetworkInterfaces": [
 {
 "Status": "in-use",
 "SourceDestCheck": true,
 "VpcId": "vpc-1a2b3c4d",
 "Description": "Primary network interface",
 "NetworkInterfaceId": "eni-a7edblc9",
 "PrivateIpAddresses": [
 {  
 "PrivateDnsName": "ip-10-0-1-114.ec2.internal",
 "Primary": true,
 "PrivateIpAddress": "10.0.1.114"  
 }  
]  
}
"PrivateDnsName": "ip-10-0-1-114.ec2.internal",
"Attachment": {
    "Status": "attached",
    "DeviceIndex": 0,
    "DeleteOnTermination": true,
    "AttachmentId": "eni-attach-52193138",
    "AttachTime": "2013-07-19T02:42:39.000Z"
},
"Groups": [
    {
        "GroupName": "my-sg",
        "GroupId": "sg-903004f8"
    }
],
"SubnetId": "subnet-6e7f829e",
"OwnerId": "123456789012",
"PrivateIpAddress": "10.0.1.114"
],
"SourceDestCheck": true,
"Placement": {
    "Tenancy": "default",
    "GroupName": null,
    "AvailabilityZone": "us-west-2b"
},
"Hypervisor": "xen",
"BlockDeviceMappings": [
    {
        "DeviceName": "/dev/sda1",
        "Ebs": {
            "Status": "attached",
            "DeleteOnTermination": true,
            "VolumeId": "vol-877166c8",
            "AttachTime": "2013-07-19T02:42:39.000Z"
        }
    }
],
"Architecture": "x86_64",
"StateReason": {
    "Message": "pending",
    "Code": "pending"}
Add a block device to your instance

Each instance that you launch has an associated root device volume. You can use block device mapping to specify additional Amazon Elastic Block Store (Amazon EBS) volumes or instance store volumes to attach to an instance when it's launched.

To add a block device to your instance, specify the `--block-device-mappings` option when you use `run-instances`.

The following example parameter provisions a standard Amazon EBS volume that is 20 GB in size, and maps it to your instance using the identifier /dev/sdf.

```
--block-device-mappings "[{"DeviceName":"/dev/sdf","Ebs":{"VolumeSize":20,"DeleteOnTermination":false}}]
```

The following example adds an Amazon EBS volume, mapped to /dev/sdf, based on an existing snapshot. A snapshot represents an image that is loaded onto the volume for you. When you specify a snapshot, you don't have to specify a volume size; it will be large enough to hold your image. However, if you do specify a size, it must be greater than or equal to the size of the snapshot.

```
--block-device-mappings "[{"DeviceName":"/dev/sdf","Ebs":{"SnapshotId":"snap-a1b2c3d4"}}]
```

The following example adds two volumes to your instance. The number of volumes available to your instance depends on its instance type.
The following example creates the mapping (/dev/sdj), but doesn't provision a volume for the instance.

```
--block-device-mappings "[{"DeviceName":"/dev/sdj","NoDevice":null}]"
```

For more information, see Block Device Mapping in the Amazon EC2 User Guide for Linux Instances.

### Add a tag to your instance

A tag is a label that you assign to an AWS resource. It enables you to add metadata to your resources that you can use for a variety of purposes. For more information, see Tagging Your Resources in the Amazon EC2 User Guide for Linux Instances.

The following example shows how to add a tag with the key name "Name" and the value "MyInstance" to the specified instance, by using the `aws ec2 create-tags` command.

```
$ aws ec2 create-tags --resources i-5203422c --tags Key=Name,Value=MyInstance
```

### Connect to your instance

When your instance is running, you can connect to it and use it just as you'd use a computer sitting in front of you. For more information, see Connect to Your Amazon EC2 Instance in the Amazon EC2 User Guide for Linux Instances.

### List your instances

You can use the AWS CLI to list your instances and view information about them. You can list all your instances, or filter the results based on the instances that you're interested in.

The following examples show how to use the `aws ec2 describe-instances` command.

The following command lists all your instances.

```
$ aws ec2 describe-instances
```

The following command filters the list to only your t2.micro instances and outputs only the InstanceId values for each match.
The following command lists any of your instances that have the tag Name=MyInstance.

```bash
$ aws ec2 describe-instances --filters "Name=tag:Name,Values=MyInstance"
```

The following command lists your instances that were launched using any of the following AMIs: ami-x0123456, ami-y0123456, and ami-z0123456.

```bash
$ aws ec2 describe-instances --filters "Name=image-id,Values=ami-x0123456,ami-y0123456,ami-z0123456"
```

**Terminate your instance**

Terminating an instance deletes it. You can't reconnect to an instance after you've terminated it.

As soon as the state of the instance changes to shutting-down or terminated, you stop incurring charges for that instance. If you want to reconnect to an instance later, use `stop-instances` instead of `terminate-instances`. For more information, see [Terminate Your Instance](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/stop-and-terminate-instances.html) in the Amazon EC2 User Guide for Linux Instances.

To delete an instance, you use the command `aws ec2 terminate-instances` to delete it.

```bash
$ aws ec2 terminate-instances --instance-ids i-5203422c
```

```json
{
   "TerminatingInstances": [
      {
         "InstanceId": "i-5203422c",
         "CurrentState": {
            "Code": 32,
            "Name": "shutting-down"
         },
         "PreviousState": {
            "Code": 16,
            "Name": "running"
         }
      }
   ]
}
```
Change an Amazon EC2 instance type with a bash script

This bash scripting example for Amazon EC2 changes the instance type for an Amazon EC2 instance using the AWS Command Line Interface (AWS CLI). It stops the instance if it's running, changes the instance type, and then, if requested, restarts the instance. Shell scripts are programs designed to run in a command line interface.

ℹ️ Note
For additional command examples, see the AWS CLI reference guide.

Topics
- Before you start
- About this example
- Parameters
Before you start

Before you can run any of the below examples, the following things need to be completed.

- Install and configure the AWS CLI. For more information, see the section called “Install/Update” and Authentication and access credentials.
- The profile that you use must have permissions that allow the AWS operations performed by the examples.
- A running Amazon EC2 instance in the account for which you have permission to stop and modify. If you run the test script, it launches an instance for you, tests changing the type, and then terminates the instance.
- As an AWS best practice, grant this code least privilege, or only the permissions required to perform a task. For more information, see Grant Least Privilege in the AWS Identity and Access Management (IAM) User Guide.
- This code has not been tested in all AWS Regions. Some AWS services are available only in specific Regions. For more information, see Service Endpoints and Quotas in the AWS General Reference Guide.
- Running this code can result in charges to your AWS account. It is your responsibility to ensure that any resources created by this script are removed when you are done with them.

About this example

This example is written as a function in the shell script file change_ec2_instance_type.sh that you can source from another script or from the command line. Each script file contains comments describing each of the functions. Once the function is in memory, you can invoke it from the command line. For example, the following commands change the type of the specified instance to t2.nano:

```bash
$ source ./change_ec2_instance_type.sh
$ ./change_ec2_instance_type -i *instance-id* -t new-type
```

For the full example and downloadable script files, see Change Amazon EC2 Instance Type in the AWS Code Examples Repository on GitHub.
Parameters

- `i` *(string)* Specifies the instance ID to modify.

- `t` *(string)* Specifies the Amazon EC2 instance type to switch to.

- `r` *(switch)* By default, this is unset. If `-r` is set, restarts the instance after the type switch.

- `f` *(switch)* By default, the script prompts the user to confirm shutting down the instance before making the switch. If `-f` is set, the function doesn't prompt the user before shutting down the instance to make the type switch.

- `v` *(switch)* By default, the script operates silently and displays output only in the event of an error. If `-v` is set, the function displays status throughout its operation.

Files

**change_ec2_instance_type.sh**

The main script file contains the `change_ec2_instance_type()` function that performs the following tasks:

- Verifies that the specified Amazon EC2 instance exists.
- Unless `-f` is selected, warns the user before stopping the instance.
- Changes the instance type
- If you set `-r`, restarts the instance and confirms that the instance is running

View the code for `change_ec2_instance_type.sh` on GitHub.

**test_change_ec2_instance_type.sh**

The file `test_change_ec2_instance_type.sh` script tests the various code paths for the `change_ec2_instance_type` function. If all steps in the test script work correctly, the test script removes all resources that it created.

You can run the test script with the following parameters:

- `-v` *(switch)* The each test shows a pass/failure status as they run. By default, the tests runs silently and the output includes only the final overall pass/failure status.
- `-i` *(switch)* The script pauses after each test to enable you to browse the intermediate results of each step. Enables you to examine the current status of the instance using the Amazon EC2 console. The script proceeds to the next step after you press `ENTER` at the prompt.
View the code for `test_change_ec2_instance_type.sh` on GitHub.

`awsdocs_general.sh`

The script file `awsdocs_general.sh` holds general purpose functions used across advanced examples for the AWS CLI.

View the code for `awsdocs_general.sh` on GitHub.

References

AWS CLI reference:

- `aws_ec2`
- `aws_ec2 describe-instances`
- `aws_ec2 modify-instance-attribute`
- `aws_ec2 start-instances`
- `aws_ec2 stop-instances`
- `aws_ec2 wait instance-running`
- `aws_ec2 wait instance-stopped`

Other reference:

- Amazon Elastic Compute Cloud Documentation
- To view and contribute to AWS SDK and AWS CLI code examples, see the AWS Code Examples Repository on GitHub.

Use Amazon S3 Glacier with the AWS CLI
This topic shows examples of AWS CLI commands that perform common tasks for S3 Glacier. The examples demonstrate how to use the AWS CLI to upload a large file to S3 Glacier by splitting it into smaller parts and uploading them from the command line.

You can access Amazon S3 Glacier features using the AWS Command Line Interface (AWS CLI). To list the AWS CLI commands for S3 Glacier, use the following command.

```bash
aws glacier help
```

⚠️ **Note**
For command reference and additional examples, see `aws glacier` in the *AWS CLI Command Reference*.

**Topics**

- Prerequisites
- Create an Amazon S3 Glacier vault
- Prepare a file for uploading
- Initiate a multipart upload and upload files
- Complete the upload
- Resources

**Prerequisites**

To run the `glacier` commands, you need to:

- Install and configure the AWS CLI. For more information, see the section called “Install/Update” and Authentication and access credentials.
- This tutorial uses several command line tools that typically come preinstalled on Unix-like operating systems, including Linux and macOS. Windows users can use the same tools by installing Cygwin and running the commands from the Cygwin terminal. We note Windows native commands and utilities that perform the same functions where available.
Create an Amazon S3 Glacier vault

Create a vault with the `create-vault` command.

```bash
$ aws glacier create-vault --account-id - --vault-name myvault
{

  "location": "/123456789012/vaults/myvault"
}
```

⚠️ **Note**

All S3 Glacier commands require an account ID parameter. Use the hyphen character (`--account-id -`) to use the current account.

Prepare a file for uploading

Create a file for the test upload. The following commands create a file named `largefile` that contains exactly 3 MiB of random data.

**Linux or macOS**

```bash
$ dd if=/dev/urandom of=largefile bs=3145728 count=1
1+0 records in
1+0 records out
3145728 bytes (3.1 MB) copied, 0.205813 s, 15.3 MB/s
```

*dd* is a utility that copies a number of bytes from an input file to an output file. The previous example uses the system device file `/dev/urandom` as a source of random data. *fsutil* performs a similar function in Windows.

**Windows**

```bash
C:\> fsutil file createnew largefile 3145728
File C:\temp\largefile is created
```

Next, split the file into 1 MiB (1,048,576 byte) chunks.

```bash
$ split -b 1048576 --verbose largefile chunk
```
creating file `chunkaa'
creating file `chunkab'
creating file `chunkac'

**Note**

HJ-Split is a free file splitter for Windows and many other platforms.

### Initiate a multipart upload and upload files

Create a multipart upload in Amazon S3 Glacier by using the `initiate-multipart-upload` command.

```bash
$ aws glacier initiate-multipart-upload --account-id - --archive-description "multipart upload test" --part-size 1048576 --vault-name myvault
```

```json
{
   "uploadId": "19gaRezEXAMPLES6Ry5YYdqthHOC_kGRCT03L9yetr220UmPtBYKk-OssZtlqyFu7sY1_1R7vgFuJV6NtcV5zpsJ",
   "location": "/123456789012/vaults/myvault/multipart-uploads/19gaRezEXAMPLES6Ry5YYdqthHOC_kGRCT03L9yetr220UmPtBYKk-OssZtlqyFu7sY1_1R7vgFuJV6NtcV5zpsJ"
}
```

S3 Glacier requires the size of each part in bytes (1 MiB in this example), your vault name, and an account ID to configure the multipart upload. The AWS CLI outputs an upload ID when the operation is complete. Save the upload ID to a shell variable for later use.

**Linux or macOS**

```bash
$ UPLOADID="19gaRezEXAMPLES6Ry5YYdqthHOC_kGRCT03L9yetr220UmPtBYKk-OssZtlqyFu7sY1_1R7vgFuJV6NtcV5zpsJ"
```

**Windows**

```bash
C:\> set UPLOADID="19gaRezEXAMPLES6Ry5YYdqthHOC_kGRCT03L9yetr220UmPtBYKk-OssZtlqyFu7sY1_1R7vgFuJV6NtcV5zpsJ"
```

Next, use the `upload-multipart-part` command to upload each of the three parts.
You must specify the byte range of each part when you upload it so that S3 Glacier can reassemble it in the correct order. Each piece is 1,048,576 bytes, so the first piece occupies bytes 0-1048575, the second 1048576-2097151, and the third 2097152-3145727.

Complete the upload

Amazon S3 Glacier requires a tree hash of the original file to confirm that all of the uploaded pieces reached AWS intact.

To calculate a tree hash, you must split the file into 1 MiB parts and calculate a binary SHA-256 hash of each piece. Then you split the list of hashes into pairs, combine the two binary hashes in each pair, and take hashes of the results. Repeat this process until there is only one hash left. If there is an odd number of hashes at any level, promote it to the next level without modifying it.

The key to calculating a tree hash correctly when using command line utilities is to store each hash in binary format and convert to hexadecimal only at the last step. Combining or hashing the hexadecimal version of any hash in the tree will cause an incorrect result.
Note

Windows users can use the type command in place of cat. OpenSSL is available for Windows at OpenSSL.org.

To calculate a tree hash

1. If you haven’t already, split the original file into 1 MiB parts.

   ```
   $ split --bytes=1048576 --verbose largefile chunk
   creating file `chunkaa'
   creating file `chunkab'
   creating file `chunkac'
   ```

2. Calculate and store the binary SHA-256 hash of each chunk.

   ```
   $ openssl dgst -sha256 -binary chunkaa > hash1
   $ openssl dgst -sha256 -binary chunkab > hash2
   $ openssl dgst -sha256 -binary chunkac > hash3
   ```

3. Combine the first two hashes and take the binary hash of the result.

   ```
   $ cat hash1 hash2 > hash12
   $ openssl dgst -sha256 -binary hash12 > hash12hash
   ```

4. Combine the parent hash of chunks aa and ab with the hash of chunk ac and hash the result, this time outputting hexadecimal. Store the result in a shell variable.

   ```
   $ cat hash12hash hash3 > hash123
   $ openssl dgst -sha256 hash123
   SHA256(hash123)= 9628195fcdbcbbe76cdde932d4646fa7de5f219fb39823836d81f0cc0e18aa67
   $ TREEHASH=9628195fcdbcbbe76cdde932d4646fa7de5f219fb39823836d81f0cc0e18aa67
   ```

Finally, complete the upload with the `complete-multipart-upload` command. This command takes the original file's size in bytes, the final tree hash value in hexadecimal, and your account ID and vault name.

   ```
   $ aws glacier complete-multipart-upload --checksum $TREEHASH --archive-size 3145728 --upload-id $UPLOADID --account-id - --vault-name myvault
   ```
You can also check the status of the vault using the `describe-vault` command.

```
$ aws glacier describe-vault --account-id - --vault-name myvault
{
    "SizeInBytes": 3178496,
    "LastInventoryDate": "2018-12-07T00:26:19.028Z",
    "NumberOfArchives": 1,
    "CreationDate": "2018-12-06T21:23:45.708Z",
    "VaultName": "myvault"
}
```

**Note**

Vault status is updated about once per day. See [Working with Vaults](#) for more information.

Now it's safe to remove the chunk and hash files that you created.

```
$ rm chunk* hash*
```

For more information on multipart uploads, see [Uploading Large Archives in Parts](#) and [Computing Checksums](#) in the *Amazon S3 Glacier Developer Guide*.

**Resources**

**AWS CLI reference:**

- [aws glacier](#)
- [aws glacier complete-multipart-upload](#)
• `aws glacier create-vault`
• `aws glacier describe-vault`
• `aws glacier initiate-multipart-upload`

Service reference:

• [Amazon S3 Glacier Developer Guide](#)
• [Uploading Large Archives in Parts](#) in the *Amazon S3 Glacier Developer Guide*
• [Computing Checksums](#) in the *Amazon S3 Glacier Developer Guide*
• [Working with Vaults](#) in the *Amazon S3 Glacier Developer Guide*

### Use AWS Identity and Access Management from the AWS CLI

**An introduction to AWS Identity and Access Management**

[Introduction to AWS Identity and Access Management](#)

You can access the features of AWS Identity and Access Management (IAM) using the AWS Command Line Interface (AWS CLI). To list the AWS CLI commands for IAM, use the following command.

`aws iam help`

This topic shows examples of AWS CLI commands that perform common tasks for IAM.

Before you run any commands, set your default credentials. For more information, see [Configure the AWS CLI](#).

For more information on the IAM service, see the [AWS Identity and Access Management User Guide](#).

**Topics**

• [Create IAM users and groups](#)
• [Attach an IAM managed policy to a user](#)
• [Set an initial password for an IAM user](#)
Create IAM users and groups

This topic describes how to use AWS Command Line Interface (AWS CLI) commands to create an AWS Identity and Access Management (IAM) group and a new user, and then add the user to the group. For more information on the IAM service, see the AWS Identity and Access Management User Guide.

Before you run any commands, set your default credentials. For more information, see Configure the AWS CLI.

To create a group and add a new user to it

1. Use the create-group command to create the group.

```bash
$ aws iam create-group --group-name MyIamGroup
{
    "Group": {
        "GroupName": "MyIamGroup",
        "CreateDate": "2018-12-14T03:03:52.834Z",
        "GroupId": "AGPAJNUJ2W4IJVEXAMPLE",
        "Arn": "arn:aws:iam::123456789012:group/MyIamGroup",
        "Path": "/"
    }
}
```

2. Use the create-user command to create the user.

```bash
$ aws iam create-user --user-name MyUser
{
    "User": {
        "UserName": "MyUser",
        "Path": "/",
        "CreateDate": "2018-12-14T03:13:02.581Z",
        "UserId": "AIDAJY2PE5XUZ4EXAMPLE",
        "Arn": "arn:aws:iam::123456789012:user/MyUser"
    }
}
```

3. Use the add-user-to-group command to add the user to the group.
Attach an IAM managed policy to a user

This topic describes how to use AWS Command Line Interface (AWS CLI) commands to attach an AWS Identity and Access Management (IAM) policy to a user. The policy in this example provides the user with "Power User Access". For more information on the IAM service, see the AWS Identity and Access Management User Guide.

Before you run any commands, set your default credentials. For more information, see Configure the AWS CLI.

To attach an IAM managed policy to a user

1. Determine the Amazon Resource Name (ARN) of the policy to attach. The following command uses list-policies to find the ARN of the policy with the name PowerUserAccess. It then stores that ARN in an environment variable.
For more information, see Access Management Resources. This topic provides links to an overview of permissions and policies, and links to examples of policies for accessing Amazon S3, Amazon EC2, and other services.

### Set an initial password for an IAM user

This topic describes how to use AWS Command Line Interface (AWS CLI) commands to set an initial password for an AWS Identity and Access Management (IAM) user. For more information on the IAM service, see the AWS Identity and Access Management User Guide.

Before you run any commands, set your default credentials. For more information, see Configure the AWS CLI.

The following command uses create-login-profile to set an initial password on the specified user. When the user signs in for the first time, the user is required to change the password to something that only the user knows.
$ aws iam create-login-profile --user-name MyUser --password MyUser1Login8P@ssword --password-reset-required
{
    "LoginProfile": {
        "UserName": "MyUser",
        "CreateDate": "2018-12-14T17:27:18Z",
        "PasswordResetRequired": true
    }
}

You can use the update-login-profile command to change the password for a user.

$ aws iam update-login-profile --user-name MyUser --password MyUser1ADifferentP@ssword

Create an access key for an IAM user

This topic describes how to use AWS Command Line Interface (AWS CLI) commands to create a set of access keys for an AWS Identity and Access Management (IAM) user. For more information on the IAM service, see the AWS Identity and Access Management User Guide.

Before you run any commands, set your default credentials. For more information, see Configure the AWS CLI.

You can use the create-access-key command to create an access key for a user. An access key is a set of security credentials that consists of an access key ID and a secret key.

A user can create only two access keys at one time. If you try to create a third set, the command returns a LimitExceeded error.

$ aws iam create-access-key --user-name MyUser
{
    "AccessKey": {
        "UserName": "MyUser",
        "AccessKeyId": "AKIAIOSFODNN7EXAMPLE",
        "Status": "Active",
        "SecretAccessKey": "wJalrXUtnFEMI/K7MDENG/bPxRfiCYEXAMPLEKEY",
        "CreateDate": "2018-12-14T17:34:16Z"
    }
}
Use the `delete-access-key` command to delete an access key for a user. Specify which access key to delete by using the access key ID.

```bash
$ aws iam delete-access-key --user-name MyUser --access-key-id AKIAIOSFODNN7EXAMPLE
```

**Use Amazon S3 with the AWS CLI**

**An introduction to Amazon Simple Storage Service (Amazon S3)**

Introduction to Amazon Simple Storage Service (Amazon S3 - Cloud Storage on AWS)

You can access the features of Amazon Simple Storage Service (Amazon S3) using the AWS Command Line Interface (AWS CLI). The AWS CLI provides two tiers of commands for accessing Amazon S3:

- **s3** – High-level commands that simplify performing common tasks, such as creating, manipulating, and deleting objects and buckets.
- **s3api** – Exposes direct access to all Amazon S3 API operations which enables you to carry out advanced operations.

**Topics in this guide:**

- [Use high-level (s3) commands with the AWS CLI](#)
- [Use API-Level (s3api) commands with the AWS CLI](#)
- [Amazon S3 bucket lifecycle operations scripting example](#)

**Use high-level (s3) commands with the AWS CLI**

This topic describes some of the commands you can use to manage Amazon S3 buckets and objects using the `aws s3` commands in the AWS CLI. For commands not covered in this topic and additional command examples, see the `aws s3` commands in the `<AWS CLI Reference>`.

The high-level `aws s3` commands simplify managing Amazon S3 objects. These commands enable you to manage the contents of Amazon S3 within itself and with local directories.

**Topics**
Prerequisites

To run the s3 commands, you need to:

- Install and configure the AWS CLI. For more information, see the section called “Install/Update” and Authentication and access credentials.
- The profile that you use must have permissions that allow the AWS operations performed by the examples.
- Understand these Amazon S3 terms:
  - **Bucket** – A top-level Amazon S3 folder.
  - **Prefix** – An Amazon S3 folder in a bucket.
  - **Object** – Any item that's hosted in an Amazon S3 bucket.

Before you start

This section describes a few things to note before you use aws s3 commands.

Large object uploads

When you use aws s3 commands to upload large objects to an Amazon S3 bucket, the AWS CLI automatically performs a multipart upload. You can't resume a failed upload when using these aws s3 commands.
If the multipart upload fails due to a timeout, or if you manually canceled in the AWS CLI, the AWS CLI stops the upload and cleans up any files that were created. This process can take several minutes.

If the multipart upload or cleanup process is canceled by a kill command or system failure, the created files remain in the Amazon S3 bucket. To clean up the multipart upload, use the `s3api abort-multipart-upload` command.

**File properties and tags in multipart copies**

When you use the AWS CLI version 1 version of commands in the `aws s3` namespace to copy a file from one Amazon S3 bucket location to another Amazon S3 bucket location, and that operation uses `multipart copy`, no file properties from the source object are copied to the destination object.

By default, the AWS CLI version 2 commands in the `s3` namespace that perform multipart copies transfers all tags and the following set of properties from the source to the destination copy: `content-type`, `content-language`, `content-encoding`, `content-disposition`, `cache-control`, `expires`, and `metadata`.

This can result in additional AWS API calls to the Amazon S3 endpoint that would not have been made if you used AWS CLI version 1. These can include: `HeadObject`, `GetObjectTagging`, and `PutObjectTagging`.

If you need to change this default behavior in AWS CLI version 2 commands, use the `--copy-props` parameter to specify one of the following options:

- **default** – The default value. Specifies that the copy includes all tags attached to the source object and the properties encompassed by the `--metadata-directive` parameter used for non-multipart copies: `content-type`, `content-language`, `content-encoding`, `content-disposition`, `cache-control`, `expires`, and `metadata`.
- **metadata-directive** – Specifies that the copy includes only the properties that are encompassed by the `--metadata-directive` parameter used for non-multipart copies. It doesn't copy any tags.
- **none** – Specifies that the copy includes none of the properties from the source object.

**Create a bucket**

Use the `s3 mb` command to make a bucket. Bucket names must be *globally* unique (unique across all of Amazon S3) and should be DNS compliant.
Bucket names can contain lowercase letters, numbers, hyphens, and periods. Bucket names can start and end only with a letter or number, and cannot contain a period next to a hyphen or another period.

Syntax

```
$ aws s3 mb <target> [--options]
```

**s3 mb examples**

The following example creates the s3://bucket-name bucket.

```
$ aws s3 mb s3://bucket-name
```

**List buckets and objects**

To list your buckets, folders, or objects, use the `s3 ls` command. Using the command without a target or options lists all buckets.

Syntax

```
$ aws s3 ls <target> [--options]
```

For a few common options to use with this command, and examples, see [Frequently used options for s3 commands](#). For a complete list of available options, see `s3 ls` in the AWS CLI Command Reference.

**s3 ls examples**

The following example lists all of your Amazon S3 buckets.

```
$ aws s3 ls
2018-12-11 17:08:50 my-bucket
2018-12-14 14:55:44 my-bucket2
```

The following command lists all objects and prefixes in a bucket. In this example output, the prefix example/ has one file named MyFile1.txt.

```
$ aws s3 ls s3://bucket-name
  PRE example/
```
You can filter the output to a specific prefix by including it in the command. The following command lists the objects in `bucket-name/example/` (that is, objects in `bucket-name` filtered by the prefix `example/`).

```
$ aws s3 ls s3://bucket-name/example/
```

Delete buckets

To delete a bucket, use the `s3 rb` command.

Syntax

```
$ aws s3 rb <target> [--options]
```

`s3 rb` examples

The following example removes the `s3://bucket-name` bucket.

```
$ aws s3 rb s3://bucket-name
```

By default, the bucket must be empty for the operation to succeed. To remove a bucket that's not empty, you need to include the `--force` option. If you're using a versioned bucket that contains previously deleted—but retained—objects, this command does not allow you to remove the bucket. You must first remove all of the content.

The following example deletes all objects and prefixes in the bucket, and then deletes the bucket.

```
$ aws s3 rb s3://bucket-name --force
```

Delete objects

To delete objects in a bucket or your local directory, use the `s3 rm` command.

Syntax

```
$ aws s3 rm <target> [--options]
```
For a few common options to use with this command, and examples, see Frequently used options for s3 commands. For a complete list of options, see s3 rm in the AWS CLI Command Reference.

### s3 rm examples

The following example deletes filename.txt from s3://bucket-name/example.

```
$ aws s3 rm s3://bucket-name/example/filename.txt
```

The following example deletes all objects from s3://bucket-name/example using the --recursive option.

```
$ aws s3 rm s3://bucket-name/example --recursive
```

### Move objects

Use the s3 mv command to move objects from a bucket or a local directory.

**Syntax**

```
$ aws s3 mv <source> <target> [--options]
```

For a few common options to use with this command, and examples, see Frequently used options for s3 commands. For a complete list of available options, see s3 mv in the AWS CLI Command Reference.

### s3 mv examples

The following example moves all objects from s3://bucket-name/example to s3://my-bucket/.

```
$ aws s3 mv s3://bucket-name/example s3://my-bucket/
```

The following example moves a local file from your current working directory to the Amazon S3 bucket with the s3 mv command.

```
$ aws s3 mv filename.txt s3://bucket-name
```

The following example moves a file from your Amazon S3 bucket to your current working directory, where ./ specifies your current working directory.
Copy objects

Use the `s3 cp` command to copy objects from a bucket or a local directory.

Syntax

```
$ aws s3 cp <source> <target> [--options]
```

You can use the dash parameter for file streaming to standard input (stdin) or standard output (stdout).

⚠️ **Warning**

If you're using PowerShell, the shell might alter the encoding of a CRLF or add a CRLF to piped input or output, or redirected output.

The `s3 cp` command uses the following syntax to upload a file stream from stdin to a specified bucket.

Syntax

```
$ aws s3 cp - <target> [--options]
```

The `s3 cp` command uses the following syntax to download an Amazon S3 file stream for stdout.

Syntax

```
$ aws s3 cp <target> [--options] -
```

For a few common options to use with this command, and examples, see [Frequently used options for `s3 commands`]. For the complete list of options, see `s3 cp` in the `AWS CLI Command Reference`.

`s3 cp` examples

The following example copies all objects from `s3://bucket-name/example` to `s3://my-bucket/`. 
The following example copies a local file from your current working directory to the Amazon S3 bucket with the `s3 cp` command.

```
$ aws s3 cp s3://bucket-name/example s3://my-bucket/
```

The following example copies a file from your Amazon S3 bucket to your current working directory, where `./` specifies your current working directory.

```
$ aws s3 cp s3://bucket-name/filename.txt ./
```

The following example uses `echo` to stream the text "hello world" to the `s3://bucket-name/filename.txt` file.

```
$ echo "hello world" | aws s3 cp - s3://bucket-name/filename.txt
```

The following example streams the `s3://bucket-name/filename.txt` file to `stdout` and prints the contents to the console.

```
$ aws s3 cp s3://bucket-name/filename.txt -
hello world
```

The following example streams the contents of `s3://bucket-name/pre` to `stdout`, uses the `bzip2` command to compress the files, and uploads the new compressed file named `key.bz2` to `s3://bucket-name`.

```
$ aws s3 cp s3://bucket-name/pre - | bzip2 --best | aws s3 cp - s3://bucket-name/key.bz2
```

**Sync objects**

The `s3 sync` command synchronizes the contents of a bucket and a directory, or the contents of two buckets. Typically, `s3 sync` copies missing or outdated files or objects between the source and target. However, you can also supply the `--delete` option to remove files or objects from the target that are not present in the source.

**Syntax**
$ aws s3 sync <source> <target> [--options]

For a few common options to use with this command, and examples, see Frequently used options for s3 commands. For a complete list of options, see s3 sync in the AWS CLI Command Reference.

s3 sync examples

The following example synchronizes the contents of an Amazon S3 prefix named path in the bucket named my-bucket with the current working directory.

s3 sync updates any files that have a size or modified time that are different from files with the same name at the destination. The output displays specific operations performed during the sync. Notice that the operation recursively synchronizes the subdirectory MySubdirectory and its contents with s3://my-bucket/path/MySubdirectory.

$ aws s3 sync . s3://my-bucket/path
upload: MySubdirectory\MyFile3.txt to s3://my-bucket/path/MySubdirectory/MyFile3.txt
upload: MyFile2.txt to s3://my-bucket/path/MyFile2.txt
upload: MyFile1.txt to s3://my-bucket/path/MyFile1.txt

The following example, which extends the previous one, shows how to use the --delete option.

// Delete local file
$ rm ./MyFile1.txt

// Attempt sync without --delete option - nothing happens
$ aws s3 sync . s3://my-bucket/path

// Sync with deletion - object is deleted from bucket
$ aws s3 sync . s3://my-bucket/path --delete
delete: s3://my-bucket/path/MyFile1.txt

// Delete object from bucket
$ aws s3 rm s3://my-bucket/path/MySubdirectory/MyFile3.txt
delete: s3://my-bucket/path/MySubdirectory/MyFile3.txt

// Sync with deletion - local file is deleted
$ aws s3 sync s3://my-bucket/path . --delete
delete: MySubdirectory\MyFile3.txt

// Sync with Infrequent Access storage class
When using the `--delete` option, the `--exclude` and `--include` options can filter files or objects to delete during an `s3 sync` operation. In this case, the parameter string must specify files to exclude from, or include for, deletion in the context of the target directory or bucket. The following shows an example.

Assume local directory and `s3://my-bucket/path` currently in sync and each contains 3 files:

MyFile1.txt
MyFile2.rtf
MyFile88.txt

```sh
$ aws s3 sync . s3://my-bucket/path --delete --exclude "path/MyFile?.txt"
delete: s3://my-bucket/path/MyFile88.txt
```

// Sync with delete, excluding files that match a pattern. MyFile88.txt is deleted, while remote MyFile1.txt is not.

```sh
$ aws s3 sync . s3://my-bucket/path --delete --exclude "./MyFile2.rtf"
download: s3://my-bucket/path/MyFile1.txt to MyFile1.txt
```

// Sync with delete, local copy of MyFile2.rtf is deleted

```sh
$ aws s3 sync s3://my-bucket/path . --delete
delete: MyFile2.rtf
```

Frequently used options for `s3` commands

The following options are frequently used for the commands described in this topic. For a complete list of options you can use on a command, see the specific command in the AWS CLI version 2 reference guide.

**acl**

`s3 sync` and `s3 cp` can use the `--acl` option. This enables you to set the access permissions for files copied to Amazon S3. The `--acl` option accepts `private`, `public-read`, and `public-read-write` values. For more information, see Canned ACL in the Amazon Simple Storage Service User Guide.
When you use the `s3 cp`, `s3 mv`, `s3 sync`, or `s3 rm` command, you can filter the results by using the `--exclude` or `--include` option. The `--exclude` option sets rules to only exclude objects from the command, and the options apply in the order specified. This is shown in the following example.

Local directory contains 3 files:
MyFile1.txt
MyFile2.rtf
MyFile88.txt

// Exclude all .txt files, resulting in only MyFile2.rtf being copied
$ aws s3 cp . s3://my-bucket/path --exclude "*.txt"

// Exclude all .txt files but include all files with the "MyFile*.txt" format, resulting in, MyFile1.txt, MyFile2.rtf, MyFile88.txt being copied
$ aws s3 cp . s3://my-bucket/path --exclude "*.txt" --include "MyFile*.txt"

// Exclude all .txt files, but include all files with the "MyFile*.txt" format, but exclude all files with the "MyFile?.txt" format resulting in, MyFile2.rtf and MyFile88.txt being copied
$ aws s3 cp . s3://my-bucket/path --exclude "*.txt" --include "MyFile*.txt" --exclude "MyFile?.txt"

When you use the `s3 cp`, `s3 mv`, `s3 sync`, or `s3 rm` command, you can filter the results using the `--exclude` or `--include` option. The `--include` option sets rules to only include objects specified for the command, and the options apply in the order specified. This is shown in the following example.

Local directory contains 3 files:
MyFile1.txt
MyFile2.rtf
MyFile88.txt

// Include all .txt files, resulting in MyFile1.txt and MyFile88.txt being copied
$ aws s3 cp . s3://my-bucket/path --include "*.txt"
grant

The `s3 cp`, `s3 mv`, and `s3 sync` commands include a `--grants` option that you can use to grant permissions on the object to specified users or groups. Set the `--grants` option to a list of permissions using the following syntax. Replace `Permission`, `Grantee_Type`, and `Grantee_ID` with your own values.

**Syntax**

```
--grants Permission=Grantee_Type=Grantee_ID
    [Permission=Grantee_Type=Grantee_ID  ...]
```

Each value contains the following elements:

- **Permission** – Specifies the granted permissions. Can be set to `read`, `readacl`, `writeacl`, or `full`.
- **Grantee_Type** – Specifies how to identify the grantee. Can be set to `uri`, `emailaddress`, or `id`.
- **Grantee_ID** – Specifies the grantee based on `Grantee_Type`.
  - `uri` – The group's URI. For more information, see [Who is a grantee?](#)
  - `emailaddress` – The account's email address.
  - `id` – The account's canonical ID.

For more information about Amazon S3 access control, see [Access control](#).

The following example copies an object into a bucket. It grants read permissions on the object to everyone, and full permissions (`read`, `readacl`, and `writeacl`) to the account associated with `user@example.com`. 

```bash
$ aws s3 cp . s3://my-bucket/path --include "*.txt" --exclude "MyFile*.txt"

$ aws s3 cp . s3://my-bucket/path --include "*.txt" --exclude "MyFile*.txt" --include "MyFile?.txt"
```
You can also specify a nondefault storage class (REDUCED_REDUNDANCY or STANDARD_IA) for objects that you upload to Amazon S3. To do this, use the --storage-class option.

```bash
$ aws s3 cp file.txt s3://my-bucket/ --storage-class REDUCED_REDUNDANCY
```

**recursive**

When you use this option, the command is performed on all files or objects under the specified directory or prefix. The following example deletes s3://my-bucket/path and all of its contents.

```bash
$ aws s3 rm s3://my-bucket/path --recursive
```

**Resources**

**AWS CLI reference:**

- `aws s3`
- `aws s3 cp`
- `aws s3 mb`
- `aws s3 mv`
- `aws s3 ls`
- `aws s3 rb`
- `aws s3 rm`
- `aws s3 sync`

**Service reference:**

- [Working with Amazon S3 buckets](https://docs.aws.amazon.com/AmazonS3/latest/userguide/working-with-buckets.html) in the *Amazon Simple Storage Service User Guide*
- [Working with Amazon S3 objects](https://docs.aws.amazon.com/AmazonS3/latest/userguide/working-with-objects.html) in the *Amazon Simple Storage Service User Guide*
- [Listing keys hierarchically using a prefix and delimiter](https://docs.aws.amazon.com/AmazonS3/latest/userguide/working-with-objects.html#list-objects) in the *Amazon Simple Storage Service User Guide*
Use API-Level (s3api) commands with the AWS CLI

The API-level commands (contained in the s3api command set) provide direct access to the Amazon Simple Storage Service (Amazon S3) APIs, and enable some operations that are not exposed in the high-level s3 commands. These commands are the equivalent of the other AWS services that provide API-level access to the services' functionality. For more information on the s3 commands, see Use high-level (s3) commands with the AWS CLI

This topic provides examples that demonstrate how to use the lower-level commands that map to the Amazon S3 APIs. In addition, you can find examples for each S3 API command in the s3api section of the AWS CLI version 2 reference guide.

Topics

- Prerequisites
- Apply a custom ACL
- Configure a logging policy
- Resources

Prerequisites

To run the s3api commands, you need to:

- Install and configure the AWS CLI. For more information, see the section called “Install/Update” and Authentication and access credentials.
- The profile that you use must have permissions that allow the AWS operations performed by the examples.
- Understand these Amazon S3 terms:
  - Bucket – A top-level Amazon S3 folder.
  - Prefix – An Amazon S3 folder in a bucket.
  - Object – Any item that's hosted in an Amazon S3 bucket.
Apply a custom ACL

With high-level commands, you can use the `--acl` option to apply predefined access control lists (ACLs) to Amazon S3 objects. But you can't use that command to set bucket-wide ACLs. However, you can do this by using the `put-bucket-acl` API-level command.

The following example shows how to grant full control to two AWS users (`user1@example.com` and `user2@example.com`) and read permission to everyone. The identifier for "everyone" comes from a special URI that you pass as a parameter.

```
$ aws s3api put-bucket-acl --bucket MyBucket --grant-full-control
'emailaddress="user1@example.com",emailaddress="user2@example.com"' --grant-read
'uri="http://acs.amazonaws.com/groups/global/AllUsers"
```

For details about how to construct the ACLs, see PUT Bucket acl in the Amazon Simple Storage Service API Reference. The s3api ACL commands in the CLI, such as put-bucket-acl, use the same shorthand argument notation.

Configure a logging policy

The API command `put-bucket-logging` configures a bucket logging policy.

In the following example, the AWS user `user@example.com` is granted full control over the log files, and all users have read access to them. Notice that the `put-bucket-acl` command is also required to grant the Amazon S3 log delivery system (specified by a URI) the permissions needed to read and write the logs to the bucket.

```
$ aws s3api put-bucket-acl --bucket MyBucket --grant-read-acp 'URI="http://acs.amazonaws.com/groups/s3/LogDelivery"' --grant-write 'URI="http://acs.amazonaws.com/groups/s3/LogDelivery"'
$ aws s3api put-bucket-logging --bucket MyBucket --bucket-logging-status file://logging.json
```

The `logging.json` file in the previous command has the following content.

```
{
   "LoggingEnabled": {
      "TargetBucket": "MyBucket",
      "TargetPrefix": "MyBucketLogs/",
      "TargetGrants": [ { 
```
"Grantee": {
    "Type": "AmazonCustomerByEmail",
    "EmailAddress": "user@example.com"
},
"Permission": "FULL_CONTROL"
},
{
    "Grantee": {
        "Type": "Group",
        "URI": "http://acs.amazonaws.com/groups/global/AllUsers"
    },
    "Permission": "READ"
}
]}
}

Resources

AWS CLI reference:

- [aws_s3api](#)
- [aws_s3api_put-bucket-acl](#)
- [aws_s3api_put-bucket-logging](#)

Service reference:

- [Working with Amazon S3 buckets](#) in the *Amazon Simple Storage Service User Guide*
- [Working with Amazon S3 objects](#) in the *Amazon Simple Storage Service User Guide*
- [Listing keys hierarchically using a prefix and delimiter](#) in the *Amazon Simple Storage Service User Guide*
- [Abort multipart uploads to an S3 bucket using the AWS SDK for .NET (low-level)](#) in the *Amazon Simple Storage Service User Guide*

Amazon S3 bucket lifecycle operations scripting example

This topic uses a bash scripting example for Amazon S3 bucket lifecycle operations using the AWS Command Line Interface (AWS CLI). This scripting example uses the [aws_s3api](#) set of commands. Shell scripts are programs designed to run in a command line interface.
Before you start

Before you can run any of the below examples, the following things need to be completed.

- Install and configure the AWS CLI. For more information, see the section called “Install/Update” and Authentication and access credentials.
- The profile that you use must have permissions that allow the AWS operations performed by the examples.
- As an AWS best practice, grant this code least privilege, or only the permissions required to perform a task. For more information, see Grant Least Privilege in the IAM User Guide.
- This code has not been tested in all AWS Regions. Some AWS services are available only in specific Regions. For more information, see Service Endpoints and Quotas in the AWS General Reference Guide.
- Running this code can result in charges to your AWS account. It is your responsibility to ensure that any resources created by this script are removed when you are done with them.

The Amazon S3 service uses the following terms:

- Bucket — A top level Amazon S3 folder.
- Prefix — An Amazon S3 folder in a bucket.
- Object — Any item hosted in an Amazon S3 bucket.

About this example

This example demonstrates how to interact with some of the basic Amazon S3 operations using a set of functions in shell script files. The functions are located in the shell script file named bucket-operations.sh. You can call these functions in another file. Each script file contains comments describing each of the functions.
To see the intermediate results of each step, run the script with a `-i` parameter. You can view the current status of the bucket or its contents using the Amazon S3 console. The script only proceeds to the next step when you press `enter` at the prompt.

For the full example and downloadable script files, see Amazon S3 Bucket Lifecycle Operations in the AWS Code Examples Repository on GitHub.

Files

The example contains the following files:

**bucket-operations.sh**

This main script file can be sourced from another file. It includes functions that perform the following tasks:

- Creating a bucket and verifying that it exists
- Copying a file from the local computer to a bucket
- Copying a file from one bucket location to a different bucket location
- Listing the contents of a bucket
- Deleting a file from a bucket
- Deleting a bucket

View the code for `bucket-operations.sh` on GitHub.

**test-bucket-operations.sh**

The shell script file `test-bucket-operations.sh` demonstrates how to call the functions by sourcing the `bucket-operations.sh` file and calling each of the functions. After calling functions, the test script removes all resources that it created.

View the code for `test-bucket-operations.sh` on GitHub.

**awsdocs-general.sh**

The script file `awsdocs-general.sh` holds general purpose functions used across advanced code examples for the AWS CLI.

View the code for `awsdocs-general.sh` on GitHub.
References

AWS CLI reference:

- aws_s3api
- aws_s3api_create-bucket
- aws_s3api_copy-object
- aws_s3api_delete-bucket
- aws_s3api_delete-object
- aws_s3api_head-bucket
- aws_s3api_list-objects
- aws_s3api_put-object

Other reference:

- Working with Amazon S3 buckets in the Amazon Simple Storage Service User Guide
- Working with Amazon S3 objects in the Amazon Simple Storage Service User Guide
- To view and contribute to AWS SDK and AWS CLI code examples, see the AWS Code Examples Repository on GitHub.

Use Amazon SNS with the AWS CLI

You can access the features of Amazon Simple Notification Service (Amazon SNS) using the AWS Command Line Interface (AWS CLI). To list the AWS CLI commands for Amazon SNS, use the following command.

```bash
aws sns help
```

Before you run any commands, set your default credentials. For more information, see Configure the AWS CLI.

This topic shows examples of AWS CLI commands that perform common tasks for Amazon SNS.

Topics

- Create a topic
Create a topic

To create a topic, use the `sns create-topic` command and specify the name to assign to the topic.

```bash
$ aws sns create-topic --name my-topic
{
}
```

Make a note of the response's TopicArn, which you use later to publish a message.

Subscribe to a topic

To subscribe to a topic, use the `sns subscribe` command.

The following example specifies the email protocol and an email address for the notification-endpoint.

```bash
$ aws sns subscribe --topic-arn arn:aws:sns:us-west-2:123456789012:my-topic --protocol email --notification-endpoint sananvi@example.com
{
    "SubscriptionArn": "pending confirmation"
}
```

AWS immediately sends a confirmation message by email to the address you specified in the subscribe command. The email message has the following text.

```
You have chosen to subscribe to the topic:
To confirm this subscription, click or visit the following link (If this was in error no action is necessary):
Confirm subscription
```
After the recipient clicks the **Confirm subscription** link, the recipient's browser displays a notification message with information similar to the following.

```
Subscription confirmed!

You have subscribed saanvi@example.com to the topic:my-topic.

Your subscription's id is:

If it was not your intention to subscribe, click here to unsubscribe.
```

**Publish to a topic**

To send a message to all subscribers of a topic, use the `sns publish` command.

The following example sends the message "Hello World!" to all subscribers of the specified topic.

```

{  
   "MessageId": "4e41661d-5eec-5ddf-8dab-2c867EXAMPLE"
}
```

In this example, AWS sends an email message with the text "Hello World!" to saanvi@example.com.

**Unsubscribe from a topic**

To unsubscribe from a topic and stop receiving messages published to that topic, use the `sns unsubscribe` command and specify the ARN of the topic you want to unsubscribe from.

```
```

To verify that you successfully unsubscribed, use the `sns list-subscriptions` command to confirm that the ARN no longer appears in the list.

```
$ aws sns list-subscriptions
```
Delete a topic

To delete a topic, run the `sns delete-topic` command.

```bash
```

To verify that AWS successfully deleted the topic, use the `sns list-topics` command to confirm that the topic no longer appears in the list.

```bash
$ aws sns list-topics
```

### AWS CLI command examples

The code examples in this topic show you how to use the AWS Command Line Interface with AWS.

**Actions** are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

**Scenarios** are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

**Cross-service examples** are sample applications that work across multiple AWS services.

**Examples**
- [Actions and scenarios using AWS CLI](#)

### Actions and scenarios using AWS CLI

The following code examples show how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS services.

**Actions** are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

**Scenarios** are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.
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• Amazon DocumentDB examples using AWS CLI
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• Amazon EMR examples using AWS CLI
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• Amazon GameLift examples using AWS CLI
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- Device Advisor examples using AWS CLI
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- AWS IoT Greengrass examples using AWS CLI
- AWS IoT Greengrass V2 examples using AWS CLI
- AWS IoT Jobs SDK release examples using AWS CLI
- AWS IoT SiteWise examples using AWS CLI
- AWS IoT Things Graph examples using AWS CLI
- AWS IoT Wireless examples using AWS CLI
- Amazon IVS examples using AWS CLI
- Amazon IVS Chat examples using AWS CLI
- Amazon IVS Real-Time Streaming examples using AWS CLI
- Kinesis examples using AWS CLI
- Firehose examples using AWS CLI
- AWS KMS examples using AWS CLI
- Lake Formation examples using AWS CLI
- Lambda examples using AWS CLI
- License Manager examples using AWS CLI
- Lightsail examples using AWS CLI
- Macie examples using AWS CLI
- Amazon Managed Grafana examples using AWS CLI
- MediaConnect examples using AWS CLI
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- MediaLive examples using AWS CLI
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- MediaPackage VOD examples using AWS CLI
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• Amazon RDS examples using AWS CLI
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• Amazon Redshift examples using AWS CLI
• Amazon Rekognition examples using AWS CLI
• AWS RAM examples using AWS CLI
• Resource Explorer examples using AWS CLI
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• Resource Groups Tagging API examples using AWS CLI
• AWS RoboMaker examples using AWS CLI
• Route 53 examples using AWS CLI
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• Amazon S3 examples using AWS CLI
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• Secrets Manager examples using AWS CLI
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• Shield examples using AWS CLI
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• Snowball examples using AWS CLI
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• Storage Gateway examples using AWS CLI
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• Amazon Transcribe examples using AWS CLI
• Amazon Translate examples using AWS CLI
• Trusted Advisor examples using AWS CLI
• Verified Permissions examples using AWS CLI
• VPC Lattice examples using AWS CLI
• AWS WAFV2 examples using AWS CLI
• Amazon WorkDocs examples using AWS CLI
• Amazon WorkMail examples using AWS CLI
• Amazon WorkMail Message Flow examples using AWS CLI
• WorkSpaces examples using AWS CLI
• X-Ray examples using AWS CLI
ACM examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with ACM.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- [Actions](#)

**Actions**

**Add tags to a certificate**

The following code example shows how to add tags to ACM certificates.

**AWS CLI**

To add tags to an existing ACM Certificate

The following `add-tags-to-certificate` command adds two tags to the specified certificate. Use a space to separate multiple tags:

```
aws acm add-tags-to-certificate --certificate-arn arn:aws:acm:region:account:certificate/12345678-1234-1234-1234-123456789012 --tags Key=Admin,Value=Alice Key=Purpose,Value=Website
```

- For API details, see [AddTagsToCertificate](#) in *AWS CLI Command Reference*.

**Delete a certificate**

The following code example shows how to delete ACM certificates.
AWS CLI

To delete an ACM certificate from your account

The following delete-certificate command deletes the certificate with the specified ARN:

```
aws acm delete-certificate --certificate-arn
arn:aws:acm:region:account:certificate/12345678-1234-1234-1234-123456789012
```

- For API details, see [DeleteCertificate](#) in *AWS CLI Command Reference*.

Describe a certificate

The following code example shows how to describe ACM certificates.

AWS CLI

To retrieve the fields contained in an ACM certificate

The following describe-certificate command retrieves all of the fields for the certificate with the specified ARN:

```
aws acm describe-certificate --certificate-arn
arn:aws:acm:region:account:certificate/12345678-1234-1234-1234-123456789012
```

Output similar to the following is displayed:

```
{
    "Certificate": {
        "CreatedAt": 1446835267.0,
        "DomainName": "www.example.com",
        "DomainValidationOptions": [
            {
                "DomainName": "www.example.com",
                "ValidationDomain": "www.example.com",
                "ValidationEmails": [
                    "hostmaster@example.com",
                    "admin@example.com",
                    "owner@example.com.whoisprivacyservice.org",
                    "tech@example.com.whoisprivacyservice.org"
                ]
            }
        ]
    }
}
```
"admin@example.com.whoisprivacyservice.org",
  "postmaster@example.com",
  "webmaster@example.com",
  "administrator@example.com"
]
},
{
  "DomainName": "www.example.net",
  "ValidationDomain": "www.example.net",
  "ValidationEmails": [
    "postmaster@example.net",
    "admin@example.net",
    "owner@example.net.whoisprivacyservice.org",
    "tech@example.net.whoisprivacyservice.org",
    "admin@example.net.whoisprivacyservice.org",
    "hostmaster@example.net",
    "administrator@example.net",
    "webmaster@example.net"
  ]
},
"InUseBy": [],
"IssuedAt": 1446835815.0,
"Issuer": "Amazon",
"KeyAlgorithm": "RSA-2048",
"NotAfter": 1478433600.0,
"NotBefore": 1446768000.0,
"SignatureAlgorithm": "SHA256WITHRSA",
"Status": "ISSUED",
"Subject": "CN=www.example.com",
"SubjectAlternativeNames": [
  "www.example.com",
  "www.example.net"
]
}

For API details, see DescribeCertificate in AWS CLI Command Reference.

Export a certificate

The following code example shows how to Export an ACM certificate.
AWS Command Line Interface

To export a private certificate issued by a private CA.

The following export-certificate command exports a private certificate, certificate chain, and private key to your display:

```
aws acm export-certificate --certificate-arn
```

To export the certificate, chain, and private key to a local file, use the following command:

```
aws acm export-certificate --certificate-arn
```

- For API details, see ExportCertificate in AWS CLI Command Reference.

Get a certificate

The following code example shows how to get ACM certificates.

AWS Command Line Interface

To retrieve an ACM certificate

The following get-certificate command retrieves the certificate for the specified ARN and the certificate chain:

```
aws acm get-certificate --certificate-arn
arn:aws:acm:region:account:certificate/12345678-1234-1234-1234-123456789012
```

Output similar to the following is displayed:

```
{
    "Certificate": "-----BEGIN CERTIFICATE-----
    MIICiTCCAfICCQDK6m7oRw0uX0jANBkgqkhkiG9w0BAQUFADCBiDELMAkGA1UEBhMC
    VVMxCzAJBgNVBAgTAldBMRAwDgYDVQQHEwdTZWF0dGxlMQ8wDQYDVQQKEwZBbWF6
    b24xFDASBgNVBAsTC0lBTSBDdb52sz2x1MRIwEAYDVQQDEw1UXN0Q21sYWMxHzAd
    BgkqkhkiG9w0BCQEWE5vb251QGtYXpwbX5jb20wHhcNMTEwNDI1MjA0NTIxWhcN
    MTIwNDI0MjA0NTIxWhcN
    "-----END CERTIFICATE-----
    MIICiTCCAfICCQDK6m7oRw0uX0jANBkgqkhkiG9w0BAQUFADCBiDELMAkGA1UEBhMC
    VVMxCzAJBgNVBAgTAldBMRAwDgYDVQQHEwdTZWF0dGxlMQ8wDQYDVQQKEwZBbWF6
    b24xFDASBgNVBAsTC0lBTSBDdb52sz2x1MRIwEAYDVQQDEw1UXN0Q21sYWMxHzAd
    BgkqkhkiG9w0BCQEWE5vb251QGtYXpwbX5jb20wHhcNMTEwNDI1MjA0NTIxWhcN
    MTIwNDI0MjA0NTIxWhcN
```

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VQQHEwdTZWF0dGx1MQ8wDQYDVQQKEwZBbWF6b24xFDASBgNVBAsTC0lBTSBDdb25z
b2x1MRIwEAYDVQQDEw1UZXN0Q21sYWMxHZadBkgkqkhk1G9w0BCQEWS6g5vb251QGFt
YXpvbi5jb20wZ8wDQYJKoZIhvcNAQEBBQADgY0AMIGJAoGBAMd0dn+a4GmWlWJ
21uUSfweVesySwC2XAD4znB+BLYg9-la60piwzZ3G93vUEI03yNoH/f0wYK8m9T
rDHUDUZg3qX4waLG53Mq377Wgc/MbQITxOUSQv7c7ugFFDzQ6BZswY6786m86gpE
Ibb30jHznzcvarAQHhd1QWIMm2nAgMBAEwDQYJKoZIhvcNAQEFBQADgYEAeCu4
nUhhVVxYUntneD9+h8Mq96q6+auNKyExzyLwax1Aoo7TJHidbtS4J31iNmZgXL0Fkb
FFBjvSfpJIl300zbhNYS5f6GuoEDFMJ10ZxBHjJnyp3780D8uTs7fLjv79LjSTb
NYiytVbZPQUQ5Yaxu2jXnivmww3irszaEXAMPLE=
-----END CERTIFICATE-----

"CertificateChain": "-----BEGIN CERTIFICATE-----
MIICiTCCAFICQQ6m7oRw0uX0jANBgkqkhk1G9w0BAQUFADCBiDELMAkGA1UEBhMC
VVMxZzA3BgNVAgTAldBMRAwDgYDVQQHEwTZWFD0dGx1MQ8wDQYDVQQKEwZBbWF6
b24xFDASBgNVBAsTC0lBTSBDdb25z2x1MRIwEAYDVQQDEw1UZXN0Q21sYWMxHZadBkgkqkhk1G9w0BCQEWS6g5vb251QGFtYXpvbi5jb20wZ8wDQYJKoZIhvcNAQEBBQADgY0AMIGJAoGBAMd0dn+a4GmWlWJ
21uUSfweVesySwC2XAD4znB+BLYg9-la60piwzZ3G93vUEI03yNoH/f0wYK8m9T
rDHUDUZg3qX4waLG53Mq377Wgc/MbQITxOUSQv7c7ugFFDzQ6BZswY6786m86gpE
Ibb30jHznzcvarAQHhd1QWIMm2nAgMBAEwDQYJKoZIhvcNAQEFBQADgYEAeCu4
nUhhVVxYUntneD9+h8Mq96q6+auNKyExzyLwax1Aoo7TJHidbtS4J31iNmZgXL0Fkb
FFBjvSfpJIl300zbhNYS5f6GuoEDFMJ10ZxBHjJnyp3780D8uTs7fLjv79LjSTb
NYiytVbZPQUQ5Yaxu2jXnivmww3irszaEXAMPLE=
-----END CERTIFICATE-----

-------BEGIN CERTIFICATE-------
MIICiTCCAFICQQ6m7oRw0uX0jANBgkqkhk1G9w0BAQUFADCBiDELMAkGA1UEBhMC
VVMxZzA3BgNVAgTAldBMRAwDgYDVQQHEwTZWFD0dGx1MQ8wDQYDVQQKEwZBbWF6
b24xFDASBgNVBAsTC0lBTSBDdb25z2x1MRIwEAYDVQQDEw1UZXN0Q21sYWMxHZadBkgkqkhk1G9w0BCQEWS6g5vb251QGFtYXpvbi5jb20wZ8wDQYJKoZIhvcNAQEBBQADgY0AMIGJAoGBAMd0dn+a4GmWlWJ
21uUSfweVesySwC2XAD4znB+BLYg9-la60piwzZ3G93vUEI03yNoH/f0wYK8m9T
rDHUDUZg3qX4waLG53Mq377Wgc/MbQITxOUSQv7c7ugFFDzQ6BZswY6786m86gpE
Ibb30jHznzcvarAQHhd1QWIMm2nAgMBAEwDQYJKoZIhvcNAQEFBQADgYEAeCu4
nUhhVVxYUntneD9+h8Mq96q6+auNKyExzyLwax1Aoo7TJHidbtS4J31iNmZgXL0Fkb
FFBjvSfpJIl300zbhNYS5f6GuoEDFMJ10ZxBHjJnyp3780D8uTs7fLjv79LjSTb
NYiytVbZPQUQ5Yaxu2jXnivmww3irszaEXAMPLE=
-----END CERTIFICATE-----

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Import certificates

The following code example shows how to import ACM certificates.

AWS CLI

To import a certificate into ACM.

The following import-certificate command imports a certificate into ACM. Replace the file names with your own:

```bash
```

For API details, see `ImportCertificate` in AWS CLI Command Reference.

List certificates

The following code example shows how to list ACM certificates.

AWS CLI

To list the ACM certificates for an AWS account

```bash
aws acm list-certificate
```
The following `list-certificates` command lists the ARNs of the certificates in your account:

```bash
aws acm list-certificates
```

The preceding command produces output similar to the following:

```json
{
    "CertificateSummaryList": [
        {
            "DomainName": "www.example.com"
        },
        {
            "DomainName": "www.example.net"
        }
    ]
}
```

You can decide how many certificates you want to display each time you call `list-certificates`. For example, if you have four certificates and you want to display no more than two at a time, set the `max-items` argument to 2 as in the following example:

```bash
aws acm list-certificates --max-items 2
```

Two certificate ARNs and a `NextToken` value will be displayed:

```json
"CertificateSummaryList": [
    {
        "DomainName": "www.example.com"
    },
    {
        "DomainName": "www.example.net"
    }
]
```
To display the next two certificates in your account, set this NextToken value in your next call:

```
aws acm list-certificates --max-items 2 --next-token 9f4d9f69-275a-41fe-b58e-2b837bd9ba48
```

You can filter your output by using the `certificate-statuses` argument. The following command displays certificates that have a `PENDING_VALIDATION` status:

```
aws acm list-certificates --certificate-statuses PENDING_VALIDATION
```

You can also filter your output by using the `includes` argument. The following command displays certificates filtered on the following properties. The certificates to be displayed:

- Specify that the RSA algorithm and a 2048 bit key are used to generate key pairs.
- Contain a Key Usage extension that specifies that the certificates can be used to create digital signatures.
- Contain an Extended Key Usage extension that specifies that the certificates can be used for code signing.

```
aws acm list-certificates --max-items 10 --includes
extendedKeyUsage=CODE_SIGNING,keyUsage=DIGITAL_SIGNATURE,keyTypes=RSA_2048
```

- For API details, see `ListCertificates` in `AWS CLI Command Reference`.

**List tags for a certificate**

The following code example shows how to list tags for ACM certificates.

**AWS CLI**

**To list the tags applied to an ACM Certificate**

The following `list-tags-for-certificate` command lists the tags applied to a certificate in your account:

```
aws acm list-tags-for-certificate --certificate-arn
arn:aws:acm:region:account:certificate/12345678-1234-1234-1234-123456789012
```
The preceding command produces output similar to the following:

```json
{
  "Tags": [
    {
      "Value": "Website",
      "Key": "Purpose"
    },
    {
      "Value": "Alice",
      "Key": "Admin"
    }
  ]
}
```

- For API details, see [ListTagsForCertificate](https://docs.aws.amazon.com/cli/latest/userguide/cli-aws-list-tags-for-certificate.html) in *AWS CLI Command Reference*.

### Remove tags from a certificate

The following code example shows how to remove tags from ACM certificates.

**AWS CLI**

#### To remove a tag from an ACM Certificate

The following `remove-tags-from-certificate` command removes two tags from the specified certificate. Use a space to separate multiple tags:

```
aws acm remove-tags-from-certificate --certificate-arn
arn:aws:acm:region:account:certificate/12345678-1234-1234-1234-123456789012 --tags
Key=Admin,Value=Alice Key=Purpose,Value=Website
```

- For API details, see [RemoveTagsFromCertificate](https://docs.aws.amazon.com/cli/latest/userguide/cli-aws-remove-tags-from-certificate.html) in *AWS CLI Command Reference*.

### Request validation of a certificate

The following code example shows how to request validation of ACM certificates.

**AWS CLI**

#### To request a new ACM certificate
The following `request-certificate` command requests a new certificate for the www.example.com domain using DNS validation:

```
aws acm request-certificate --domain-name www.example.com --validation-method DNS
```

You can enter an idempotency token to distinguish between calls to `request-certificate`:

```
aws acm request-certificate --domain-name www.example.com --validation-method DNS --idempotency-token 91adc45q
```

You can enter one or more subject alternative names to request a certificate that will protect more than one apex domain:

```
aws acm request-certificate --domain-name example.com --validation-method DNS --idempotency-token 91adc45q --subject-alternative-names www.example.net
```

You can enter an alternative name that can also be used to reach your website:

```
aws acm request-certificate --domain-name example.com --validation-method DNS --idempotency-token 91adc45q --subject-alternative-names www.example.com
```

You can use an asterisk (*) as a wildcard to create a certificate for several subdomains in the same domain:

```
aws acm request-certificate --domain-name example.com --validation-method DNS --idempotency-token 91adc45q --subject-alternative-names *.example.com
```

You can also enter multiple alternative names:

```
aws acm request-certificate --domain-name example.com --validation-method DNS --subject-alternative-names b.example.com c.example.com d.example.com
```

If you are using email for validation, you can enter domain validation options to specify the domain to which the validation email will be sent:

```
aws acm request-certificate --domain-name example.com --validation-method EMAIL --subject-alternative-names www.example.com --domain-validation-options DomainName=example.com,ValidationDomain=example.com
```
The following command opts out of certificate transparency logging when you request a new certificate:

```bash
aws acm request-certificate --domain-name www.example.com --validation-method DNS --options CertificateTransparencyLoggingPreference=DISABLED --idempotency-token 184627
```

- For API details, see RequestCertificate in AWS CLI Command Reference.

### Resend validation email for a certificate

The following code example shows how to resend validation email for ACM certificates.

**AWS CLI**

**To resend validation email for your ACM certificate request**

The following resend-validation-email command tells the Amazon certificate authority to send validation email to the appropriate addresses:

```bash
```

- For API details, see ResendValidationEmail in AWS CLI Command Reference.

### Update a certificate

The following code example shows how to update an ACM certificate.

**AWS CLI**

**To update the certificate options**

The following update-certificate-options command opts out of certificate transparency logging:

```bash
```
Alexa for Business examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Alexa for Business.

**Actions** are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

**Scenarios** are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**
- **Actions**

**Actions**

**create-network-profile**

The following code example shows how to use `create-network-profile`.

**AWS CLI**

**To create a network profile**

The following `create-network-profile` example creates a network profile with the specified details.

```
aws alexaforbusiness create-network-profile \
  --network-profile-name Network123 \
  --ssid Janenetwork \
  --security-type WPA2_PSK \
  --current-password 12345
```

**Output:**


For more information, see Managing Network Profiles in the Alexa for Business Administration Guide.

- For API details, see CreateNetworkProfile in AWS CLI Command Reference.

**delete-network-profile**

The following code example shows how to use delete-network-profile.

**AWS CLI**

**To delete a network profile**

The following delete-network-profile example deletes the specified network profile.

```
aws alexaforbusiness delete-network-profile \
   --network-profile-arn arn:aws:a4b:us-east-1:123456789012:network-profile/\n   a1b2c3d4-5678-90ab-cdef-EXAMPLE11111/a1b2c3d4-5678-90ab-cdef-EXAMPLE22222
```

This command produces no output.

For more information, see Managing Network Profiles in the Alexa for Business Administration Guide.

- For API details, see DeleteNetworkProfile in AWS CLI Command Reference.

**get-network-profile**

The following code example shows how to use get-network-profile.

**AWS CLI**

**To get network profile details**

The following get-network-profile example retrieves details of the specified network profile.
aws alexaforbusiness get-network-profile \
   --network-profile-arn arn:aws:a4b:us-east-1:123456789012:network-profile/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111

Output:

```json
{
   "NetworkProfile": {
      "NetworkProfileArn": "arn:aws:a4b:us-east-1:123456789012:network-profile/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111/a1b2c3d4-5678-90ab-cdef-EXAMPLE22222",
      "NetworkProfileName": "Networkprofile",
      "Ssid": "Janenetwork",
      "SecurityType": "WPA2_PSK",
      "CurrentPassword": "12345"
   }
}
```

For more information, see Managing Network Profiles in the Alexa for Business Administration Guide.

- For API details, see GetNetworkProfile in AWS CLI Command Reference.

**search-network-profiles**

The following code example shows how to use search-network-profiles.

**AWS CLI**

**To search network profiles**

The following search-network-profiles example lists network profiles that meet a set of filter and sort criteria. In this example, all profiles are listed.

aws alexaforbusiness search-network-profiles

Output:

```json
{
   "NetworkProfiles": [
      {
```
For more information, see Managing Network Profiles in the Alexa for Business Administration Guide.

- For API details, see SearchNetworkProfiles in AWS CLI Command Reference.

update-network-profile

The following code example shows how to use update-network-profile.

AWS CLI

To update a network profile

The following update-network-profile example updates the specified network profile by using the network profile ARN.

```bash
aws alexaforbusiness update-network-profile
```
--network-profile-arn arn:aws:a4b:us-east-1:123456789012:network-profile/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111
--network-profile-name Networkprofile

This command produces no output.

For more information, see Managing Network Profiles in the Alexa for Business Administration Guide.

- For API details, see UpdateNetworkProfile in AWS CLI Command Reference.

API Gateway examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with API Gateway.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**
- **Actions**

**Actions**

**Add a response from an AWS service integrated with a method**

The following code example shows how to add a response from an AWS service integrated with an API Gateway method.

**AWS CLI**

*To create an integration response as the default response with a mapping template defined*

Command:
To create an integration response with a regex of 400 and a statically defined header value

Command:

```
aws apigateway put-integration-response --rest-api-id 1234123412 --resource-id a1b2c3 --http-method GET --status-code 400 --selection-pattern 400 --response-parameters '{"method.response.header.custom-header": "custom-value"}'
```

- For API details, see `PutIntegrationResponse` in *AWS CLI Command Reference*.

Add an HTTP method to a REST resource

The following code example shows how to add an HTTP method to an API Gateway REST resource.

**AWS CLI**

**To create a method for a resource in an API with no authorization, no API key, and a custom method request header**

Command:

```
aws apigateway put-method --rest-api-id 1234123412 --resource-id a1b2c3 --http-method PUT --authorization-type "NONE" --no-api-key-required --request-parameters "method.request.header.custom-header=false"
```

- For API details, see `PutMethod` in *AWS CLI Command Reference*.

Add an HTTP response to a REST resource

The following code example shows how to add an HTTP response to an API Gateway REST resource.

**AWS CLI**

**To create a method response under the specified status code with a custom method response header**

```
**Command:**

```bash
aws apigateway put-method-response --rest-api-id 1234123412 --resource-id a1b2c3 --http-method GET --status-code 400 --response-parameters "method.response.header.custom-header=false"
```

- For API details, see [PutMethodResponse](#) in *AWS CLI Command Reference*.

---

**Create a REST API**

The following code example shows how to create an API Gateway REST API.

**AWS CLI**

- **To create an API**

  Command:

  ```bash
  aws apigateway create-rest-api --name 'My First API' --description 'This is my first API'
  ```

- **To create a duplicate API from an existing API**

  Command:

  ```bash
  aws apigateway create-rest-api --name 'Copy of My First API' --description 'This is a copy of my first API' --clone-from 1234123412
  ```

  - For API details, see [CreateRestApi](#) in *AWS CLI Command Reference*.

---

**Create a REST resource**

The following code example shows how to create an API Gateway REST resource.

**AWS CLI**

- **To create a resource in an API**

  Command:
aws apigateway create-resource --rest-api-id 1234123412 --parent-id a1b2c3 --path-part 'new-resource'

• For API details, see CreateResource in AWS CLI Command Reference.

Delete a REST API

The following code example shows how to delete an API Gateway REST API.

AWS CLI

To delete an API

Command:

aws apigateway delete-rest-api --rest-api-id 1234123412

• For API details, see DeleteRestApi in AWS CLI Command Reference.

Delete a deployment

The following code example shows how to delete a deployment.

AWS CLI

To delete a deployment in an API

Command:

aws apigateway delete-deployment --rest-api-id 1234123412 --deployment-id a1b2c3

• For API details, see DeleteDeployment in AWS CLI Command Reference.

Deploy a REST API

The following code example shows how to deploy an API Gateway REST API.

AWS CLI

To deploy the configured resources for an API to a new Stage
Command:

```bash
aws apigateway create-deployment --rest-api-id 1234123412 --stage-name dev --stage-description 'Development Stage' --description 'First deployment to the dev stage'
```

To deploy the configured resources for an API to an existing stage

Command:

```bash
aws apigateway create-deployment --rest-api-id 1234123412 --stage-name dev --stage-description 'Second deployment to the dev stage'
```

To deploy the configured resources for an API to an existing stage with Stage Variables

```bash
aws apigateway create-deployment --rest-api-id 1234123412 --stage-name dev --description 'Third deployment to the dev stage' --variables key='value',otherKey='otherValue'
```

- For API details, see [CreateDeployment](https://aws.amazon.com/cli/reference/apigateway/create-deployment) in [AWS CLI Command Reference](https).

Get REST resources

The following code example shows how to get API Gateway REST resources.

**AWS CLI**

To get a list of resources for a REST API

Command:

```bash
aws apigateway get-resources --rest-api-id 1234123412
```

Output:

```json
{
   "items": [
      {
         "path": "/resource/subresource",
         "resourceMethods": {
            "POST": {}
         },
         "id": "024ace",
         "methodResponses": {
            "200": {
               "statusCode": 200
            }
         }
      }
   ]
}
```
Get base path mapping

The following code example shows how to get an API Gateway base path mapping.

**AWS CLI**

**To get the base path mapping for a custom domain name**

Command:

```bash
aws apigateway get-base-path-mapping --domain-name subdomain.domain.tld --base-path v1
```

Output:

```json
{
  "basePath": "v1",
  "restApiId": "1234w4321e",
  "stage": "api"
}
```


Integrate a method with an AWS service

The following code example shows how to integrate an API Gateway method with an AWS service.

**AWS CLI**

**To create a MOCK integration request**

Command:
aws apigateway put-integration --rest-api-id 1234123412 --resource-id a1b2c3 --http-method GET --type MOCK --request-templates '{ "application/json": "{"statusCode": 200}" }'

To create a HTTP integration request

Command:

aws apigateway put-integration --rest-api-id 1234123412 --resource-id a1b2c3 --http-method GET --type HTTP --integration-http-method GET --uri 'https://domain.tld/path'

To create an AWS integration request with a Lambda Function endpoint

Command:


- For API details, see PutIntegration in AWS CLI Command Reference.

List REST APIs

The following code example shows how to list API Gateway REST APIs.

AWS CLI

To get a list of REST APIs

Command:

aws apigateway get-rest-apis

Output:

{
   "items": [
      {
         "createdDate": 1438884790,
         "id": "12s44z21rb",
         "name": "My First API"
      }
   ]
}
For API details, see GetRestApis in AWS CLI Command Reference.

**Update base path mapping**

The following code example shows how to update an API Gateway base path mapping.

**AWS CLI**

**To change the base path for a custom domain name**

Command:

```
aws apigateway update-base-path-mapping --domain-name api.domain.tld --base-path prod --patch-operations op='replace',path='/basePath',value='v1'
```

Output:

```
{
  "basePath": "v1",
  "restApiId": "1234123412",
  "stage": "api"
}
```

For API details, see UpdateBasePathMapping in AWS CLI Command Reference.

**create-api-key**

The following code example shows how to use create-api-key.

**AWS CLI**

**To create an API key that is enabled for an existing API and Stage**

Command:

```
aws apigateway create-api-key --name 'Dev API Key' --description 'Used for development' --enabled --stage-keys restApiId='a1b2c3d4e5',stageName='dev'
```
create-authorizer

The following code example shows how to use `create-authorizer`.

**AWS CLI**

To create a token based API Gateway Custom Authorizer for the API

Command:

```
```

Output:

```
{
   "authType": "custom",
   "name": "First_Token_Custom_Authorizer",
   "authorizerResultTtlInSeconds": 300,
   "identitySource": "method.request.header.Authorization",
   "type": "TOKEN",
   "id": "z40xj0"
}
```

To create a Cognito User Pools based API Gateway Custom Authorizer for the API

Command:

```
```

Output:


```json
{
    "authType": "cognito_user_pools",
    "identitySource": "method.request.header.Authorization",
    "name": "First_Cognito_Custom_Authorizer",
    "providerARNs": [
        "arn:aws:cognito-idp:us-east-1:342398297714:userpool/us-east-1_qWbZzQhzE"
    ],
    "type": "COGNITO_USER_POOLS",
    "id": "5yid1t"
}
```

- For API details, see [CreateAuthorizer](#) in [AWS CLI Command Reference](#).

**create-base-path-mapping**

The following code example shows how to use create-base-path-mapping.

**AWS CLI**

**To create the base path mapping for a custom domain name**

Command:

```bash
aws apigateway create-base-path-mapping --domain-name subdomain.domain.tld --rest-api-id 1234123412 --stage prod --base-path v1
```

- For API details, see [CreateBasePathMapping](#) in [AWS CLI Command Reference](#).

**create-domain-name**

The following code example shows how to use create-domain-name.

**AWS CLI**

**To create the custom domain name**

Command:

```bash
aws apigateway create-domain-name --domain-name 'my.domain.tld' --certificate-name 'my.domain.tld cert' --certificate-arn 'arn:aws:acm:us-east-1:012345678910:certificate/fb1b9770-a305-495d-aefb-27e5e101ff3'
```
create-model

The following code example shows how to use create-model.

AWS CLI

To create a model for an API

Command:

```bash
aws apigateway create-model --rest-api-id 1234123412 --name 'firstModel' --description 'The First Model' --content-type 'application/json' --schema '{ "$schema": "http://json-schema.org/draft-04/schema#", "title": "firstModel", "type": "object", "properties": { "firstProperty": { "type": "object", "properties": { "key": { "type": "string" } } } } }
```

Output:

```
{
    "contentType": "application/json",
    "description": "The First Model",
    "name": "firstModel",
    "id": "2rzg0l",
    "schema": "{"$schema": "http://json-schema.org/draft-04/schema#", "title": "firstModel", "type": "object", "properties": { "firstProperty": { "type": "object", "properties": { "key": { "type": "string" } } } } }"
}
```

• For API details, see CreateDomainName in AWS CLI Command Reference.

create-stage

The following code example shows how to use create-stage.

AWS CLI

To create a stage in an API which will contain an existing deployment

Command:
To create a stage in an API which will contain an existing deployment and custom Stage Variables

Command:

```
aws apigateway create-stage --rest-api-id 1234123412 --stage-name 'dev' --description 'Development stage' --deployment-id a1b2c3 --variables key='value',otherKey='otherValue'
```

* For API details, see [CreateStage](https://docs.aws.amazon.com/cli/latest/reference/apigateway/create-stage.html) in *AWS CLI Command Reference*.

**create-usage-plan**

The following code example shows how to use `create-usage-plan`.

**AWS CLI**

To create a usage plan with throttle and quota limits that resets at the beginning of the month

Command:

```
aws apigateway create-usage-plan --name "New Usage Plan" --description "A new usage plan" --throttle burstLimit=10,rateLimit=5 --quota limit=500,offset=0,period.MONTH
```

* For API details, see [CreateUsagePlan](https://docs.aws.amazon.com/cli/latest/reference/apigateway/create-usage-plan.html) in *AWS CLI Command Reference*.

**create-usage-plan-key**

The following code example shows how to use `create-usage-plan-key`.

**AWS CLI**

Associate an existing API key with a Usage Plan

Command:
aws apigateway create-usage-plan-key --usage-plan-id a1b2c3 --key-type "API_KEY" --key-id 4vq3yryqm5

- For API details, see CreateUsagePlanKey in AWS CLI Command Reference.

delete-api-key

The following code example shows how to use delete-api-key.

AWS CLI

To delete an API key

Command:

aws apigateway delete-api-key --api-key 8bk1k8bl1k3sB38D9B3l0enyWT8c09B30lkq0blk

- For API details, see DeleteApiKey in AWS CLI Command Reference.

delete-authorizer

The following code example shows how to use delete-authorizer.

AWS CLI

To delete a Custom Authorizer in an API

Command:

aws apigateway delete-authorizer --rest-api-id 1234123412 --authorizer-id 7gkfbo

- For API details, see DeleteAuthorizer in AWS CLI Command Reference.

delete-base-path-mapping

The following code example shows how to use delete-base-path-mapping.

AWS CLI

To delete a base path mapping for a custom domain name
Command:

```bash
aws apigateway delete-base-path-mapping --domain-name 'api.domain.tld' --base-path 'dev'
```

- For API details, see [DeleteBasePathMapping](#) in *AWS CLI Command Reference*.

**delete-client-certificate**

The following code example shows how to use `delete-client-certificate`.

**AWS CLI**

**To delete a client certificate**

Command:

```bash
aws apigateway delete-client-certificate --client-certificate-id a1b2c3
```

- For API details, see [DeleteClientCertificate](#) in *AWS CLI Command Reference*.

**delete-domain-name**

The following code example shows how to use `delete-domain-name`.

**AWS CLI**

**To delete a custom domain name**

Command:

```bash
aws apigateway delete-domain-name --domain-name 'api.domain.tld'
```

- For API details, see [DeleteDomainName](#) in *AWS CLI Command Reference*.

**delete-integration**

The following code example shows how to use `delete-integration`.
AWS CLI

**To delete an integration for a given resource and method in an API**

Command:

```bash
aws apigateway delete-integration --rest-api-id 1234123412 --resource-id a1b2c3 --http-method GET
```

- For API details, see [DeleteIntegration](#) in *AWS CLI Command Reference*.

**delete-integration-response**

The following code example shows how to use `delete-integration-response`.

AWS CLI

**To delete an integration response for a given resource, method, and status code in an API**

Command:

```bash
aws apigateway delete-integration-response --rest-api-id 1234123412 --resource-id a1b2c3 --http-method GET --status-code 200
```

- For API details, see [DeleteIntegrationResponse](#) in *AWS CLI Command Reference*.

**delete-method**

The following code example shows how to use `delete-method`.

AWS CLI

**To delete a method for the given resource in an API**

Command:

```bash
aws apigateway delete-method --rest-api-id 1234123412 --resource-id a1b2c3 --http-method GET
```

- For API details, see [DeleteMethod](#) in *AWS CLI Command Reference*. 
delete-method-response

The following code example shows how to use delete-method-response.

AWS CLI

To delete a method response for the given resource, method, and status code in an API

Command:

```
aws apigateway delete-method-response --rest-api-id 1234123412 --resource-id a1b2c3 --http-method GET --status-code 200
```

- For API details, see DeleteMethodResponse in AWS CLI Command Reference.

delete-model

The following code example shows how to use delete-model.

AWS CLI

To delete a model in the given API

Command:

```
aws apigateway delete-model --rest-api-id 1234123412 --model-name 'customModel'
```

- For API details, see DeleteModel in AWS CLI Command Reference.

delete-resource

The following code example shows how to use delete-resource.

AWS CLI

To delete a resource in an API

Command:

```
aws apigateway delete-resource --rest-api-id 1234123412 --resource-id a1b2c3
```

- For API details, see DeleteResource in AWS CLI Command Reference.
delete-stage

The following code example shows how to use `delete-stage`.

**AWS CLI**

To delete a stage in an API

Command:

```bash
aws apigateway delete-stage --rest-api-id 1234123412 --stage-name 'dev'
```

- For API details, see [DeleteStage](#) in *AWS CLI Command Reference*.

delete-usage-plan

The following code example shows how to use `delete-usage-plan`.

**AWS CLI**

To delete a Usage Plan

Command:

```bash
aws apigateway delete-usage-plan --usage-plan-id a1b2c3
```

- For API details, see [DeleteUsagePlan](#) in *AWS CLI Command Reference*.

delete-usage-plan-key

The following code example shows how to use `delete-usage-plan-key`.

**AWS CLI**

To remove an API key from a Usage Plan

Command:

```bash
aws apigateway delete-usage-plan-key --usage-plan-id a1b2c3 --key-id 1NbjQzMReAkeEQPNAW8r3dXsU2rDD7fc7f2Sipnu
```

- For API details, see [DeleteUsagePlanKey](#) in *AWS CLI Command Reference*.
flush-stage-authorizers-cache

The following code example shows how to use flush-stage-authorizers-cache.

**AWS CLI**

**To flush all authorizer cache entries on a stage**

Command:

```python
aws apigateway flush-stage-authorizers-cache --rest-api-id 1234123412 --stage-name dev
```

- For API details, see [FlushStageAuthorizersCache](#) in *AWS CLI Command Reference*.

flush-stage-cache

The following code example shows how to use flush-stage-cache.

**AWS CLI**

**To flush the cache for an API's stage**

Command:

```python
aws apigateway flush-stage-cache --rest-api-id 1234123412 --stage-name dev
```

- For API details, see [FlushStageCache](#) in *AWS CLI Command Reference*.

generate-client-certificate

The following code example shows how to use generate-client-certificate.

**AWS CLI**

**To create a Client-Side SSL Certificate**

Command:

```python
aws apigateway generate-client-certificate --description 'My First Client Certificate'
```
get-account

The following code example shows how to use get-account.

**AWS CLI**

**To get API Gateway account settings**

Command:

```bash
aws apigateway get-account
```

Output:

```json
{
    "cloudwatchRoleArn": "arn:aws:iam::123412341234:role/APIGatewayToCloudWatchLogsRole",
    "throttleSettings": {
        "rateLimit": 500.0,
        "burstLimit": 1000
    }
}
```

For API details, see [GetAccount](https://docs.aws.amazon.com/cli/latest/reference/apigateway/get-account.html) in *AWS CLI Command Reference*.

get-api-key

The following code example shows how to use get-api-key.

**AWS CLI**

**To get the information about a specific API key**

Command:

```bash
aws apigateway get-api-key --api-key 8bk1k8b1l3sB38D9B310enyWT8c09B30lkq0blk
```

Output:
get-api-keys

The following code example shows how to use get-api-keys.

AWS CLI

To get the list of API keys

Command:

```bash
aws apigateway get-api-keys
```

Output:

```json
{
  "items": [
    {
      "description": "My first key",
      "enabled": true,
      "stageKeys": [
        "a1b2c3d4e5/dev",
        "e5d4c3b2a1/dev"
      ],
      "lastUpdatedDate": 1456184515,
      "createdDate": 1456184452,
      "id": "8bklk8bl1k3sB38D9B3l0enyWT8c09B30lkq0blk",
      "name": "My key"
    }
  ]
}
```
get-authorizer

The following code example shows how to use get-authorizer.

AWS CLI

To get the API Gateway per-API Authorizer settings

Command:

```bash
aws apigateway get-authorizer --rest-api-id 1234123412 --authorizer-id gfi4n3
```

Output:

```json
{
    "authorizerResultTtlInSeconds": 300,
    "name": "MyAuthorizer",
    "type": "TOKEN",
    "identitySource": "method.request.header.Authorization",
    "id": "gfi4n3"
}
```


get-authorizers

The following code example shows how to use get-authorizers.

AWS CLI

To get the list of authorizers for a REST API

```bash
aws apigateway get-authorizers --rest-api-id 1234123412
```

Output:

```json
{
    "items": [        {
        "authorizerResultTtlInSeconds": 300,
        "name": "MyAuthorizer",
        "type": "TOKEN",
        "identitySource": "method.request.header.Authorization",
        "id": "gfi4n3"
    }
]
```

Command:

```bash
aws apigateway get-authorizers --rest-api-id 1234123412
```

Output:

```json
{
   "items": [
      {
         "name": "MyAuthorizer",
         "authorizerResultTtlInSeconds": 300,
         "identitySource": "method.request.header.Authorization",
         "type": "TOKEN",
         "id": "gfi4n3"
      }
   ]
}
```

- For API details, see [GetAuthorizers](#) in *AWS CLI Command Reference*.

get-base-path-mappings

The following code example shows how to use `get-base-path-mappings`.

**AWS CLI**

**To get the base path mappings for a custom domain name**

Command:

```bash
aws apigateway get-base-path-mappings --domain-name subdomain.domain.tld
```

Output:

```json
{
   "items": [
      {
         "basePath": "(none)"
      }
   ]
}
```
For API details, see [GetBasePathMappings](aws cli command reference) in *AWS CLI Command Reference*.

**get-client-certificate**

The following code example shows how to use `get-client-certificate`.

**AWS CLI**

**To get a client certificate**

Command:

```bash
aws apigateway get-client-certificate --client-certificate-id a1b2c3
```

For API details, see [GetClientCertificate](aws cli command reference) in *AWS CLI Command Reference*.

**get-client-certificates**

The following code example shows how to use `get-client-certificates`.

**AWS CLI**

**To get a list of client certificates**

Command:

```bash
aws apigateway get-client-certificates
```

Output:
get-deployment

The following code example shows how to use `get-deployment`.

**AWS CLI**

**To get information about a deployment**

Command:

```bash
aws apigateway get-deployment --rest-api-id 1234123412 --deployment-id ztt4m2
```

Output:

```json
{
   "description": "myDeployment",
   "id": "ztt4m2",
   "createdDate": 1455218022
}
```

• For API details, see [GetDeployment](#) in [AWS CLI Command Reference](#).

get-deployments

The following code example shows how to use `get-deployments`.

```json
{
   "items": [
      {
         "pemEncodedCertificate": "-----BEGIN CERTIFICATE-----<certificate content>-----END CERTIFICATE-----",
         "clientCertificateId": "a1b2c3",
         "expirationDate": 1483556561,
         "description": "My Client Certificate",
         "createdDate": 1452020561
      }
   ]
}
```

• For API details, see [GetClientCertificates](#) in [AWS CLI Command Reference](#).
AWS CLI

To get a list of deployments for a REST API

Command:

```
aws apigateway get-deployments --rest-api-id 1234123412
```

Output:

```
{
   "items": [
   {
      "createdDate": 1453797217,
      "id": "0a2b4c",
      "description": "Deployed my API for the first time"
   }
   ]
}
```

- For API details, see GetDeployments in AWS CLI Command Reference.

get-domain-name

The following code example shows how to use get-domain-name.

AWS CLI

To get information about a custom domain name

Command:

```
aws apigateway get-domain-name --domain-name api.domain.tld
```

Output:

```
{
   "domainName": "api.domain.tld",
   "distributionDomainName": "d1a2f3a4c506d.cloudflare.net",
   "certificateName": "uploadedCertificate",
}
```
The `get-domain-names` command is used to list custom domain names associated with an API Gateway stage.

**AWS CLI**

**To get a list of custom domain names**

Command:

```
aws apigateway get-domain-names
```

Output:

```
{
    "items": [
    {
        "distributionDomainName": "d9511k3l09bkd.cloudfront.net",
        "certificateUploadDate": 1452812505,
        "certificateName": "my_custom_domain-certificate",
        "domainName": "subdomain.domain.tld"
    }
    ]
}
```

For API details, see [GetDomainNames](#) in [AWS CLI Command Reference](#).

The `get-export` command is used to get the JSON Swagger template for a stage.

**AWS CLI**

**To get the JSON Swagger template for a stage**

Command:
aws apigateway get-export --rest-api-id a1b2c3d4e5 --stage-name dev --export-type swagger /path/to/filename.json

To get the JSON Swagger template + API Gateway Extensions for a stage

Command:

aws apigateway get-export --parameters extensions='integrations' --rest-api-id a1b2c3d4e5 --stage-name dev --export-type swagger /path/to/filename.json

To get the JSON Swagger template + Postman Extensions for a stage

Command:

aws apigateway get-export --parameters extensions='postman' --rest-api-id a1b2c3d4e5 --stage-name dev --export-type swagger /path/to/filename.json

• For API details, see GetExport in AWS CLI Command Reference.

get-integration

The following code example shows how to use get-integration.

AWS CLI

To get the integration configuration for a HTTP method defined under a REST API's resource

Command:

aws apigateway get-integration --rest-api-id 1234123412 --resource-id y9h6rt --http-method GET

Output:

{
    "httpMethod": "POST",
    "integrationResponses": {
        "200": {
            "responseTemplates": {
                "application/json": null
            }
        }
    }
}
get-integration-response

The following code example shows how to use get-integration-response.

AWS CLI

To get the integration response configuration for a HTTP method defined under a REST API's resource

Command:

```
aws apigateway get-integration-response --rest-api-id 1234123412 --resource-id y9h6rt --http-method GET --status-code 200
```

Output:

```
{
    "statusCode": "200",
    "responseTemplates": {
        "application/json": null
    }
}
```

get-method

The following code example shows how to use get-method.

For API details, see GetIntegrationResponse in AWS CLI Command Reference.

get-integration-response

For API details, see GetIntegration in AWS CLI Command Reference.
AWS CLI

To get the method resource configuration for a HTTP method defined under a REST API's resource

Command:

```
aws apigateway get-method --rest-api-id 1234123412 --resource-id y9h6rt --http-method GET
```

Output:

```
{
    "apiKeyRequired": false,
    "httpMethod": "GET",
    "methodIntegration": {
        "integrationResponses": {
            "200": {
                "responseTemplates": {
                    "application/json": null
                },
                "statusCode": "200"
            }
        },
        "cacheKeyParameters": [],
        "httpMethod": "POST",
        "cacheNamespace": "y9h6rt",
        "type": "AWS"
    },
    "requestParameters": {},
    "methodResponses": {
        "200": {
            "responseModels": {
                "application/json": "Empty"
            },
            "statusCode": "200"
        }
    },
    "authorizationType": "NONE"
}
```
get-method-response

The following code example shows how to use get-method-response.

AWS CLI

To get the method response resource configuration for a HTTP method defined under a REST API's resource

Command:

```
aws apigateway get-method-response --rest-api-id 1234123412 --resource-id y9h6rt --http-method GET --status-code 200
```

Output:

```json
{
    "responseModels": {
        "application/json": "Empty"
    },
    "statusCode": "200"
}
```

- For API details, see GetMethodResponse in AWS CLI Command Reference.

get-model

The following code example shows how to use get-model.

AWS CLI

To get the configuration for a model defined under a REST API

Command:

```
aws apigateway get-model --rest-api-id 1234123412 --model-name Empty
```

Output:
get-model-template

The following code example shows how to use get-model-template.

AWS CLI

To get the mapping template for a model defined under a REST API

Command:

```bash
aws apigateway get-model-template --rest-api-id 1234123412 --model-name Empty
```

Output:

```json
{
    "value": "#set($inputRoot = $input.path('$'))\n{ }
}
```

• For API details, see GetModelTemplate in AWS CLI Command Reference.

get-models

The following code example shows how to use get-models.

AWS CLI

To get a list of models for a REST API

Command:
aws apigateway get-models --rest-api-id 1234123412

Output:

```json
{
  "items": [
    {
      "description": "This is a default error schema model",
      "schema": "{\n        "$schema": "http://json-schema.org/draft-04/schema#
        ,\n        "title": "Error Schema",
        "type": "object",
        "properties": {
          "message": { "type": "string" }
        }
      },\n      "contentType": "application/json",
      "id": "7tpbze",
      "name": "Error"
    },
    {
      "description": "This is a default empty schema model",
      "schema": "{\n        "$schema": "http://json-schema.org/draft-04/schema#
        ,\n        "title": "Empty Schema",
        "type": "object"
      },\n      "contentType": "application/json",
      "id": "etd5w5",
      "name": "Empty"
    }
  ]
}
```

• For API details, see GetModels in AWS CLI Command Reference.

get-resource

The following code example shows how to use get-resource.

AWS CLI

To get information about a resource

Command:

```bash
aws apigateway get-resource --rest-api-id 1234123412 --resource-id zwo0y3
```

Output:
For API details, see **GetResource** in *AWS CLI Command Reference*.

### get-rest-api

The following code example shows how to use `get-rest-api`.

**AWS CLI**

#### To get information about an API

Command:

```bash
aws apigateway get-rest-api --rest-api-id 1234123412
```

Output:

```json
{
   "name": "myAPI",
   "id": "o1y243m4f5",
   "createdDate": 1453416433
}
```

For API details, see **GetRestApi** in *AWS CLI Command Reference*.

### get-sdk

The following code example shows how to use `get-sdk`.

**AWS CLI**

#### To get the Android SDK for a REST API stage

Command:
aws apigateway get-sdk --rest-api-id 1234123412 --stage-name dev --sdk-type android --parameters groupId='com.mycompany',invokerPackage='com.mycompany.clientsdk',artifactId='Mycompany-client',artifactVersion='1.0.0' /path/to/android_sdk.zip

Output:

```
{
    "contentType": "application/octet-stream",
    "contentDisposition": "attachment; filename="android_2016-02-22_23-52Z.zip""
}
```

**To get the IOS SDK for a REST API stage**

Command:

```
aws apigateway get-sdk --rest-api-id 1234123412 --stage-name dev --sdk-type objectivec --parameters classPrefix='myprefix' /path/to/iOS_sdk.zip
```

Output:

```
{
    "contentType": "application/octet-stream",
    "contentDisposition": "attachment; filename="objectivec_2016-02-22_23-52Z.zip"
}
```

**To get the Javascript SDK for a REST API stage**

Command:

```
aws apigateway get-sdk --rest-api-id 1234123412 --stage-name dev --sdk-type javascript /path/to/javascript_sdk.zip
```

Output:

```
{
    "contentType": "application/octet-stream",
    "contentDisposition": "attachment; filename="javascript_2016-02-22_23-52Z.zip"
}
```
get-stage

The following code example shows how to use get-stage.

AWS CLI

To get information about an API's stage

Command:

```bash
aws apigateway get-stage --rest-api-id 1234123412 --stage-name dev
```

Output:

```
{
    "stageName": "dev",
    "cacheClusterSize": "0.5",
    "cacheClusterEnabled": false,
    "cacheClusterStatus": "NOTAVAILABLE",
    "deploymentId": "rbh1fj",
    "lastUpdatedDate": 1466802961,
    "createdDate": 1460682074,
    "methodSettings": {
        "": {
            "cacheTtlInSeconds": 300,
            "loggingLevel": "INFO",
            "dataTraceEnabled": false,
            "metricsEnabled": true,
            "unauthorizedCacheControlHeaderStrategy": "SUCCEED_WITH_RESPONSE_HEADER",
            "throttlingRateLimit": 500.0,
            "cacheDataEncrypted": false,
            "cachingEnabled": false,
            "throttlingBurstLimit": 1000,
            "requireAuthorizationForCacheControl": true
        },
        "~1resource/GET": {
            "cacheTtlInSeconds": 300,
            "loggingLevel": "INFO",
            "dataTraceEnabled": false,
```
"metricsEnabled": true,
"unauthorizedCacheControlHeaderStrategy": "SUCCEED_WITH_RESPONSE_HEADER",
"throttlingRateLimit": 500.0,
"cacheDataEncrypted": false,
"cachingEnabled": false,
"throttlingBurstLimit": 1000,
"requireAuthorizationForCacheControl": true
}
}
}

- For API details, see [GetStage](#) in *AWS CLI Command Reference*.

**get-stages**

The following code example shows how to use `get-stages`.

**AWS CLI**

**To get the list of stages for a REST API**

Command:

```
aws apigateway get-stages --rest-api-id 1234123412
```

Output:

```json
{
   "item": [
   {
      "stageName": "dev",
      "cacheClusterSize": "0.5",
      "cacheClusterEnabled": true,
      "cacheClusterStatus": "AVAILABLE",
      "deploymentId": "123h64",
      "lastUpdatedDate": 1456185138,
      "createdDate": 1453589092,
      "methodSettings": {
         "~1resource~1subresource/POST": {
            "cacheTtlInSeconds": 300,
            "loggingLevel": "INFO",
            ...
         }
      }
   }
   ]
}
```


```
"dataTraceEnabled": true,
"metricsEnabled": true,
"throttlingRateLimit": 500.0,
"cacheDataEncrypted": false,
"cachingEnabled": false,
"throttlingBurstLimit": 1000
```

• For API details, see [GetStages](#) in *[AWS CLI Command Reference](#)*.

**get-usage**

The following code example shows how to use `get-usage`.

**AWS CLI**

To get the usage details for a Usage Plan

Command:

`aws apigateway get-usage --usage-plan-id a1b2c3 --start-date "2016-08-16" --end-date "2016-08-17"`

• For API details, see [GetUsage](#) in *[AWS CLI Command Reference](#)*.

**get-usage-plan**

The following code example shows how to use `get-usage-plan`.

**AWS CLI**

To get the details of a Usage Plan

Command:

`aws apigateway get-usage-plan --usage-plan-id a1b2c3`

• For API details, see [GetUsagePlan](#) in *[AWS CLI Command Reference](#)*.
get-usage-plan-key

The following code example shows how to use get-usage-plan-key.

AWS CLI

To get the details of an API key associated with a Usage Plan

Command:

```bash
aws apigateway get-usage-plan-key --usage-plan-id a1b2c3 --key-id 1NbjQzMReAkeEQPNAW8r3dXsU2rDD7fc7f2Sipnu
```

- For API details, see `GetUsagePlanKey` in *AWS CLI Command Reference*.

get-usage-plan-keys

The following code example shows how to use get-usage-plan-keys.

AWS CLI

To get the list of API keys associated with a Usage Plan

Command:

```bash
aws apigateway get-usage-plan-keys --usage-plan-id a1b2c3
```

- For API details, see `GetUsagePlanKeys` in *AWS CLI Command Reference*.

get-usage-plans

The following code example shows how to use get-usage-plans.

AWS CLI

To get the details of all Usage Plans

Command:

```bash
aws apigateway get-usage-plans
```
import-rest-api

The following code example shows how to use `import-rest-api`.

**AWS CLI**

To import a Swagger template and create an API

Command:

```bash
aws apigateway import-rest-api --body 'file:///path/to/API_Swagger_template.json'
```

- For API details, see [ImportRestApi](https://docs.aws.amazon.com/cli/latest/reference/apigateway/import-rest-api.html) in *AWS CLI Command Reference*.

put-rest-api

The following code example shows how to use `put-rest-api`.

**AWS CLI**

To overwrite an existing API using a Swagger template

Command:

```bash
aws apigateway put-rest-api --rest-api-id 1234123412 --mode overwrite --body 'fileb:///path/to/API_Swagger_template.json'
```

To merge a Swagger template into an existing API

Command:

```bash
aws apigateway put-rest-api --rest-api-id 1234123412 --mode merge --body 'fileb:///path/to/API_Swagger_template.json'
```

- For API details, see [PutRestApi](https://docs.aws.amazon.com/cli/latest/reference/apigateway/put-rest-api.html) in *AWS CLI Command Reference*.

test-invoke-authorizer

The following code example shows how to use `test-invoke-authorizer`.
AWS CLI

To test invoke a request to a Custom Authorizer including the required header and value

Command:

```bash
aws apigateway test-invoke-authorizer --rest-api-id 1234123412 --authorizer-id 5yid1t --headers Authorization='Value'
```

- For API details, see [TestInvokeAuthorizer](#) in [AWS CLI Command Reference](#).

**test-invoke-method**

The following code example shows how to use test-invoke-method.

AWS CLI

To test invoke the root resource in an API by making a GET request

Command:

```bash
aws apigateway test-invoke-method --rest-api-id 1234123412 --resource-id av15sg8fw8 --http-method GET --path-with-query-string '/'
```

To test invoke a sub-resource in an API by making a GET request with a path parameter value specified

Command:

```bash
aws apigateway test-invoke-method --rest-api-id 1234123412 --resource-id 3gapai --http-method GET --path-with-query-string '/pets/1'
```

- For API details, see [TestInvokeMethod](#) in [AWS CLI Command Reference](#).

**update-account**

The following code example shows how to use update-account.

AWS CLI

To change the IAM Role ARN for logging to CloudWatch Logs
Command:

```
aws apigateway update-account --patch-operations op='replace',path='/cloudwatchRoleArn',value='arn:aws:iam::123412341234:role/APIGatewayToCloudWatchLogs'
```

Output:

```
{
    "cloudwatchRoleArn": "arn:aws:iam::123412341234:role/APIGatewayToCloudWatchLogs",
    "throttleSettings": {
        "rateLimit": 1000.0,
        "burstLimit": 2000
    }
}
```

- For API details, see [UpdateAccount](#) in [AWS CLI Command Reference](#).

**update-api-key**

The following code example shows how to use update-api-key.

**AWS CLI**

**To change the name for an API Key**

Command:

```
aws apigateway update-api-key --api-key sNvjQDMReA1eEQPNAW8r37XsU2rDD7fc7m2SiMnu --patch-operations op='replace',path='/name',value='newName'
```

Output:

```
{
    "description": "currentDescription",
    "enabled": true,
    "stageKeys": [
        "41t2j324r5/dev"
    ],
    "lastUpdatedDate": 1470086052,
    "createdAt": 1445460347,
```
To disable the API Key

Command:

```bash
aws apigateway update-api-key --api-key sNvjQDMReAlvEQPNa2r3dXsU2rrD7fcjm2SiMnu --patch-operations op='replace',path='enabled',value='false'
```

Output:

```json
{
  "description": "currentDescription",
  "enabled": false,
  "stageKeys": [
    "41t2j324r5/dev"
  ],
  "lastUpdatedDate": 1470086052,
  "createdDate": 1445460347,
  "id": "sNvjQDMReAlvEQPNa2r3dXsU2rrD7fcjm2SiMnu",
  "name": "newName"
}
```

- For API details, see [UpdateApiKey](#) in [AWS CLI Command Reference](#).

**update-authorizer**

The following code example shows how to use `update-authorizer`.

**AWS CLI**

To change the name of the Custom Authorizer

Command:

```bash
aws apigateway update-authorizer --rest-api-id 1234123412 --authorizer-id gfi4n3 --patch-operations op='replace',path='/name',value='testAuthorizer'
```

Output:
To change the Lambda Function that is invoked by the Custom Authorizer

Command:

```
```

Output:

```
{
    "authType": "custom",
    "name": "testAuthorizer",
    "authorizerResultTtlInSeconds": 300,
    "identitySource": "method.request.header.Authorization",
    "type": "TOKEN",
    "id": "gfi4n3"
}
```

- For API details, see [UpdateAuthorizer](#) in *AWS CLI Command Reference*.

**update-client-certificate**

The following code example shows how to use `update-client-certificate`.

**AWS CLI**

To update the description of a client certificate
Command:

```
aws apigateway update-client-certificate --client-certificate-id a1b2c3 --patch-operations op='replace',path='/description',value='My new description'
```

- For API details, see UpdateClientCertificate in AWS CLI Command Reference.

update-deployment

The following code example shows how to use update-deployment.

AWS CLI

**To change the description of a deployment**

Command:

```
aws apigateway update-deployment --rest-api-id 1234123412 --deployment-id ztt4m2 --patch-operations op='replace',path='/description',value='newDescription'
```

Output:

```
{
    "description": "newDescription",
    "id": "ztt4m2",
    "createdDate": 1455218022
}
```

- For API details, see UpdateDeployment in AWS CLI Command Reference.

update-domain-name

The following code example shows how to use update-domain-name.

AWS CLI

**To change the certificate name for a custom domain name**

The following update-domain-name example changes the certificate name for a custom domain.
aws apigateway update-domain-name \
   --domain-name api.domain.tld \
   --patch-operations op='replace',path='/certificateArn',value='arn:aws:acm:us-west-2:111122223333:certificate/CERTEXAMPLE123EXAMPLE'

Output:

```
{
   "domainName": "api.domain.tld",
   "distributionDomainName": "d123456789012.cloudfront.net",
   "certificateUploadDate": 1462565487
}
```

For more information, see Set up Custom Domain Name for an API in API Gateway in the Amazon API Gateway Developer Guide.

- For API details, see UpdateDomainName in AWS CLI Command Reference.

**update-integration**

The following code example shows how to use update-integration.

**AWS CLI**

To add the 'Content-Type: application/json' Mapping Template configured with Input Passthrough

Command:

```
aws apigateway update-integration \
   --rest-api-id a1b2c3d4e5 \
   --resource-id a1b2c3 \
   --http-method POST \
   --patch-operations "op='add',path='/requestTemplates/application~1json'"
```

To update (replace) the 'Content-Type: application/json' Mapping Template configured with a custom template

Command:
aws apigateway update-integration \
   --rest-api-id a1b2c3d4e5 \
   --resource-id a1b2c3 \
   --http-method POST \
   --patch-operations "op='replace',path='/requestTemplates/application-1json',value={"example": "json"}"

To update (replace) a custom template associated with 'Content-Type: application/json' with Input Passthrough

Command:

aws apigateway update-integration \
   --rest-api-id a1b2c3d4e5 \
   --resource-id a1b2c3 \
   --http-method POST \
   --patch-operations "op='replace',path='requestTemplates/application-1json'"

To remove the 'Content-Type: application/json' Mapping Template

Command:

aws apigateway update-integration \
   --rest-api-id a1b2c3d4e5 \
   --resource-id a1b2c3 \
   --http-method POST \
   --patch-operations "op='remove',path='/requestTemplates/application-1json'"

For API details, see UpdateIntegration in AWS CLI Command Reference.

update-integration-response

The following code example shows how to use update-integration-response.

AWS CLI

To change an integration response header to have a static mapping of '*'

Command:

aws apigateway update-integration-response --rest-api-id 1234123412 --resource-id 3gapai --http-method GET --status-code 200 --patch-operations
To remove an integration response header

Command:

```bash
```

• For API details, see [UpdateIntegrationResponse](#) in [AWS CLI Command Reference](#).

**update-method**

The following code example shows how to use update-method.

**AWS CLI**

**Example 1: To modify a method to require an API key**

The following update-method example modifies the method to require an API key.

```bash
aws apigateway update-method \
    --rest-api-id 1234123412 \
    --resource-id a1b2c3 \
    --http-method GET \
    --patch-operations op="replace",path="/apiKeyRequired",value="true"
```

Output:

```json
{
}
```
Example 2: To modify a method to require IAM authorization

The following update-method example modifies the method to require IAM authorization.

```bash
aws apigateway update-method \
 --rest-api-id 1234123412 \
 --resource-id a1b2c3 \
 --http-method GET \
 --patch-operations op="replace",path="/authorizationType",value="AWS_IAM"
```

Output:

```json
{
  "httpMethod": "GET",
  "authorizationType": "AWS_IAM",
  "apiKeyRequired": true,
  "methodResponses": {
    "200": {
      "statusCode": "200",
      "responseModels": {}
    }
  },
  "methodIntegration": {
    "type": "AWS",
    "httpMethod": "POST",
    "passthroughBehavior": "WHEN_NO_MATCH",
    "contentHandling": "CONVERT_TO_TEXT",
    "timeoutInMillis": 29000,
    "cacheNamespace": "h7i8j9",
    "cacheKeyParameters": [],
    "integrationResponses": {
      "200": {
        "statusCode": "200",
        "responseTemplates": {}
      }
    }
  }
}
```
Example 3: To modify a method to require Lambda authorization

The following update-method example modifies the method to required Lambda authorization.

```bash/aws apigateway update-method --rest-api-id 1234123412 \  --resource-id a1b2c3 \  --http-method GET \  --patch-operations op="replace",path="/authorizationType",value="CUSTOM"  op="replace",path="/authorizerId",value="e4f5g6"
```

Output:

```json
{
  "httpMethod": "GET",
  "authorizationType": "CUSTOM",
}
```
"authorizerId": "e4f5g6",
"apiKeyRequired": false,
"methodResponses": {
  "200": {
    "statusCode": "200",
    "responseModels": {}
  }
},
"methodIntegration": {
  "type": "AWS",
  "httpMethod": "POST",
  "uri": "arn:aws:apigateway:us-east-1:lambda:path/2015-03-31/functions/
  "passthroughBehavior": "WHEN_NO_MATCH",
  "contentHandling": "CONVERT_TO_TEXT",
  "timeoutInMillis": 29000,
  "cacheNamespace": "h7i8j9",
  "cacheKeyParameters": [],
  "integrationResponses": {
    "200": {
      "statusCode": "200",
      "responseTemplates": {}
    }
  }
}
}

For more information, see Create, configure, and test usage plans using the API Gateway CLI and REST API and Controlling and managing access to a REST API in API Gateway in the Amazon API Gateway Developer Guide.

- For API details, see UpdateMethod in AWS CLI Command Reference.

update-method-response

The following code example shows how to use update-method-response.

AWS CLI

To create a new method response header for the 200 response in a method and define it as not required (default)

Command:
aws apigateway update-method-response --rest-api-id 1234123412 --resource-id a1b2c3 --http-method GET --status-code 200 --patch-operations op="add",path="/responseParameters/method.response.header.custom-header",value="false"

To delete a response model for the 200 response in a method

Command:

aws apigateway update-method-response --rest-api-id 1234123412 --resource-id a1b2c3 --http-method GET --status-code 200 --patch-operations op="remove",path="/responseModels/application~1json"

• For API details, see UpdateMethodResponse in AWS CLI Command Reference.

update-model

The following code example shows how to use update-model.

AWS CLI

To change the description of a model in an API

Command:

aws apigateway update-model --rest-api-id 1234123412 --model-name 'Empty' --patch-operations op=replace,path=/description,value='New Description'

To change the schema of a model in an API

Command:

aws apigateway update-model --rest-api-id 1234123412 --model-name 'Empty' --patch-operations op=replace,path=/schema,value='{"$schema": "http://json-schema.org/draft-04/schema#", "title": "Empty Schema", "type": "object" }'

• For API details, see UpdateModel in AWS CLI Command Reference.

update-resource

The following code example shows how to use update-resource.
AWS CLI

To move a resource and place it under a different parent resource in an API

Command:

```bash
aws apigateway update-resource --rest-api-id 1234123412 --resource-id 1a2b3c --patch-operations op=replace,path=/parentId,value='3c2b1a'
```

Output:

```json
{
    "path": "/resource",
    "pathPart": "resource",
    "id": "1a2b3c",
    "parentId": "3c2b1a"
}
```

To rename a resource (pathPart) in an API

Command:

```bash
aws apigateway update-resource --rest-api-id 1234123412 --resource-id 1a2b3c --patch-operations op=replace,path=/pathPart,value=newresourcename
```

Output:

```json
{
    "path": "/newresourcename",
    "pathPart": "newresourcename",
    "id": "1a2b3c",
    "parentId": "3c2b1a"
}
```

- For API details, see [UpdateResource](https://docs.aws.amazon.com/cli/latest/reference/apigateway/update-resource.html) in *AWS CLI Command Reference*.

update-rest-api

The following code example shows how to use `update-rest-api`. 
AWS CLI

To change the name of an API

Command:

```bash
aws apigateway update-rest-api --rest-api-id 1234123412 --patch-operations op=replace,path=/name,value='New Name'
```

To change the description of an API

Command:

```bash
aws apigateway update-rest-api --rest-api-id 1234123412 --patch-operations op=replace,path=/description,value='New Description'
```

- For API details, see UpdateRestApi in AWS CLI Command Reference.

update-stage

The following code example shows how to use update-stage.

AWS CLI

Example 1: To override the stage settings for a resource and method

The following update-stage example overrides the stage settings and turns off full request/response logging for a specific resource and method.

```bash
aws apigateway update-stage \
  --rest-api-id 1234123412 \
  --stage-name 'dev' \
  --patch-operations op=replace,path=~1resourceName/GET/logging/dataTrace,value=false
```

Output:

```json
{
    "deploymentId": "5ubd17",
    "stageName": "dev",
}
```
"cacheClusterEnabled": false,
"cacheClusterStatus": "NOT_AVAILABLE",
"methodSettings": {
  "~1resourceName/GET": {
    "metricsEnabled": false,
    "dataTraceEnabled": false,
    "throttlingBurstLimit": 5000,
    "throttlingRateLimit": 10000.0,
    "cachingEnabled": false,
    "cacheTtlInSeconds": 300,
    "cacheDataEncrypted": false,
    "requireAuthorizationForCacheControl": true,
    "unauthorizedCacheControlHeaderStrategy": "SUCCEED_WITH_RESPONSE_HEADER"
  }
},
"tracingEnabled": false,
"createdDate": "2022-07-18T10:11:18-07:00",
"lastUpdatedDate": "2022-07-18T10:19:04-07:00"
}

For more information, see Setting up a stage for a REST API in the Amazon API Gateway Developer Guide.

**Example 2: To update the stage settings for all resources and methods of an API stage**

The following update-stage example turns on full request/response logging for all resources and methods of an API stage.

```
aws apigateway update-stage \ 
  --rest-api-id 1234123412 \ 
  --stage-name 'dev' \ 
  --patch-operations 'op=replace,path=/*//*/logging/dataTrace,value=true'
```

**Output:**

```
{
  "deploymentId": "5ubd17",
  "stageName": "dev",
  "cacheClusterEnabled": false,
  "cacheClusterStatus": "NOT_AVAILABLE",
  "methodSettings": {
    "*/*": {
```
For more information, see [Setting up a stage for a REST API](https://docs.aws.amazon.com/apigateway/latest/developerguide/set-up-stage.html) in the *Amazon API Gateway Developer Guide*.

- For API details, see [UpdateStage](https://docs.aws.amazon.com/cli/latest/reference/apigateway/update-stage.html) in *AWS CLI Command Reference*.

**update-usage**

The following code example shows how to use `update-usage`.

**AWS CLI**

To temporarily modify the quota on an API key for the current period defined in the Usage Plan

Command:

```bash
aws apigateway update-usage --usage-plan-id a1b2c3 --key-id 1NbjQzMReAkeEQPNAW8r3dXsU2rDD7fc7f2Sipnu --patch-operations op="replace",path="/remaining",value="50"
```

- For API details, see [UpdateUsage](https://docs.aws.amazon.com/cli/latest/reference/apigateway/update-usage.html) in *AWS CLI Command Reference*.

**update-usage-plan**

The following code example shows how to use `update-usage-plan`.

```json
{
  "metricsEnabled": false,
  "dataTraceEnabled": true,
  "throttlingBurstLimit": 5000,
  "throttlingRateLimit": 10000.0,
  "cachingEnabled": false,
  "cacheTtlInSeconds": 300,
  "cacheDataEncrypted": false,
  "requireAuthorizationForCacheControl": true,
  "unauthorizedCacheControlHeaderStrategy": "SUCCEED_WITH_RESPONSE_HEADER"
}
```

For more information, see [Setting up a stage for a REST API](https://docs.aws.amazon.com/apigateway/latest/developerguide/set-up-stage.html) in the *Amazon API Gateway Developer Guide*.

- For API details, see [UpdateStage](https://docs.aws.amazon.com/cli/latest/reference/apigateway/update-stage.html) in *AWS CLI Command Reference*.
AWS CLI

To change the period defined in a Usage Plan

Command:

```bash
aws apigateway update-usage-plan --usage-plan-id a1b2c3 --patch-operations 
  op="replace",path="/quota/period",value="MONTH"
```

To change the quota limit defined in a Usage Plan

Command:

```bash
aws apigateway update-usage-plan --usage-plan-id a1b2c3 --patch-operations 
  op="replace",path="/quota/limit",value="500"
```

To change the throttle rate limit defined in a Usage Plan

Command:

```bash
aws apigateway update-usage-plan --usage-plan-id a1b2c3 --patch-operations 
  op="replace",path="/throttle/rateLimit",value="10"
```

To change the throttle burst limit defined in a Usage Plan

Command:

```bash
aws apigateway update-usage-plan --usage-plan-id a1b2c3 --patch-operations 
  op="replace",path="/throttle/burstLimit",value="20"
```

- For API details, see [UpdateUsagePlan](#) in AWS CLI Command Reference.

API Gateway HTTP and WebSocket API examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with API Gateway HTTP and WebSocket API.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.
Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics
- Actions

Actions

create-api

The following code example shows how to use create-api.

AWS CLI

To create an HTTP API

The following create-api example creates an HTTP API by using quick create. You can use quick create to create an API with an AWS Lambda or HTTP integration, a default catch-all route, and a default stage that is configured to automatically deploy changes. The following command uses quick create to create an HTTP API that integrates with a Lambda function.

```
aws apigatewayv2 create-api \
   --name my-http-api \
   --protocol-type HTTP \
```

Output:

```
{
   "ApiEndpoint": "https://a1b2c3d4.execute-api.us-west-2.amazonaws.com",
   "ApiId": "a1b2c3d4",
   "ApiKeySelectionExpression": "$request.header.x-api-key",
   "CreatedDate": "2020-04-08T19:05:45+00:00",
   "Name": "my-http-api",
   "ProtocolType": "HTTP",
   "RouteSelectionExpression": "$request.method $request.path"
}
```
For more information, see Developing an HTTP API in API Gateway in the Amazon API Gateway Developer Guide.

**To create a WebSocket API**

The following `create-api` example creates a WebSocket API with the specified name.

```bash
aws apigatewayv2 create-api \
   --name "myWebSocketApi" \
   --protocol-type WEBSOCKET \
   --route-selection-expression '$request.body.action'
```

Output:

```json
{
   "ApiKeySelectionExpression": "$request.header.x-api-key",
   "Name": "myWebSocketApi",
   "CreatedDate": "2018-11-15T06:23:51Z",
   "ProtocolType": "WEBSOCKET",
   "RouteSelectionExpression": "'$request.body.action'",
   "ApiId": "aabbccdde"
}
```

For more information, see Create a WebSocket API in API Gateway in the Amazon API Gateway Developer Guide.

- For API details, see CreateApi in AWS CLI Command Reference.

**create-api-mapping**

The following code example shows how to use `create-api-mapping`.

**AWS CLI**

**To create an API mapping for an API**

The following `create-api-mapping` example maps the test stage of an API to the `/myApi` path of the `regional.example.com` custom domain name.

```bash
aws apigatewayv2 create-api-mapping \
```

Actions and scenarios 459
--domain-name regional.example.com \ 
--api-mapping-key myApi \ 
--api-id a1b2c3d4 \ 
--stage test

Output:

{
   "ApiId": "a1b2c3d4",
   "ApiMappingId": "0qzs2sy7bh",
   "ApiMappingKey": "myApi",
   "Stage": "test"
}

For more information, see Setting up a regional custom domain name in API Gateway in the Amazon API Gateway Developer Guide.

- For API details, see CreateApiMapping in AWS CLI Command Reference.

create-authorizer

The following code example shows how to use create-authorizer.

AWS CLI

To create a JWT authorizer for an HTTP API

The following create-authorizer example creates a JWT authorizer that uses Amazon Cognito as an identity provider.

aws apigatewayv2 create-authorizer \ 
   --name my-jwt-authorizer \ 
   --api-id a1b2c3d4 \ 
   --authorizer-type JWT \ 
   --identity-source '$request.header.Authorization' \ 

Output:

{
"AuthorizerId": "a1b2c3",
"AuthorizerType": "JWT",
"IdentitySource": [
  "$request.header.Authorization"
],
"JwtConfiguration": {
  "Audience": [
    "123456abc"
  ],
  "Issuer": "https://cognito-idp.us-west-2.amazonaws.com/us-west-2_abc123"
},
"Name": "my-jwt-authorizer"
}

For more information, see Controlling access to HTTP APIs with JWT authorizers in the Amazon API Gateway Developer Guide.

- For API details, see CreateAuthorizer in AWS CLI Command Reference.

create-deployment

The following code example shows how to use create-deployment.

AWS CLI

To create a deployment for an API

The following create-deployment example creates a deployment for an API and associates that deployment with the dev stage of the API.

```bash
aws apigatewayv2 create-deployment \  --api-id a1b2c3d4 \  --stage-name dev
```

Output:

```json
{
  "AutoDeployed": false,
  "CreatedDate": "2020-04-06T23:38:08Z",
  "DeploymentId": "53lz9l",
  "DeploymentStatus": "DEPLOYED"
}
```
create-domain-name

The following code example shows how to use create-domain-name.

AWS CLI

To create a custom domain name

The following create-domain-name example creates a regional custom domain name for an API.

```
aws apigatewayv2 create-domain-name \
  --domain-name regional.example.com \
```

Output:

```
{
    "ApiMappingSelectionExpression": "$request.basepath",
    "DomainName": "regional.example.com",
    "DomainNameConfigurations": [
        {
            "ApiGatewayDomainName": "d-id.execute-api.us-west-2.amazonaws.com",
            "EndpointType": "REGIONAL",
            "HostedZoneId": "123456789111",
            "SecurityPolicy": "TLS_1_2",
            "DomainNameStatus": "AVAILABLE"
        }
    ]
}
```

For more information, see Setting up a regional custom domain name in API Gateway in the Amazon API Gateway Developer Guide.
create-integration

The following code example shows how to use create-integration.

AWS CLI

To create a WebSocket API integration

The following create-integration example creates a mock integration for a WebSocket API.

```
aws apigatewayv2 create-integration \
  --api-id aabbccddeee \ 
  --passthrough-behavior WHEN_NO_MATCH \ 
  --timeout-in-millis 29000 \ 
  --connection-type INTERNET \ 
  --integration-type MOCK
```

Output:

```
{
    "ConnectionId": "INTERNET",
    "IntegrationId": "0abcdef",
    "IntegrationResponseSelectionExpression": "${integration.response.statuscode}",
    "IntegrationType": "MOCK",
    "PassthroughBehavior": "WHEN_NO_MATCH",
    "PayloadFormatVersion": "1.0",
    "TimeoutInMillis": 29000
}
```

For more information, see Set up a WebSocket API integration request in API Gateway in the Amazon API Gateway Developer Guide.

To create an HTTP API integration

The following create-integration example creates an AWS Lambda integration for an HTTP API.

```
aws apigatewayv2 create-integration \
```
create-route

The following code example shows how to use create-route.

AWS CLI

To create a $default route for a WebSocket or HTTP API

The following create-route example creates a $default route for a WebSocket or HTTP API.

```
aws apigatewayv2 create-route \
  --api-id aabbccddeee \
  --route-key '$default'
```

Output:

```
{
  "ApiKeyRequired": false,
}
```
"AuthorizationType": "NONE",
"RouteKey": ":default",
"RouteId": "1122334"
}

For more information, see Working with routes for WebSocket APIs in the Amazon API Gateway Developer Guide

**To create a route for an HTTP API**

The following `create-route` example creates a route named `signup` that accepts POST requests.

```bash
aws apigatewayv2 create-route \
--api-id aabbccddeee \
--route-key 'POST /signup'
```

Output:

```json
{
    "Apikeyrequired": false,
    "AuthorizationType": "NONE",
    "RouteKey": "POST /signup",
    "RouteId": "1122334"
}
```

For more information, see Working with routes for HTTP APIs in the Amazon API Gateway Developer Guide

- For API details, see CreateRoute in AWS CLI Command Reference.

**create-stage**

The following code example shows how to use `create-stage`.

**AWS CLI**

**To create a stage**

The following `create-stage` example creates a stage named dev for an API.
aws apigatewayv2 create-stage \
    --api-id a1b2c3d4 \
    --stage-name dev

Output:

```
{
    "CreatedDate": "2020-04-06T23:23:46Z",
    "DefaultRouteSettings": {
        "DetailedMetricsEnabled": false
    },
    "LastUpdatedDate": "2020-04-06T23:23:46Z",
    "RouteSettings": {},
    "StageName": "dev",
    "StageVariables": {},
    "Tags": {}
}
```

For more information, see Working with stages for HTTP APIs in the Amazon API Gateway Developer Guide.

- For API details, see CreateStage in AWS CLI Command Reference.

create-vpc-link

The following code example shows how to use create-vpc-link.

**AWS CLI**

**To create a VPC link for an HTTP API**

The following create-vpc-link example creates a VPC link for HTTP APIs.

aws apigatewayv2 create-vpc-link \
    --name MyVpcLink \
    --subnet-ids subnet-aaaa subnet-bbbb \
    --security-group-ids sg1234 sg5678

Output:

```
{
```
For more information, see [Working with VPC links for HTTP APIs](https://docs.aws.amazon.com/apigateway/latest/developerguide/http-api-vpc-links.html) in the *Amazon API Gateway Developer Guide*.

- For API details, see [CreateVpcLink](https://docs.aws.amazon.com/cli/latest/reference/apigatewayv2/create-vpc-link.html) in *AWS CLI Command Reference*.

### delete-access-log-settings

The following code example shows how to use `delete-access-log-settings`.

**AWS CLI**

**To disable access logging for an API**

The following `delete-access-log-settings` example deletes the access log settings for the `$default` stage of an API. To disable access logging for a stage, delete its access log settings.

```bash
aws apigatewayv2 delete-access-log-settings \
    --api-id a1b2c3d4 \
    --stage-name '$default'
```

This command produces no output.

For more information, see [Configuring logging for an HTTP API](https://docs.aws.amazon.com/apigateway/latest/developerguide/http-api-log-settings.html) in the *Amazon API Gateway Developer Guide*. 

```json
"CreatedAt": "2020-04-07T00:11:46Z",
"Name": "MyVpcLink",
"SecurityGroupIds": [  
    "sg1234",
    "sg5678"
],
"SubnetIds": [  
    "subnet-aaaa",
    "subnet-bbbb"
],
"Tags": {},
"VpcLinkId": "abcd123",
"VpcLinkStatus": "PENDING",
"VpcLinkStatusMessage": "VPC link is provisioning ENIs",
"VpcLinkVersion": "V2"
}
• For API details, see DeleteAccessLogSettings in AWS CLI Command Reference.

delete-api

The following code example shows how to use delete-api.

AWS CLI

To delete an API

The following delete-api example deletes an API.

```
aws apigatewayv2 delete-api
   --api-id a1b2c3d4
```

This command produces no output.

For more information, see Working with HTTP APIs and Working with WebSocket APIs in the Amazon API Gateway Developer Guide.

• For API details, see DeleteApi in AWS CLI Command Reference.

delete-api-mapping

The following code example shows how to use delete-api-mapping.

AWS CLI

To delete an API mapping

The following delete-api-mapping example deletes an API mapping for the api.example.com custom domain name.

```
aws apigatewayv2 delete-api-mapping
   --api-mapping-id a1b2c3d4
   --domain-name api.example.com
```

This command produces no output.

For more information, see Setting up a regional custom domain name in API Gateway in the Amazon API Gateway Developer Guide.
• For API details, see DeleteApiMapping in AWS CLI Command Reference.

**delete-authorizer**

The following code example shows how to use delete-authorizer.

**AWS CLI**

**To delete an authorizer**

The following delete-authorizer example deletes an authorizer.

```bash
aws apigatewayv2 delete-authorizer \
  --api-id a1b2c3d4 \
  --authorizer-id a1b2c3
```

This command produces no output.

For more information, see Controlling access to HTTP APIs with JWT authorizers in the Amazon API Gateway Developer Guide.

• For API details, see DeleteAuthorizer in AWS CLI Command Reference.

**delete-cors-configuration**

The following code example shows how to use delete-cors-configuration.

**AWS CLI**

**To delete the CORS configuration for an HTTP API**

The following delete-cors-configuration example disables CORS for an HTTP API by deleting its CORS configuration.

```bash
aws apigatewayv2 delete-cors-configuration \
  --api-id a1b2c3d4
```

This command produces no output.

For more information, see Configuring CORS for an HTTP API in the Amazon API Gateway Developer Guide.
For API details, see DeleteCorsConfiguration in AWS CLI Command Reference.

delete-deployment

The following code example shows how to use delete-deployment.

AWS CLI

To delete a deployment

The following delete-deployment example deletes a deployment of an API.

```
aws apigatewayv2 delete-deployment \
   --api-id a1b2c3d4 \
   --deployment-id a1b2c3
```

This command produces no output.

For more information, see API deployment in the Amazon API Gateway Developer Guide.

- For API details, see DeleteDeployment in AWS CLI Command Reference.

delete-domain-name

The following code example shows how to use delete-domain-name.

AWS CLI

To delete a custom domain name

The following delete-domain-name example deletes a custom domain name.

```
aws apigatewayv2 delete-domain-name \
   --domain-name api.example.com
```

This command produces no output.

For more information, see Setting up a regional custom domain name in API Gateway in the Amazon API Gateway Developer Guide.

- For API details, see DeleteDomainName in AWS CLI Command Reference.
**delete-integration**

The following code example shows how to use `delete-integration`.

**AWS CLI**

**To delete an integration**

The following `delete-integration` example deletes an API integration.

```
aws apigatewayv2 delete-integration \
  --api-id a1b2c3d4 \
  --integration-id a1b2c3
```

This command produces no output.

For more information, see [Configuring integrations for HTTP APIs](https://docs.aws.amazon.com/apigatewayv2/latest/developerguide/configuring-integrations.html) and [Setting up WebSocket API integrations](https://docs.aws.amazon.com/apigatewayv2/latest/developerguide/set-up-websocket-integrations.html) in the *Amazon API Gateway Developer Guide*.

- For API details, see [DeleteIntegration](https://docs.aws.amazon.com/cli/latest/reference/apigatewayv2/delete-integration.html) in *AWS CLI Command Reference*.

**delete-route**

The following code example shows how to use `delete-route`.

**AWS CLI**

**To delete a route**

The following `delete-route` example deletes an API route.

```
aws apigatewayv2 delete-route \
  --api-id a1b2c3d4 \
  --route-id a1b2c3
```

This command produces no output.

For more information, see [Working with routes for HTTP APIs](https://docs.aws.amazon.com/apigatewayv2/latest/developerguide/working-with-routes.html) in the *Amazon API Gateway Developer Guide*.

- For API details, see [DeleteRoute](https://docs.aws.amazon.com/cli/latest/reference/apigatewayv2/delete-route.html) in *AWS CLI Command Reference*.
delete-route-settings

The following code example shows how to use `delete-route-settings`.

**AWS CLI**

To delete route settings

The following `delete-route-settings` example deletes the route settings for the specified route.

```
aws apigatewayv2 delete-route-settings \
  --api-id a1b2c3d4 \
  --stage-name dev \
  --route-key 'GET /pets'
```

This command produces no output.

For more information, see [Working with routes for HTTP APIs](https://docs.aws.amazon.com/apigateway/latest/developerguide/working-with-routes.html) in the *Amazon API Gateway Developer Guide*.

- For API details, see [DeleteRouteSettings](https://docs.aws.amazon.com/cli/latest/reference/apigatewayv2/delete-route-settings.html) in *AWS CLI Command Reference*.

 delete-stage

The following code example shows how to use `delete-stage`.

**AWS CLI**

To delete a stage

The following `delete-stage` example deletes the test stage of an API.

```
aws apigatewayv2 delete-stage \
  --api-id a1b2c3d4 \
  --stage-name test
```

This command produces no output.

For more information, see [Working with stages for HTTP APIs](https://docs.aws.amazon.com/apigateway/latest/developerguide/working-with-stages.html) in the *Amazon API Gateway Developer Guide*. 
• For API details, see [DeleteStage](#) in [AWS CLI Command Reference](#).

**delete-vpc-link**

The following code example shows how to use `delete-vpc-link`.

**AWS CLI**

**To delete a VPC link for an HTTP API**

The following `delete-vpc-link` example deletes a VPC link.

```bash
aws apigatewayv2 delete-vpc-link \
   --vpc-link-id abcd123
```

This command produces no output.

For more information, see [Working with VPC links for HTTP APIs](#) in the [Amazon API Gateway Developer Guide](#).

• For API details, see [DeleteVpcLink](#) in [AWS CLI Command Reference](#).

**export-api**

The following code example shows how to use `export-api`.

**AWS CLI**

**To export an OpenAPI definition of an HTTP API**

The following `export-api` example exports an OpenAPI 3.0 definition of an API stage named `prod` to a YAML file named `stage-definition.yaml`. The exported definition file includes API Gateway extensions by default.

```bash
aws apigatewayv2 export-api \
   --api-id a1b2c3d4 \ 
   --output-type YAML \ 
   --specification OAS30 \ 
   --stage-name prod \ 
   stage-definition.yaml
```

This command produces no output.
For more information, see Exporting an HTTP API from API Gateway in the Amazon API Gateway Developer Guide.

- For API details, see ExportApi in AWS CLI Command Reference.

get-api

The following code example shows how to use get-api.

AWS CLI

To retrieve information about an API

The following get-api example displays information about an API.

```bash
aws apigatewayv2 get-api \
   --api-id a1b2c3d4
```

Output:

```
{
   "ApiEndpoint": "https://a1b2c3d4.execute-api.us-west-2.amazonaws.com",
   "ApiId": "a1b2c3d4",
   "ApiKeySelectionExpression": "$request.header.x-api-key",
   "CreatedDate": "2020-03-28T00:32:37Z",
   "Name": "my-api",
   "ProtocolType": "HTTP",
   "RouteSelectionExpression": "$request.method $request.path",
   "Tags": {
      "department": "finance"
   }
}
```

- For API details, see GetApi in AWS CLI Command Reference.

get-api-mapping

The following code example shows how to use get-api-mapping.

AWS CLI

To get information about an API mapping for a custom domain name
The following get-api-mapping example displays information about an API mapping for the api.example.com custom domain name.

```
aws apigatewayv2 get-api-mapping \
    --api-mapping-id a1b2c3 \
    --domain-name api.example.com
```

Output:

```
{
    "ApiId": "a1b2c3d4",
    "ApiMappingId": "a1b2c3d5",
    "ApiMappingKey": "myTestApi"
    "Stage": "test"
}
```

For more information, see [Setting up a regional custom domain name in API Gateway](https://docs.aws.amazon.com/apigateway/latest/developerguide/api-gateway-set-up-custom-domain-name.html) in the Amazon API Gateway Developer Guide.


### get-api-mappings

The following code example shows how to use get-api-mappings.

**AWS CLI**

**To get API mappings for a custom domain name**

The following get-api-mappings example displays a list of all of the API mappings for the api.example.com custom domain name.

```
aws apigatewayv2 get-api-mappings \
    --domain-name api.example.com
```

Output:

```
{
    "Items": [
    
```
For more information, see Setting up a regional custom domain name in API Gateway in the Amazon API Gateway Developer Guide.

- For API details, see GetApiMappings in AWS CLI Command Reference.

going-get-apis

The following code example shows how to use get-apis.

**AWS CLI**

To retrieve a list of APIs

The following get-apis example lists all of the APIs for the current user.

```
aws apigatewayv2 get-apis
```

Output:

```json
{
  "Items": [
    {
      "ApiEndpoint": "wss://a1b2c3d4.execute-api.us-west-2.amazonaws.com",
      "ApiId": "a1b2c3d4",
      "ApiMappingId": "a1b2c3d5",
      "ApiMappingKey": "myTestApi",
      "Stage": "test"
    },
    {
      "ApiId": "a5b6c7d8",
      "ApiMappingId": "a1b2c3d6",
      "ApiMappingKey": "myDevApi",
      "Stage": "dev"
    }
  ]
}
```
"RouteSelectionExpression": "$request.body.message",
"Tags": {}},
{
  "ApiEndpoint": "https://a1b2c3d5.execute-api.us-west-2.amazonaws.com",
  "ApiId": "a1b2c3d5",
  "ApiKeySelectionExpression": "$request.header.x-api-key",
  "CreatedDate": "2020-04-07T20:23:50Z",
  "Name": "my-http-api",
  "ProtocolType": "HTTP",
  "RouteSelectionExpression": "$request.method $request.path",
  "Tags": {}
}
}]

For more information, see Working with HTTP APIs and Working with WebSocket APIs in the Amazon API Gateway Developer Guide.

- For API details, see GetApis in AWS CLI Command Reference.

get-authorizer

The following code example shows how to use get-authorizer.

AWS CLI

To retrieve information about an authorizer

The following get-authorizer example displays information about an authorizer.

```bash
aws apigatewayv2 get-authorizer \
   --api-id a1b2c3d4 \
   --authorizer-id a1b2c3
```

Output:

```json
{
   "AuthorizerId": "a1b2c3",
   "AuthorizerType": "JWT",
   "IdentitySource": [
      "$request.header.Authorization"
   ]
}
```
For more information, see [Controlling access to HTTP APIs with JWT authorizers](https://docs.aws.amazon.com/apigateway/latest/developerguide/authorizers-jwt.html) in the *Amazon API Gateway Developer Guide*.

- For API details, see [GetAuthorizer](https://docs.aws.amazon.com/cli/latest/reference/apigatewayv2/get-authorizer.html) in *AWS CLI Command Reference*.

### get-authorizers

The following code example shows how to use `get-authorizers`.

**AWS CLI**

**To retrieve a list of authorizers for an API**

The following `get-authorizers` example displays a list of all of the authorizers for an API.

```bash
aws apigatewayv2 get-authorizers \
  --api-id a1b2c3d4
```

Output:

```json
{
  "Items": [
    {
      "AuthorizerId": "a1b2c3",
      "AuthorizerType": "JWT",
      "IdentitySource": ["$request.header.Authorization"],
      "JwtConfiguration": {
        "Audience": ["123456abc"]
      },
      "Name": "my-jwt-authorizer"
    }
  ]
}
```
For more information, see Controlling access to HTTP APIs with JWT authorizers in the Amazon API Gateway Developer Guide.

- For API details, see GetAuthorizers in AWS CLI Command Reference.

### get-deployment

The following code example shows how to use get-deployment.

#### AWS CLI

**To retrieve information about a deployment**

The following get-deployment example displays information about a deployment.

```bash
aws apigatewayv2 get-deployment \  --api-id a1b2c3d4 \  --deployment-id abcdef
```

**Output:**
For more information, see API deployment in the Amazon API Gateway Developer Guide.

- For API details, see GetDeployment in AWS CLI Command Reference.

get-deployments

The following code example shows how to use get-deployments.

AWS CLI

To retrieve a list of deployments

The following get-deployments example displays a list of all of an API's deployments.

```
aws apigatewayv2 get-deployments \
    --api-id a1b2c3d4
```

Output:

```json
{
    "Items": [
        {
            "AutoDeployed": true,
            "CreatedDate": "2020-04-07T23:58:40Z",
            "DeploymentId": "abcdef",
            "DeploymentStatus": "DEPLOYED",
            "Description": "Automatic deployment triggered by changes to the Api configuration"
        },
        {
            "AutoDeployed": true,
            "CreatedDate": "2020-04-06T00:33:00Z",
            "DeploymentId": "bcdefg",
```
For more information, see [API deployment](https://aws.amazon.com/api/developer-guide/) in the *Amazon API Gateway Developer Guide*.  

- For API details, see [GetDeployments](https://aws.amazon.com/cli/command-reference/) in *AWS CLI Command Reference*.  

**get-domain-name**  

The following code example shows how to use get-domain-name.  

**AWS CLI**  

**To retrieve information about a custom domain name**  

The following get-domain-name example displays information about a custom domain name. 

```
aws apigatewayv2 get-domain-name \
  --domain-name api.example.com
```

**Output:**

```
{
  "ApiMappingSelectionExpression": "$request.basepath",
  "DomainName": "api.example.com",
  "DomainNameConfigurations": [ 
    {
      "ApiGatewayDomainName": "d-1234.execute-api.us-west-2.amazonaws.com",
      "EndpointType": "REGIONAL",
      "HostedZoneId": "123456789111",
      "SecurityPolicy": "TLS_1_2",
      "DomainNameStatus": "AVAILABLE"
    }
  ],
  "Tags": {}
}
```
For more information, see Setting up a regional custom domain name in API Gateway in the Amazon API Gateway Developer Guide.

- For API details, see GetDomainName in AWS CLI Command Reference.

get-domain-names

The following code example shows how to use get-domain-names.

AWS CLI

To retrieve a list of custom domain names

The following get-domain-names example displays a list of all of the custom domain names for the current user.

```
aws apigatewayv2 get-domain-names
```

Output:

```
{
   "Items": [
   {
      "ApiMappingSelectionExpression": "$request.basepath",
      "DomainName": "api.example.com",
      "DomainNameConfigurations": [
      {
         "ApiGatewayDomainName": "d-1234.execute-api.us-west-2.amazonaws.com",
         "EndpointType": "REGIONAL",
         "HostedZoneId": "123456789111",
         "SecurityPolicy": "TLS_1_2",
         "DomainNameStatus": "AVAILABLE"
      }
      ]
   },
   {
      "ApiMappingSelectionExpression": "$request.basepath",
      "DomainName": "newApi.example.com",
      "DomainNameConfigurations": [
```
For more information, see [Setting up a regional custom domain name in API Gateway](https://docs.aws.amazon.com/apigateway/latest/developerguide/api-gateway-create-api-domain.html) in the [Amazon API Gateway Developer Guide](https://docs.aws.amazon.com/apigateway/latest/developerguide/).


### get-integration

The following code example shows how to use `get-integration`.

**AWS CLI**

**To retrieve information about an integration**

The following `get-integration` example displays information about an integration.

```bash
aws apigatewayv2 get-integration \
   --api-id a1b2c3d4 \
   --integration-id a1b2c3
```

**Output:**

```json
{
    "ApiGatewayManaged": true,
    "ConnectionType": "INTERNET",
    "IntegrationId": "a1b2c3",
    "IntegrationMethod": "POST",
    "IntegrationType": "AWS_PROXY",
    }
}
For more information, see [Configuring integrations for HTTP APIs](#) and [Setting up WebSocket API integrations](#) in the [Amazon API Gateway Developer Guide](#).

- For API details, see [GetIntegration](#) in [AWS CLI Command Reference](#).

### get-integrations

The following code example shows how to use `get-integrations`.

**AWS CLI**

**To retrieve a list of integrations**

The following `get-integrations` example displays a list of all of an API's integrations.

```
aws apigatewayv2 get-integrations \
  --api-id a1b2c3d4
```

**Output:**

```
{
  "Items": [
    {
      "ApiGatewayManaged": true,
      "ConnectionType": "INTERNET",
      "IntegrationId": "a1b2c3",
      "IntegrationMethod": "POST",
      "IntegrationType": "AWS_PROXY",
      "PayloadFormatVersion": "2.0",
      "TimeoutInMillis": 30000
    },
    {
      "ConnectionType": "INTERNET",
      "IntegrationId": "a1b2c4",
      "IntegrationMethod": "ANY",
      "IntegrationType": "AWS_PROXY",
      "PayloadFormatVersion": "2.0",
      "TimeoutInMillis": 30000
    }
  ]
}
```
For more information, see Configuring integrations for HTTP APIs and Setting up WebSocket API integrations in the Amazon API Gateway Developer Guide.

- For API details, see GetIntegrations in AWS CLI Command Reference.

get-route

The following code example shows how to use get-route.

AWS CLI

To retrieve information about a route

The following get-route example displays information about a route.

```bash
aws apigatewayv2 get-route
  --api-id a1b2c3d4
  --route-id 72jz1wk
```

Output:

```json
{
  "ApiKeyRequired": false,
  "AuthorizationType": "NONE",
  "RouteId": "72jz1wk",
  "RouteKey": "ANY /pets",
  "Target": "integrations/a1b2c3"
}
```

For more information, see Working with routes for HTTP APIs in the Amazon API Gateway Developer Guide

- For API details, see GetRoute in AWS CLI Command Reference.
get-routes

The following code example shows how to use get-routes.

AWS CLI

To retrieve a list of routes

The following get-routes example displays a list of all of an API's routes.

```
aws apigatewayv2 get-routes \
  --api-id a1b2c3d4
```

Output:

```
{
  "Items": [
  {
    "ApiKeyRequired": false,
    "AuthorizationType": "NONE",
    "RouteId": "72jz1wk",
    "RouteKey": "ANY /admin",
    "Target": "integrations/a1b2c3"
  },
  {
    "ApiGatewayManaged": true,
    "ApiKeyRequired": false,
    "AuthorizationType": "NONE",
    "RouteId": "go65gqi",
    "RouteKey": "$default",
    "Target": "integrations/a1b2c4"
  }
  ]
}
```

For more information, see Working with routes for HTTP APIs in the Amazon API Gateway Developer Guide

- For API details, see GetRoutes in AWS CLI Command Reference.

get-stage

The following code example shows how to use get-stage.
**AWS CLI**

**To retrieve information about a stage**

The following `get-stage` example displays information about the `prod` stage of an API.

```
aws apigatewayv2 get-stage \
  --api-id a1b2c3d4 \
  --stage-name prod
```

**Output:**

```
{
    "CreatedDate": "2020-04-08T00:36:05Z",
    "DefaultRouteSettings": {
        "DetailedMetricsEnabled": false
    },
    "DeploymentId": "x1zwyv",
    "LastUpdatedDate": "2020-04-08T00:36:13Z",
    "RouteSettings": {},
    "StageName": "prod",
    "StageVariables": {
        "function": "my-prod-function"
    },
    "Tags": {}
}
```

For more information, see [Working with stages for HTTP APIs](https://docs.aws.amazon.com/apigateway/latest/developerguide/http-api-stages-variables.html) in the *Amazon API Gateway Developer Guide*.

- For API details, see [GetStage](https://docs.aws.amazon.com/cli/latest/reference/apigatewayv2/get-stage.html) in *AWS CLI Command Reference*.

**get-stages**

The following code example shows how to use `get-stages`.

**AWS CLI**

**To retrieve a list of stages**

The following `get-stages` example lists all of an API's stages.
aws apigatewayv2 get-stages
   --api-id a1b2c3d4

Output:

```json
{
   "Items": [
   {
      "ApiGatewayManaged": true,
      "AutoDeploy": true,
      "CreatedDate": "2020-04-08T00:08:44Z",
      "DefaultRouteSettings": {
         "DetailedMetricsEnabled": false
      },
      "DeploymentId": "dty748",
      "LastDeploymentStatusMessage": "Successfully deployed stage with deployment ID 'dty748'",
      "LastUpdatedDate": "2020-04-08T00:09:49Z",
      "RouteSettings": {},
      "StageName": "$default",
      "StageVariables": {},
      "Tags": {}
   },
   {
      "AutoDeploy": true,
      "CreatedDate": "2020-04-08T00:35:06Z",
      "DefaultRouteSettings": {
         "DetailedMetricsEnabled": false
      },
      "DeploymentId": "x1zwyv",
      "LastUpdatedDate": "2020-04-08T00:35:48Z",
      "RouteSettings": {},
      "StageName": "dev",
      "StageVariables": {
         "function": "my-dev-function"
      },
      "Tags": {}
   },
   {
      "CreatedDate": "2020-04-08T00:36:05Z",
      "DefaultRouteSettings": {
         "DetailedMetricsEnabled": false
      },
      "DeploymentId": "x1zwyv",
      "LastUpdatedDate": "2020-04-08T00:36:05Z"
   }
   ]
}
```
For more information, see [Working with stages for HTTP APIs](https://docs.aws.amazon.com/apigateway/latest/developerguide/working-with-stages.html) in the *Amazon API Gateway Developer Guide*.

- For API details, see [GetStages](https://docs.aws.amazon.com/cli/latest/reference/apigatewayv2/get-stages.html) in *AWS CLI Command Reference*.

### get-tags

The following code example shows how to use `get-tags`.

**AWS CLI**

To retrieve a list of tags for a resource

The following `get-tags` example lists all of an API's tags.

```bash
aws apigatewayv2 get-tags \
  --resource-arn arn:aws:apigateway:us-west-2::/apis/a1b2c3d4
```

Output:

```json
{
  "Tags": {
    "owner": "dev-team",
    "environment": "prod"
  }
}
```

For more information, see [Tagging your API Gateway resources](https://docs.aws.amazon.com/apigateway/latest/developerguide/tagging-api-resources.html) in the *Amazon API Gateway Developer Guide*.

- For API details, see [GetTags](https://docs.aws.amazon.com/cli/latest/reference/apigatewayv2/get-tags.html) in *AWS CLI Command Reference*. 
**get-vpc-link**

The following code example shows how to use `get-vpc-link`.

**AWS CLI**

To retrieve information about a VPC link

The following `get-vpc-link` example displays information about a VPC link.

```bash
aws apigatewayv2 get-vpc-link \
  --vpc-link-id abcd123
```

Output:

```json
{
  "CreatedDate": "2020-04-07T00:27:47Z",
  "Name": "MyVpcLink",
  "SecurityGroupIds": [
    "sg1234",
    "sg5678"
  ],
  "SubnetIds": [
    "subnet-aaaa",
    "subnet-bbbb"
  ],
  "Tags": {},
  "VpcLinkId": "abcd123",
  "VpcLinkStatus": "AVAILABLE",
  "VpcLinkStatusMessage": "VPC link is ready to route traffic",
  "VpcLinkVersion": "V2"
}
```

For more information, see [Working with VPC links for HTTP APIs](https://docs.aws.amazon.com/apigateway/latest/developerguide/vpc-links.html) in the *Amazon API Gateway Developer Guide*.

- For API details, see [GetVpcLink](https://docs.aws.amazon.com/cli/latest/reference/apigatewayv2/get-vpc-link.html) in *AWS CLI Command Reference*.

**get-vpc-links**

The following code example shows how to use `get-vpc-links`.
AWS CLI

To retrieve a list of VPC links

The following get-vpc-links example displays a list of all of the VPC links for the current user.

```bash
aws apigatewayv2 get-vpc-links
```

Output:

```json
{
    "Items": [
        {
            "CreatedDate": "2020-04-07T00:27:47Z",
            "Name": "MyVpcLink",
            "SecurityGroupIds": [
                "sg1234",
                "sg5678"
            ],
            "SubnetIds": [
                "subnet-aaaa",
                "subnet-bbbb"
            ],
            "Tags": {},
            "VpcLinkId": "abcd123",
            "VpcLinkStatus": "AVAILABLE",
            "VpcLinkStatusMessage": "VPC link is ready to route traffic",
            "VpcLinkVersion": "V2"
        },
        {
            "CreatedDate": "2020-04-07T00:27:47Z",
            "Name": "MyOtherVpcLink",
            "SecurityGroupIds": [
                "sg1234",
                "sg5678"
            ],
            "SubnetIds": [
                "subnet-aaaa",
                "subnet-bbbb"
            ],
            "Tags": {},
            "VpcLinkId": "abcd456",
            "VpcLinkStatus": "AVAILABLE",
            "VpcLinkStatusMessage": "VPC link is ready to route traffic",
            "VpcLinkVersion": "V2"
        }
    ]
}
```
"VpcLinkStatus": "AVAILABLE",
"VpcLinkStatusMessage": "VPC link is ready to route traffic",
"VpcLinkVersion": "V2"
]
}

For more information, see Working with VPC links for HTTP APIs in the Amazon API Gateway Developer Guide.

- For API details, see GetVpcLinks in AWS CLI Command Reference.

**import-api**

The following code example shows how to use import-api.

**AWS CLI**

**To import an HTTP API**

The following import-api example creates an HTTP API from an OpenAPI 3.0 definition file named api-definition.yaml.

```
aws apigatewayv2 import-api \
--body file://api-definition.yaml
```

Contents of api-definition.yaml:

```
openapi: 3.0.1
info:
  title: My Lambda API
  version: v1.0
paths:
  /hello:
    x-amazon-apigateway-any-method:
    x-amazon-apigateway-integration:
      payloadFormatVersion: 2.0
      type: aws_proxy
      httpMethod: POST
      connectionType: INTERNET
```
Output:

```json
{
    "ApiEndpoint": "https://a1b2c3d4.execute-api.us-west-2.amazonaws.com",
    "ApiId": "a1b2c3d4",
    "ApiKeySelectionExpression": "$request.header.x-api-key",
    "CreatedDate": "2020-04-08T17:19:38+00:00",
    "Name": "My Lambda API",
    "ProtocolType": "HTTP",
    "RouteSelectionExpression": "$request.method $request.path",
    "Tags": {},
    "Version": "v1.0"
}
```

For more information, see [Working with OpenAPI definitions for HTTP APIs](https://docs.aws.amazon.com/apigateway/latest/developerguide/working-with-openapi-definitions.html) in the *Amazon API Gateway Developer Guide*.

- For API details, see [ImportApi](https://docs.aws.amazon.com/cli/latest/reference/apigatewayv2/import-api.html) in *AWS CLI Command Reference*.

### reimport-api

The following code example shows how to use `reimport-api`.

**AWS CLI**

**To reimport an HTTP API**

The following `reimport-api` example updates an existing HTTP API to use the OpenAPI 3.0 definition specified in `api-definition.yaml`.

```bash
aws apigatewayv2 reimport-api \
    --body file://api-definition.yaml \
    --api-id a1b2c3d4
```

**Contents of api-definition.yaml**:

```yaml
openapi: 3.0.1
info:
    title: My Lambda API
    version: v1.0
paths:
  /hello:
```
x-amazon-apigateway-any-method:
  x-amazon-apigateway-integration:
    payloadFormatVersion: 2.0
    type: aws_proxy
    httpMethod: POST
    connectionType: INTERNET

Output:

```
{
  "ApiEndpoint": "https://a1b2c3d4.execute-api.us-west-2.amazonaws.com",
  "ApiId": "a1b2c3d4",
  "ApiKeySelectionExpression": "$request.header.x-api-key",
  "CreatedDate": "2020-04-08T17:19:38+00:00",
  "Name": "My Lambda API",
  "ProtocolType": "HTTP",
  "RouteSelectionExpression": "$request.method $request.path",
  "Tags": {},
  "Version": "v1.0"
}
```

For more information, see Working with OpenAPI definitions for HTTP APIs in the Amazon API Gateway Developer Guide.

- For API details, see ReimportApi in AWS CLI Command Reference.

**tag-resource**

The following code example shows how to use tag-resource.

**AWS CLI**

**To tag a resource**

The following tag-resource example adds a tag with the key name Department and a value of Accounting to the specified API.

```
aws apigatewayv2 tag-resource \
  --resource-arn arn:aws:apigateway:us-west-2::apis/a1b2c3d4 \
  --tags Department=Accounting
```
This command produces no output.

For more information, see Tagging your API Gateway resources in the Amazon API Gateway Developer Guide.

- For API details, see TagResource in AWS CLI Command Reference.

untag-resource

The following code example shows how to use untag-resource.

AWS CLI

To remove tags from a resource

The following untag-resource example removes tags with the key names Project and Owner from the specified API.

```
aws apigatewayv2 untag-resource \
   --resource-arn arn:aws:apigateway:us-west-2::/apis/a1b2c3d4 \
   --tag-keys Project Owner
```

This command produces no output.

For more information, see Tagging your API Gateway resources in the Amazon API Gateway Developer Guide.

- For API details, see UntagResource in AWS CLI Command Reference.

update-api

The following code example shows how to use update-api.

AWS CLI

To enable CORS for an HTTP API

The following update-api example updates the specified API's CORS configuration to allow requests from https://www.example.com.

```
aws apigatewayv2 update-api \
```
--api-id a1b2c3d4 \
--cors-configuration AllowOrigins=https://www.example.com

Output:

```
{
  "ApiEndpoint": "https://a1b2c3d4.execute-api.us-west-2.amazonaws.com",
  "ApiId": "a1b2c3d4",
  "ApiKeySelectionExpression": "$request.header.x-api-key",
  "CorsConfiguration": {
    "AllowCredentials": false,
    "AllowHeaders": [
      "header1",
      "header2"
    ],
    "AllowMethods": [
      "GET",
      "OPTIONS"
    ],
    "AllowOrigins": [
      "https://www.example.com"
    ]
  },
  "CreatedDate": "2020-04-08T18:39:37+00:00",
  "Name": "my-http-api",
  "ProtocolType": "HTTP",
  "RouteSelectionExpression": "$request.method $request.path",
  "Tags": {},
  "Version": "v1.0"
}
```

For more information, see Configuring CORS for an HTTP API in the Amazon API Gateway Developer Guide.

- For API details, see UpdateApi in AWS CLI Command Reference.

**update-api-mapping**

The following code example shows how to use update-api-mapping.

**AWS CLI**

To update an API mapping
The following update-api-mapping example changes an API mapping for a custom domain name. As a result, the base URL using the custom domain name for the specified API and stage becomes https://api.example.com/dev.

```
aws apigatewayv2 update-api-mapping \
  --api-id a1b2c3d4 \
  --stage dev \
  --domain-name api.example.com \
  --api-mapping-id 0qzs2sy7bh \
  --api-mapping-key dev
```

Output:

```
{
    "ApiId": "a1b2c3d4",
    "ApiMappingId": "0qzs2sy7bh",
    "ApiMappingKey": "dev",
    "Stage": "dev"
}
```

For more information, see Setting up a regional custom domain name in API Gateway in the Amazon API Gateway Developer Guide.

- For API details, see UpdateApiMapping in AWS CLI Command Reference.

**update-authorizer**

The following code example shows how to use update-authorizer.

**AWS CLI**

**To update an authorizer**

The following update-authorizer example changes a JWT authorizer's identity source to a header named Authorization.

```
aws apigatewayv2 update-authorizer \
  --api-id a1b2c3d4 \
  --authorizer-id a1b2c3 \
  --identity-source '$request.header.Authorization'
```
Output:

```json
{
    "AuthorizerId": "a1b2c3",
    "AuthorizerType": "JWT",
    "IdentitySource": [
        "$request.header.Authorization"
    ],
    "JwtConfiguration": {
        "Audience": [
            "123456abc"
        ],
        "Issuer": "https://cognito-idp.us-west-2.amazonaws.com/us-west-2_abc123"
    },
    "Name": "my-jwt-authorizer"
}
```

For more information, see [Controlling access to HTTP APIs with JWT authorizers](https://docs.aws.amazon.com/apigateway/latest/developerguide/apigateway-jwt-authorizers.html) in the Amazon API Gateway Developer Guide.


**update-deployment**

The following code example shows how to use `update-deployment`.

**AWS CLI**

**To change a deployment's description**

The following `update-deployment` example updates a deployment's description.

```bash
aws apigatewayv2 update-deployment \
    --api-id a1b2c3d4 \
    --deployment-id abcdef \
    --description 'Manual deployment to fix integration test failures.'
```

Output:

```json
{
    "AutoDeployed": false,
    "CreatedDate": "2020-02-05T16:48+00:00",
```
"DeploymentId": "abcdef",
"DeploymentStatus": "DEPLOYED",
"Description": "Manual deployment to fix integration test failures."
}

For more information, see Developing an HTTP API in API Gateway in the Amazon API Gateway Developer Guide.

- For API details, see UpdateDeployment in AWS CLI Command Reference.

**update-domain-name**

The following code example shows how to use update-domain-name.

**AWS CLI**

To update a custom domain name

The following update-domain-name example specifies a new ACM certificate for the api.example.com custom domain name.

```bash
aws apigatewayv2 update-domain-name \
   --domain-name api.example.com \
```

Output:

```json
{
   "ApiMappingSelectionExpression": "$request.basepath",
   "DomainName": "regional.example.com",
   "DomainNameConfigurations": [
      {
         "ApiGatewayDomainName": "d-id.execute-api.us-west-2.amazonaws.com",
         "EndpointType": "REGIONAL",
         "HostedZoneId": "123456789111",
         "SecurityPolicy": "TLS_1_2",
         "DomainNameStatus": "AVAILABLE"
      }
   ]
}
```
For more information, see Setting up a regional custom domain name in API Gateway in the Amazon API Gateway Developer Guide.

- For API details, see UpdateDomainName in AWS CLI Command Reference.

**update-integration**

The following code example shows how to use `update-integration`.

**AWS CLI**

**To update a Lambda integration**

The following `update-integration` example updates an existing AWS Lambda integration to use the specified Lambda function.

```bash
aws apigatewayv2 update-integration \
  --api-id a1b2c3d4 \
  --integration-id a1b2c3 \
```

**Output:**

```json
{
  "ConnectionType": "INTERNET",
  "IntegrationId": "a1b2c3",
  "IntegrationMethod": "POST",
  "IntegrationType": "AWS_PROXY",
  "PayloadFormatVersion": "2.0",
  "TimeoutInMillis": 5000
}
```

For more information, see Configuring integrations for HTTP APIs and Setting up WebSocket API integrations in the Amazon API Gateway Developer Guide.

- For API details, see UpdateIntegration in AWS CLI Command Reference.
update-route

The following code example shows how to use update-route.

AWS CLI

Example 1: To update the integration of a route

The following update-route example updates the integration of a specified route.

```bash
aws apigatewayv2 update-route \
   --api-id a1b2c3d4 \
   --route-id a1b2c3 \ 
   --target integrations/a1b2c6
```

Output:

```
{
    "ApiKeyRequired": false,
    "AuthorizationType": "NONE",
    "RouteId": "a1b2c3",
    "RouteKey": "ANY /pets",
    "Target": "integrations/a1b2c6"
}
```

Example 2: To add an authorizer to a route

The following update-route example updates the specified route to use a JWT authorizer.

```bash
aws apigatewayv2 update-route \
   --api-id a1b2c3d4 \
   --route-id a1b2c3 \ 
   --authorization-type JWT \ 
   --authorizer-id a1b2c5 \ 
   --authorization-scopes user.id user.email
```

Output:

```
{
    "ApiKeyRequired": false,
    "AuthorizationScopes": [
        "user.id",
        "user.email"
    ]
}
```
For more information, see Controlling access to HTTP APIs with JWT authorizers in the Amazon API Gateway Developer Guide.

- For API details, see UpdateRoute in AWS CLI Command Reference.

**update-stage**

The following code example shows how to use update-stage.

**AWS CLI**

To configure custom throttling

The following update-stage example configures custom throttling for the specified stage and route of an API.

```
aws apigatewayv2 update-stage \
    --api-id a1b2c3d4 \
    --stage-name dev \
    --route-settings '{"GET /pets": "ThrottlingBurstLimit":100,"ThrottlingRateLimit":2000}'}
```

**Output:**

```
{
    "CreatedDate": "2020-04-05T16:21:16+00:00",
    "DefaultRouteSettings": {
        "DetailedMetricsEnabled": false
    },
    "DeploymentId": "shktxb",
    "LastUpdatedDate": "2020-04-08T22:23:17+00:00",
    "RouteSettings": {
        "GET /pets": {
```
For more information, see [Protecting your HTTP API](#) in the [Amazon API Gateway Developer Guide](#).

- For API details, see [UpdateStage](#) in [AWS CLI Command Reference](#).

**update-vpc-link**

The following code example shows how to use `update-vpc-link`.

**AWS CLI**

**To update a VPC link**

The following `update-vpc-link` example updates the name of a VPC link. After you've created a VPC link, you can't change its security groups or subnets.

```bash
aws apigatewayv2 update-vpc-link \
  --vpc-link-id abcd123 \
  --name MyUpdatedVpcLink
```

Output:

```json
{
  "CreatedDate": "2020-04-07T00:27:47Z",
  "Name": "MyUpdatedVpcLink",
  "SecurityGroupIds": [
    "sg1234",
    "sg5678"
  ],
  "SubnetIds": [
    "subnet-aaaa",
    "subnet-bbbb"
  ],
  "Tags": {}
}
```
For more information, see Working with VPC links for HTTP APIs in the Amazon API Gateway Developer Guide.

- For API details, see UpdateVpcLink in AWS CLI Command Reference.

**API Gateway Management API examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with API Gateway Management API.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- **Actions**

**Actions**

**Send data to a connection**

The following code example shows how to send data to a connection.

**AWS CLI**

To send data to a WebSocket connection

The following post-to-connection example sends a message to a client that's connected to the specified WebSocket API.
aws apigatewaymanagementapi post-to-connection \
  --connection-id L0SM9cOFvHcCIhw= \ 
  --data "Hello from API Gateway!" \ 
  --endpoint-url https://aabbccddeee.execute-api.us-west-2.amazonaws.com/prod

This command produces no output.

For more information, see Use @connections commands in your backend service in the Amazon API Gateway Developer Guide.

• For API details, see PostToConnection in AWS CLI Command Reference.

delete-connection

The following code example shows how to use delete-connection.

AWS CLI

To delete a WebSocke connection

The following delete-connection example disconnects a client from the specified WebSocket API.

aws apigatewaymanagementapi delete-connection \
  --connection-id L0SM9cOFvHcCIhw= \ 
  --endpoint-url https://aabbccddeee.execute-api.us-west-2.amazonaws.com/prod

This command produces no output.

For more information, see Use @connections commands in your backend service in the Amazon API Gateway Developer Guide.

• For API details, see DeleteConnection in AWS CLI Command Reference.

get-connection

The following code example shows how to use get-connection.

AWS CLI

To get information about a WebSocket connection
The following `get-connection` example describes a connection to the specified WebSocket API.

```bash
aws apigatewaymanagementapi get-connection
  --connection-id L0SM9cOFvHcCIhw=
  --endpoint-url https://aabbccddee.execute-api.us-west-2.amazonaws.com/prod
```

Output:

```
{
    "ConnectedAt": "2020-04-30T20:10:33.236Z",
    "Identity": {
        "SourceIp": "192.0.2.1"
    },
    "LastActiveAt": "2020-04-30T20:10:42.997Z"
}
```

For more information, see [Use @connections commands in your backend service](https://docs.aws.amazon.com/apigateway/latest/developerguide/api-gateway-manage-api-connections.html) in the *Amazon API Gateway Developer Guide*.

- For API details, see [GetConnection](https://docs.aws.amazon.com/cli/latest/api/apigatewaymanagementapi/get-connection.html) in *AWS CLI Command Reference*.

### App Mesh examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with App Mesh.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

### Topics

- [Actions](https://docs.aws.amazon.com/cli/latest/api/apigatewaymanagementapi/get-connection.html)
Actions

create-mesh

The following code example shows how to use create-mesh.

AWS CLI

Example 1: To create a new service mesh

The following create-mesh example creates a service mesh.

```bash
aws appmesh create-mesh \
   --mesh-name app1
```

Output:

```json
{
   "mesh":{
      "meshName":"app1",
      "metadata":{
         "arn":"arn:aws:appmesh:us-east-1:123456789012:mesh/app1",
         "createdAt":1563809909.282,
         "lastUpdatedAt":1563809909.282,
         "uid":"a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
         "version":1
      },
      "spec":{},
      "status":{
         "status":"ACTIVE"
      }
   }
}
```

Example 2: To create a new service mesh with multiple tags

The following create-mesh example creates a service mesh with multiple tags.

```bash
aws appmesh create-mesh \
   --mesh-name app2 \
   --tags key=key1,value=value1 key=key2,value=value2 key=key3,value=value3
```
Output:

```json
{
   "mesh":{
      "meshName":"app2",
      "metadata":{
         "arn":"arn:aws:appmesh:us-east-1:123456789012:mesh/app2",
         "createdAt":1563822121.877,
         "lastUpdatedAt":1563822121.877,
         "uid":"a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
         "version":1
      },
      "spec":{},
      "status":{
         "status":"ACTIVE"
      }
   }
}
```

For more information, see [Service Meshes](#) in the *AWS App Mesh User Guide*.

- For API details, see [CreateMesh](#) in *AWS CLI Command Reference*.

**create-route**

The following code example shows how to use `create-route`.

**AWS CLI**

**To create a new gRPC route**

The following `create-route` example uses a JSON input file to create a gRPC route. GRPC traffic that has metadata that starts with 123 is routed to a virtual node named `serviceBgrpc`. If there are specific gRPC, HTTP, or TCP failures when attempting to communicate with the target of the route, the route is retried three times. There is a 15 second delay between each retry attempt.

```
aws appmesh create-route \
   --cli-input-json file://create-route-grpc.json
```

Contents of `create-route-grpc.json`:
{
    "meshName": "apps",
    "routeName": "grpcRoute",
    "spec": {
        "grpcRoute": {
            "action": {
                "weightedTargets": [
                    {
                        "virtualNode": "serviceBgrpc",
                        "weight": 100
                    }
                ],
            },
            "match": {
                "metadata": [
                    {
                        "invert": false,
                        "match": {
                            "prefix": "123"
                        },
                        "name": "myMetadata"
                    }
                ],
                "methodName": "GetColor",
                "serviceName": "com.amazonaws.services.ColorService"
            },
            "retryPolicy": {
                "grpcRetryEvents": ["deadline-exceeded"],
                "httpRetryEvents": ["server-error", "gateway-error"],
                "maxRetries": 3,
                "perRetryTimeout": {
                    "unit": "s",
                    "value": 15
                },
                "tcpRetryEvents": ["connection-error"]
            }
        },
        "priority": 100
    },
    "virtualRouterName": "serviceBgrpc"
}
```json
{
    "route": {
        "meshName": "apps",
        "metadata": {
            "createdAt": 1572010806.008,
            "lastUpdatedAt": 1572010806.008,
            "uid": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
            "version": 1
        },
        "routeName": "grpcRoute",
        "spec": {
            "grpcRoute": {
                "action": {
                    "weightedTargets": [
                        {
                            "virtualNode": "serviceBgrpc",
                            "weight": 100
                        }
                    ]
                },
                "match": {
                    "metadata": [
                        {
                            "invert": false,
                            "match": {
                                "prefix": "123"
                            },
                            "name": "mymetadata"
                        }
                    ],
                    "methodName": "GetColor",
                    "serviceName": "com.amazonaws.services.ColorService"
                },
                "retryPolicy": {
                    "grpcRetryEvents": [
                        "deadline-exceeded"
                    ],
                    "httpRetryEvents": [
                        "server-error",
                        "gateway-error"
                    ]
                }
            }
        }
    }
}
```
To create a new HTTP or HTTP/2 route

The following create-route example uses a JSON input file to create an HTTP/2 route. To create an HTTP route, replace http2Route with httpRoute under spec. All HTTP/2 traffic addressed to any URL prefix that has a header value that starts with 123 is routed to a virtual node named serviceBhttp2. If there are specific HTTP or TCP failures when attempting to communicate with the target of the route, the route is retried three times. There is a 15 second delay between each retry attempt.

```bash
aws appmesh create-route \
   --cli-input-json file://create-route-http2.json
```

Contents of `create-route-http2.json`:

```json
{
   "meshName": "apps",
   "routeName": "http2Route",
   "spec": {
      "http2Route": {
         "action": {
            "weightedTargets": [
               {
                  "virtualNode": "serviceBhttp2",
```
Output:

```
{
  "route": {
    "meshName": "apps",
    "weight": 100
  }
}
```
"metadata": {
  "createdAt": 1572011008.352,
  "lastUpdatedAt": 1572011008.352,
  "uid": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
  "version": 1
},
"routeName": "http2Route",
"spec": {
  "http2Route": {
    "action": {
      "weightedTargets": [
        {
          "virtualNode": "serviceBhttp2",
          "weight": 100
        }
      ]
    },
    "match": {
      "headers": [
        {
          "invert": false,
          "match": {
            "prefix": "123"
          },
          "name": "clientRequestId"
        }
      ],
      "method": "POST",
      "prefix": "/",
      "scheme": "http"
    },
    "retryPolicy": {
      "httpRetryEvents": [
        "server-error",
        "gateway-error"
      ],
      "maxRetries": 3,
      "perRetryTimeout": {
        "unit": "s",
        "value": 15
      },
      "tcpRetryEvents": [}
To create a new TCP route

The following `create-route` example uses a JSON input file to create a TCP route. 75 percent of traffic is routed to a virtual node named `serviceBtcp`, and 25 percent of traffic is routed to a virtual node named `serviceBv2tcp`. Specifying different weightings for different targets is an effective way to do a deployment of a new version of an application. You can adjust the weights so that eventually, 100 percent of all traffic is routed to a target that has the new version of an application.

```
aws appmesh create-route \
  --cli-input-json file://create-route-tcp.json
```

Contents of `create-route-tcp.json`:

```
{
  "meshName": "apps",
  "routeName": "tcpRoute",
  "spec": {
    "priority": 300,
    "tcpRoute": {
      "action": {
        "weightedTargets": [
          {
            "virtualNode": "serviceBtcp",
            "weight": 75
          },
          {
            "virtualNode": "serviceBv2tcp",
            "weight": 25
          }
        ]
      }
    }
  }
}```
Output:

```json
{
    "route": {
        "meshName": "apps",
        "metadata": {
            "createdAt": 1572011436.26,
            "lastUpdatedAt": 1572011436.26,
            "uid": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
            "version": 1
        },
        "routeName": "tcpRoute",
        "spec": {
            "priority": 300,
            "tcpRoute": {
                "action": {
                    "weightedTargets": [
                        {
                            "virtualNode": "serviceBtcp",
                            "weight": 75
                        },
                        {
                            "virtualNode": "serviceBv2tcp",
                            "weight": 25
                        }
                    ]
                }
            }
        },
        "status": {
            "status": "ACTIVE"
        },
        "virtualRouterName": "serviceBtcp"
    }
}
```
create-virtual-gateway

The following code example shows how to use create-virtual-gateway.

AWS CLI

To create a new virtual gateway

The following create-virtual-gateway example uses a JSON input file to create a virtual gateway with a listener for HTTP using port 9080.

```bash
aws appmesh create-virtual-gateway \
  --mesh-name meshName \
  --virtual-gateway-name virtualGatewayName \
  --cli-input-json file://create-virtual-gateway.json
```

Contents of create-virtual-gateway.json:

```json
{
  "spec": {
    "listeners": [
      {
        "portMapping": {
          "port": 9080,
          "protocol": "http"
        }
      }
    ]
  }
}
```

Output:

```json
{
}
```
"virtualGateway": {
    "meshName": "meshName",
    "metadata": {
        "arn": "arn:aws:appmesh:us-west-2:123456789012:mesh/meshName/virtualGateway/virtualGatewayName",
        "createdAt": "2022-04-06T10:42:42.015000-05:00",
        "lastUpdatedAt": "2022-04-06T10:42:42.015000-05:00",
        "meshOwner": "123456789012",
        "resourceOwner": "123456789012",
        "uid": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
        "version": 1
    },
    "spec": {
        "listeners": [
            {
                "portMapping": {
                    "port": 9080,
                    "protocol": "http"
                }
            }
        ],
    },
    "status": {
        "status": "ACTIVE"
    },
    "virtualGatewayName": "virtualGatewayName"
}

For more information, see Virtual Gateways in the AWS App Mesh User Guide.

- For API details, see CreateVirtualGateway in AWS CLI Command Reference.

create-virtual-node

The following code example shows how to use create-virtual-node.

AWS CLI

Example 1: To create a new virtual node that uses DNS for discovery

The following create-virtual-node example uses a JSON input file to create a virtual node that uses DNS for service discovery.
```
aws appmesh create-virtual-node \
   --cli-input-json file://create-virtual-node-dns.json
```

Contents of `create-virtual-node-dns.json`:

```json
{
   "meshName": "app1",
   "spec": {
      "listeners": [
         {
            "portMapping": {
               "port": 80,
               "protocol": "http"
            }
         }
      ],
      "serviceDiscovery": {
         "dns": {
            "hostname": "serviceBv1.svc.cluster.local"
         }
      }
   },
   "virtualNodeName": "vnServiceBv1"
}
```

Output:

```json
{
   "virtualNode": {
      "meshName": "app1",
      "metadata": {
         "arn": "arn:aws:appmesh:us-east-1:123456789012:mesh/app1/virtualNode/vnServiceBv1",
         "createdAt": 1563810019.874,
         "lastUpdatedAt": 1563810019.874,
         "uid": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
         "version": 1
      },
      "spec": {
         "listeners": [
            {
               "portMapping": {
```
Example 2: To create a new virtual node that uses AWS Cloud Map for discovery

The following create-virtual-node example uses a JSON input file to create a virtual node that uses AWS Cloud Map for service discovery.

```bash
aws appmesh create-virtual-node
   --cli-input-json file://create-virtual-node-cloud-map.json
```

Contents of create-virtual-node-cloud-map.json:

```json
{
   "meshName": "app1",
   "spec": {
      "backends": [
      {
         "virtualService": {
            "virtualServiceName": "serviceA.svc.cluster.local"
          }
      }],
      "listeners": [
      {
         "portMapping": {
            "port": 80,
            "protocol": "http"
          }
      }
   },
   "serviceDiscovery": {
      "dns": {
         "hostname": "serviceBv1.svc.cluster.local"
      }
   },
   "status": {
      "status": "ACTIVE"
   },
   "virtualNodeName": "vnServiceBv1"
}
```


Output:

{
  "virtualNode": {
    "meshName": "app1",
    "metadata": {
      "arn": "arn:aws:appmesh:us-east-1:123456789012:mesh/app1/virtualNode/vnServiceA",
      "createdAt": 1563810859.465,
      "lastUpdatedAt": 1563810859.465,
      "uid": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
      "version": 1
    },
    "spec": {
      "backends": [
        {"virtualService": {
          "virtualServiceName": "serviceA.svc.cluster.local"
        }
      ],
      "listeners": [
        {"portMapping": {
          "destinationPort": 80
        }
      ]
    }
  }
}
For more information, see [Virtual Nodes](#) in the *AWS App Mesh User Guide*.

- For API details, see [CreateVirtualNode](#) in *AWS CLI Command Reference*.

### create-virtual-router

The following code example shows how to use `create-virtual-router`.

#### AWS CLI

**To create a new virtual router**

The following `create-virtual-router` example uses a JSON input file to create a virtual router with a listener for HTTP using port 80.

```bash
aws appmesh create-virtual-router \
    --cli-input-json file://create-virtual-router.json
```
Contents of create-virtual-router.json:

```json
{
   "meshName": "app1",
   "spec": {
      "listeners": [
         {
            "portMapping": {
               "port": 80,
               "protocol": "http"
            }
         }
      ],
      "virtualRouterName": "vrServiceB"
   }
}
```

Output:

```json
{
   "virtualRouter": {
      "meshName": "app1",
      "metadata": {
         "arn": "arn:aws:appmesh:us-east-1:123456789012:mesh/app1/virtualRouter/vrServiceB",
         "createdAt": 1563810546.59,
         "lastUpdatedAt": 1563810546.59,
         "uid": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
         "version": 1
      },
      "spec": {
         "listeners": [
            {
               "portMapping": {
                  "port": 80,
                  "protocol": "http"
               }
            }
         ],
         "virtualRouterName": "vrServiceB"
      }
   },
   "status": {
      "status": "ACTIVE"
   }
}
```
For more information, see Virtual Routers in the AWS App Mesh User Guide.

- For API details, see CreateVirtualRouter in AWS CLI Command Reference.

create-virtual-service

The following code example shows how to use create-virtual-service.

AWS CLI

**Example 1: To create a new virtual service with a virtual node provider**

The following create-virtual-service example uses a JSON input file to create a virtual service with a virtual node provider.

```bash
aws appmesh create-virtual-service \
  --cli-input-json file://create-virtual-service-virtual-node.json
```

Contents of create-virtual-service-virtual-node.json:

```json
{
    "meshName": "app1",
    "spec": {
        "provider": {
            "virtualNode": {
                "virtualNodeName": "vnServiceA"
            }
        },
        "virtualServiceName": "serviceA.svc.cluster.local"
    }
}
```

Output:

```json
{
    "meshName": "app1",
    "spec": {
        "provider": {
            "virtualNode": {
                "virtualNodeName": "vnServiceA"
            }
        },
        "virtualServiceName": "serviceA.svc.cluster.local"
    }
}
```
For more information, see Virtual Node in the AWS App Mesh User Guide.

Example 2: To create a new virtual service with a virtual router provider

The following create-virtual-service example uses a JSON input file to create a virtual service with a virtual router provider.

```bash
aws appmesh create-virtual-service \
  --cli-input-json file://create-virtual-service-virtual-router.json
```

Contents of create-virtual-service-virtual-router.json:

```json
{
  "meshName": "app1",
  "spec": {
    "provider": {
      "virtualRouter": {
        "virtualRouterName": "vrServiceB"
      }
    }
  },
  "virtualServiceName": "serviceA.svc.cluster.local"
}
```
"virtualServiceName": "serviceB.svc.cluster.local"
[

Output:

{  "virtualService": {  "meshName": "app1",  "metadata": {  "arn": "arn:aws:appmesh:us-east-1:123456789012:mesh/app1/virtualService/serviceB.svc.cluster.local",  "createdAt": 1563908363.999,  "lastUpdatedAt": 1563908363.999,  "uid": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",  "version": 1 },  "spec": {  "provider": {  "virtualRouter": {  "virtualRouterName": "vrServiceB"  }  }  },  "status": {  "status": "ACTIVE"  },  "virtualServiceName": "serviceB.svc.cluster.local"  }
]

For more information, see Virtual Services<https://docs.aws.amazon.com/app-mesh/latest/userguide/virtual_services.html> in the AWS App Mesh User Guide

- For API details, see CreateVirtualService in AWS CLI Command Reference.

delete-mesh

The following code example shows how to use delete-mesh.

AWS CLI

To delete a service mesh
The following delete-mesh example deletes the specified service mesh.

```
aws appmesh delete-mesh \
   --mesh-name app1
```

Output:

```
{
   "mesh": {
      "meshName": "app1",
      "metadata": {
         "arn": "arn:aws:appmesh:us-east-1:123456789012:mesh/app1",
         "createdAt": 1563809909.282,
         "lastUpdatedAt": 1563824981.248,
         "uid": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
         "version": 2
      },
      "spec": {
         "egressFilter": {
            "type": "ALLOW_ALL"
         }
      },
      "status": {
         "status": "DELETED"
      }
   }
}
```

For more information, see [Service Meshes](https://docs.aws.amazon.com/appmesh/latest/userguide/service-meshes.html) in the [AWS App Mesh User Guide](https://docs.aws.amazon.com/appmesh/latest/userguide/)


**delete-route**

The following code example shows how to use delete-route.

**AWS CLI**

**To delete a route**

The following delete-route example deletes the specified route.

```
aws appmesh delete-route \
```
--mesh-name app1 \
--virtual-router-name vrServiceB \
--route-name toVnServiceB-weighted

Output:

```json
{
    "route": {
        "meshName": "app1",
        "metadata": {
            "arn": "arn:aws:appmesh:us-east-1:123456789012:mesh/app1/virtualRouter/vrServiceB/route/toVnServiceB-weighted",
            "createdAt": 1563811384.015,
            "lastUpdatedAt": 1563823915.936,
            "uid": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
            "version": 3
        },
        "routeName": "toVnServiceB-weighted",
        "spec": {
            "httpRoute": {
                "action": {
                    "weightedTargets": [
                        {
                            "virtualNode": "vnServiceBv1",
                            "weight": 80
                        },
                        {
                            "virtualNode": "vnServiceBv2",
                            "weight": 20
                        }
                    ],
                    "match": {
                        "prefix": "/"
                    }
                }
            },
            "status": {
                "status": "DELETED"
            }
        },
        "virtualRouterName": "vrServiceB"
    }
}
```
For more information, see Routes in the AWS App Mesh User Guide.

- For API details, see DeleteRoute in AWS CLI Command Reference.

**delete-virtual-node**

The following code example shows how to use delete-virtual-node.

**AWS CLI**

To delete a virtual node

The following delete-virtual-node example deletes the specified virtual node.

```bash
aws appmesh delete-virtual-node \
--mesh-name app1 \
--virtual-node-name vnServiceBv2
```

Output:

```json
{
  "virtualNode": {
    "meshName": "app1",
    "metadata": {
      "arn": "arn:aws:appmesh:us-east-1:123456789012:mesh/app1/virtualNode/vnServiceBv2",
      "createdAt": 1563810117.297,
      "lastUpdatedAt": 1563824700.678,
      "uid": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
      "version": 2
    },
    "spec": {
      "backends": [],
      "listeners": [
        {
          "portMapping": {
            "port": 80,
            "protocol": "http"
          }
        }
      ],
      "serviceDiscovery": {
        "dns": {
```
For more information, see Virtual Nodes in the AWS App Mesh User Guide.

- For API details, see DeleteVirtualNode in AWS CLI Command Reference.

**delete-virtual-router**

The following code example shows how to use delete-virtual-router.

**AWS CLI**

**To delete a virtual router**

The following delete-virtual-router example deletes the specified virtual router.

```
aws appmesh delete-virtual-router \
   --mesh-name app1 \ 
   --virtual-router-name vrServiceB
```

**Output:**

```
{
    "virtualRouter": {
        "meshName": "app1",
        "metadata": {
            "arn": "arn:aws:appmesh:us-east-1:123456789012:mesh/app1/virtualRouter/vrServiceB",
            "createdAt": 1563810546.59,
            "lastUpdatedAt": 1563824253.467,
            "uid": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
            "version": 3
        }
    }
}
```
delete-virtual-service

The following code example shows how to use delete-virtual-service.

**AWS CLI**

To delete a virtual service

The following delete-virtual-service example deletes the specified virtual service.

```bash
aws appmesh delete-virtual-service \
 --mesh-name app1 \
 --virtual-service-name serviceB.svc.cluster.local
```

Output:

```
{
    "virtualService": {
        "meshName": "app1",
        "metadata": {
            "arn": "arn:aws:appmesh:us-east-1:123456789012:mesh/app1/virtualService/serviceB.svc.cluster.local",
```
The following code example shows how to use describe-mesh.

**AWS CLI**

**To describe a service mesh**

The following describe-mesh example returns details about the specified service mesh.

```bash
aws appmesh describe-mesh \
   --mesh-name app1
```

Output:

```json
{
   "mesh": {
      "meshName": "app1",
      "metadata": {
         "arn": "arn:aws:appmesh:us-east-1:123456789012:mesh/app1",
         "createdAt": 1563809909.282,
         "lastUpdatedAt": 1563809909.282,
         "uid": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
         "version": 1
      }
   }
}
```

For more information, see [Virtual Service](https://docs.aws.amazon.com/appmesh/latest/userguide/) in the *AWS App Mesh User Guide*.

- For API details, see [DeleteVirtualService](https://docs.aws.amazon.com/cli/latest/reference/appmesh/delete-virtual-service.html) in *AWS CLI Command Reference*.
For more information, see Service Meshes in the AWS App Mesh User Guide.

- For API details, see DescribeMesh in AWS CLI Command Reference.

**describe-route**

The following code example shows how to use describe-route.

**AWS CLI**

**To describe a route**

The following describe-route example returns details about the specified route.

```bash
aws appmesh describe-route \\
--mesh-name app1 \\
--virtual-router-name vrServiceB \\
--route-name toVnServiceB-weighted
```

Output:

```json
{
  "route": {
    "meshName": "app1",
    "metadata": {
      "arn": "arn:aws:appmesh:us-east-1:123456789012:mesh/app1/virtualRouter/vrServiceB/route/toVnServiceB-weighted",
      "createdAt": 1563811384.015,
      "lastUpdatedAt": 1563811384.015,
      "uid": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
      "version": 1
    },
    "routeName": "toVnServiceB-weighted",
    "spec": {
      "httpRoute": {
```
The following code example shows how to use describe-virtual-node.

AWS CLI

To describe a virtual node

The following describe-virtual-node example returns details about the specified virtual node.

```
aws appmesh describe-virtual-node \
  --mesh-name app1 \
  --virtual-node-name vnServiceBv1
```
Output:

```json
{
    "virtualNode": {
        "meshName": "app1",
        "metadata": {
            "arn": "arn:aws:appmesh:us-east-1:123456789012:mesh/app1/virtualNode/vnServiceBv1",
            "createdAt": 1563810019.874,
            "lastUpdatedAt": 1563810019.874,
            "uid": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
            "version": 1
        },
        "spec": {
            "backends": [],
            "listeners": [
                {
                    "portMapping": {
                        "port": 80,
                        "protocol": "http"
                    }
                }
            ],
            "serviceDiscovery": {
                "dns": {
                    "hostname": "serviceBv1.svc.cluster.local"
                }
            }
        },
        "status": {
            "status": "ACTIVE"
        },
        "virtualNodeName": "vnServiceBv1"
    }
}
```

For more information, see [Virtual Nodes](https://docs.aws.amazon.com/appmesh/latest/userguide/) in the *AWS App Mesh User Guide*.

- For API details, see [DescribeVirtualNode](https://docs.aws.amazon.com/cli/latest/reference/appmesh/describe-virtual-node.html) in *AWS CLI Command Reference*.

**describe-virtual-router**

The following code example shows how to use `describe-virtual-router`. 

Actions and scenarios
AWS CLI

To describe a virtual router

The following `describe-virtual-router` example returns details about the specified virtual router.

```
aws appmesh describe-virtual-router \
  --mesh-name app1 \
  --virtual-router-name vrServiceB
```

Output:

```
{
  "virtualRouter": {
    "meshName": "app1",
    "metadata": {
      "arn": "arn:aws:appmesh:us-east-1:123456789012:mesh/app1/virtualRouter/vrServiceB",
      "createdAt": 1563810546.59,
      "lastUpdatedAt": 1563810546.59,
      "uid": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
      "version": 1
    },
    "spec": {
      "listeners": [
        {
          "portMapping": {
            "port": 80,
            "protocol": "http"
          }
        }
      ],
      "status": {
        "status": "ACTIVE"
      }
    },
    "virtualRouterName": "vrServiceB"
  }
}
```

For more information, see [Virtual Routers](https://docs.aws.amazon.com/appmesh/latest/userguide/) in the *AWS App Mesh User Guide*. 

---

Actions and scenarios

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describe-virtual-service

The following code example shows how to use describe-virtual-service.

AWS CLI

To describe a virtual service

The following describe-virtual-service example returns details about the specified virtual service.

```bash
aws appmesh describe-virtual-service \
  --mesh-name app1 \
  --virtual-service-name serviceB.svc.cluster.local
```

Output:

```json
{
    "virtualService": {
        "meshName": "app1",
        "metadata": {
            "arn": "arn:aws:appmesh:us-east-1:123456789012:mesh/app1/virtualService/serviceB.svc.cluster.local",
            "createdAt": 1563908363.999,
            "lastUpdatedAt": 1563908363.999,
            "uid": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
            "version": 1
        },
        "spec": {
            "provider": {
                "virtualRouter": {
                    "virtualRouterName": "vrServiceB"
                }
            }
        },
        "status": {
            "status": "ACTIVE"
        },
        "virtualServiceName": "serviceB.svc.cluster.local"
    }
}
```
For more information, see Virtual Services in the AWS App Mesh User Guide.

- For API details, see DescribeVirtualService in AWS CLI Command Reference.

list-meshes

The following code example shows how to use list-meshes.

**AWS CLI**

To list service meshes

The following list-meshes example lists all of the service meshes in the current AWS Region.

```bash
aws appmesh list-meshes
```

Output:

```
{
  "meshes": [
    {
      "arn": "arn:aws:appmesh:us-east-1:123456789012:mesh/app1",
      "meshName": "app1"
    }
  ]
}
```

For more information, see Service Meshes in the AWS App Mesh User Guide.

- For API details, see ListMeshes in AWS CLI Command Reference.

list-routes

The following code example shows how to use list-routes.

**AWS CLI**

To list routes

The following list-routes example lists all of the routes for the specified virtual router.
aws appmesh list-routes \\
   --mesh-name app1 \\
   --virtual-router-name vrServiceB

Output:

```
{
   "routes": [
     {
       "arn": "arn:aws:appmesh:us-east-1:123456789012:mesh/app1/virtualRouter/vrServiceB/route/toVnServiceB",
       "meshName": "app1",
       "routeName": "toVnServiceB-weighted",
       "virtualRouterName": "vrServiceB"
     }
   ]
}
```

For more information, see [Routes](#) in the *AWS App Mesh User Guide*.

- For API details, see [ListRoutes](#) in *AWS CLI Command Reference*.

### list-tags-for-resource

The following code example shows how to use `list-tags-for-resource`.

**AWS CLI**

**To list tags for a resource**

The following `list-tags-for-resource` example lists all of the tags assigned to the specified resource.

```bash
aws appmesh list-tags-for-resource \\
   --resource-arn arn:aws:appmesh:us-east-1:123456789012:mesh/app1
```

Output:

```
{
   "tags": [
```

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list-virtual-nodes

The following code example shows how to use list-virtual-nodes.

**AWS CLI**

To list virtual nodes

The following list-virtual-nodes example lists all of the virtual nodes in the specified service mesh.

```
aws appmesh list-virtual-nodes \
   --mesh-name app1
```

Output:

```json
{
   "virtualNodes": [
   
   {
      "arn": "arn:aws:appmesh:us-east-1:123456789012:mesh/app1/virtualNode/vnServiceBv1",
      "meshName": "app1",
      "virtualNodeName": "vnServiceBv1"
   },

   
   
   
   
   
]
}
```

• For API details, see `ListTagsForResource` in *AWS CLI Command Reference*. 
For more information, see Virtual Nodes in the AWS App Mesh User Guide.

- For API details, see ListVirtualNodes in AWS CLI Command Reference.

list-virtual-routers

The following code example shows how to use list-virtual-routers.

AWS CLI

To list virtual routers

The following list-virtual-routers example lists all of the virtual routers in the specified service mesh.

```
aws appmesh list-virtual-routers \
    --mesh-name app1
```

Output:

```
{
    "virtualRouters": [
        {
            "arn": "arn:aws:appmesh:us-east-1:123456789012:mesh/app1/virtualRouter/vrServiceB",
            "meshName": "app1",
            "virtualRouterName": "vrServiceB"
        }
    ]
}
```

For more information, see Virtual Routers in the AWS App Mesh User Guide.
For API details, see ListVirtualRouters in *AWS CLI Command Reference*.

**list-virtual-services**

The following code example shows how to use `list-virtual-services`.

**AWS CLI**

**To list virtual services**

The following `list-virtual-services` example lists all of the virtual services in the specified service mesh.

```bash
aws appmesh list-virtual-services \
   --mesh-name app1
```

Output:

```
{
   "virtualServices": [
   {
      "arn": "arn:aws:appmesh:us-east-1:123456789012:mesh/app1/virtualService/serviceA.svc.cluster.local",
      "meshName": "app1",
      "virtualServiceName": "serviceA.svc.cluster.local"
   },
   {
      "arn": "arn:aws:appmesh:us-east-1:123456789012:mesh/app1/virtualService/serviceB.svc.cluster.local",
      "meshName": "app1",
      "virtualServiceName": "serviceB.svc.cluster.local"
   }
   ]
}
```

For more information, see Virtual Services in the *AWS App Mesh User Guide*.

For API details, see ListVirtualServices in *AWS CLI Command Reference*.

**tag-resource**

The following code example shows how to use `tag-resource`.

---

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AWS CLI

To tag a resource

The following `tag-resource` example adds the tag `key1` with the value `value1` to the specified resource.

```
aws appmesh tag-resource \
  --resource-arn arn:aws:appmesh:us-east-1:123456789012:mesh/app1 \
  --tags key=key1,value=value1
```

This command produces no output.

- For API details, see `TagResource` in `AWS CLI Command Reference`.

untag-resource

The following code example shows how to use `untag-resource`.

AWS CLI

To untag a resource

The following `untag-resource` example removes a tag with the key `key1` from the specified resource.

```
aws appmesh untag-resource \
  --resource-arn arn:aws:appmesh:us-east-1:123456789012:mesh/app1 \
  --tag-keys key1
```

This command produces no output.

- For API details, see `UntagResource` in `AWS CLI Command Reference`.

update-mesh

The following code example shows how to use `update-mesh`.

AWS CLI

To update a service mesh
The following `update-mesh` example uses a JSON input file to update a service mesh to allow all external egress traffic to be forwarded through the Envoy proxy untouched.

```bash
aws appmesh update-mesh \
  --cli-input-json file://update-mesh.json
```

Contents of `update-mesh.json`:

```json
{
  "meshName": "app1",
  "spec": {
    "egressFilter": {
      "type": "ALLOW_ALL"
    }
  }
}
```

Output:

```json
{
  "mesh": {
    "meshName": "app1",
    "metadata": {
      "arn": "arn:aws:appmesh:us-east-1:123456789012:mesh/app1",
      "createdAt": 1563809909.282,
      "lastUpdatedAt": 1563812829.687,
      "uid": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
      "version": 2
    },
    "spec": {
      "egressFilter": {
        "type": "ALLOW_ALL"
      }
    },
    "status": {
      "status": "ACTIVE"
    }
  }
}
```

For more information, see [Service Meshes](#) in the [AWS App Mesh User Guide](#).
For API details, see UpdateMesh in AWS CLI Command Reference.

**update-route**

The following code example shows how to use update-route.

**AWS CLI**

To update a route

The following update-route example uses a JSON input file to update the weights for a route.

```bash
aws appmesh update-route \
  --cli-input-json file://update-route-weighted.json
```

Contents of update-route-weighted.json:

```json
{
    "meshName": "app1",
    "routeName": "toVnServiceB-weighted",
    "spec": {
        "httpRoute": {
            "action": {
                "weightedTargets": [
                    { "virtualNode": "vnServiceBv1", "weight": 80 },
                    { "virtualNode": "vnServiceBv2", "weight": 20 }
                ]
            },
            "match": { "prefix": "/" }
        },
        "virtualRouterName": "vrServiceB"
    }
}
```
Output:

```
{
   "route": {
      "meshName": "app1",
      "metadata": {
         "arn": "arn:aws:appmesh:us-east-1:123456789012:mesh/app1/virtualRouter/vrServiceB/route/toVnServiceB-weighted",
         "createdAt": 1563811384.015,
         "lastUpdatedAt": 1563819600.022,
         "uid": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
         "version": 2
      },
      "routeName": "toVnServiceB-weighted",
      "spec": {
         "httpRoute": {
            "action": {
               "weightedTargets": [
                  {
                     "virtualNode": "vnServiceBv1",
                     "weight": 80
                  },
                  {
                     "virtualNode": "vnServiceBv2",
                     "weight": 20
                  }
               ],
               "match": {
                  "prefix": "/
               }
            }
         }
      },
      "status": {
         "status": "ACTIVE"
      },
      "virtualRouterName": "vrServiceB"
   }
}
```

For more information, see Routes in the AWS App Mesh User Guide.

- For API details, see UpdateRoute in AWS CLI Command Reference.
update-virtual-node

The following code example shows how to use update-virtual-node.

AWS CLI

To update a virtual node

The following update-virtual-node example uses a JSON input file to add a health check to a virtual node.

```
aws appmesh update-virtual-node \
   --cli-input-json file://update-virtual-node.json
```

Contents of update-virtual-node.json:

```json
{
    "clientToken": "500",
    "meshName": "app1",
    "spec": {
        "listeners": [
            {
                "healthCheck": {
                    "healthyThreshold": 5,
                    "intervalMillis": 10000,
                    "path": "/",
                    "port": 80,
                    "protocol": "http",
                    "timeoutMillis": 3000,
                    "unhealthyThreshold": 3
                },
                "portMapping": {
                    "port": 80,
                    "protocol": "http"
                }
            }
        ],
        "serviceDiscovery": {
            "dns": {
                "hostname": "serviceBv1.svc.cluster.local"
            }
        }
    }
}
```
"virtualNodeName": "vnServiceBv1"
}

Output:

{
   "virtualNode": {
      "meshName": "app1",
      "metadata": {
         "arn": "arn:aws:appmesh:us-east-1:123456789012:mesh/app1/virtualNode/vnServiceBv1",
         "createdAt": 1563810019.874,
         "lastUpdatedAt": 1563819234.825,
         "uid": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
         "version": 2
      },
      "spec": {
         "listeners": [
            {
               "healthCheck": {
                  "healthyThreshold": 5,
                  "intervalMillis": 10000,
                  "path": "/",
                  "port": 80,
                  "protocol": "http",
                  "timeoutMillis": 3000,
                  "unhealthyThreshold": 3
               },
               "portMapping": {
                  "port": 80,
                  "protocol": "http"
               }
            }
         ],
         "serviceDiscovery": {
            "dns": {
               "hostname": "serviceBv1.svc.cluster.local"
            }
         }
      },
      "status": {
         "status": "ACTIVE"
      }
   }
}
For more information, see Virtual Nodes in the AWS App Mesh User Guide.

- For API details, see UpdateVirtualNode in AWS CLI Command Reference.

**update-virtual-router**

The following code example shows how to use `update-virtual-router`.

**AWS CLI**

**To update a virtual router**

The following `update-virtual-router` example uses a JSON input file to update a virtual router listener port.

```bash
aws appmesh update-virtual-router \
    --cli-input-json file://update-virtual-router.json
```

**Contents of update-virtual-router.json:**

```json
{
    "meshName": "app1",
    "spec": {
        "listeners": [
            {
                "portMapping": {
                    "port": 8080,
                    "protocol": "http"
                }
            }
        ],
        "virtualRouterName": "vrServiceB"
    }
}
```

**Output:**

```json
{
}
```
"virtualRouter": {
  "meshName": "app1",
  "metadata": {
    "arn": "arn:aws:appmesh:us-east-1:123456789012:mesh/app1/virtualRouter/vrServiceB",
    "createdAt": 1563810546.59,
    "lastUpdatedAt": 1563819431.352,
    "uid": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
    "version": 2
  },
  "spec": {
    "listeners": [
      {
        "portMapping": {
          "port": 8080,
          "protocol": "http"
        }
      }
    ]
  },
  "status": {
    "status": "ACTIVE"
  },
  "virtualRouterName": "vrServiceB"
}

For more information, see Virtual Routers in the AWS App Mesh User Guide.

- For API details, see UpdateVirtualRouter in AWS CLI Command Reference.

**update-virtual-service**

The following code example shows how to use update-virtual-service.

**AWS CLI**

To update a virtual service

The following update-virtual-service example uses a JSON input file to update a virtual service to use a virtual router provider.

```bash
aws appmesh update-virtual-service \
```
--cli-input-json file://update-virtual-service.json

Contents of update-virtual-service.json:

```json
{
    "meshName": "app1",
    "spec": {
        "provider": {
            "virtualRouter": {
                "virtualRouterName": "vrServiceA"
            }
        }
    },
    "virtualServiceName": "serviceA.svc.cluster.local"
}
```

Output:

```json
{
    "virtualService": {
        "meshName": "app1",
        "metadata": {
            "arn": "arn:aws:appmesh:us-east-1:123456789012:mesh/app1/virtualService/serviceA.svc.cluster.local",
            "createdAt": 1563810859.474,
            "lastUpdatedAt": 1563820257.411,
            "uid": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
            "version": 3
        },
        "spec": {
            "provider": {
                "virtualRouter": {
                    "virtualRouterName": "vrServiceA"
                }
            }
        },
        "status": {
            "status": "ACTIVE"
        },
        "virtualServiceName": "serviceA.svc.cluster.local"
    }
}
```
For more information, see Virtual Services in the AWS App Mesh User Guide.

- For API details, see UpdateVirtualService in AWS CLI Command Reference.

App Runner examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with App Runner.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics

- Actions

Actions

associate-custom-domain

The following code example shows how to use associate-custom-domain.

AWS CLI

To associate a domain name and the www subdomain with a service

The following associate-custom-domain example associates a custom domain name that you control with an App Runner service. The domain name is the root domain example.com, including the special-case subdomain www.example.com.

```
aws apprunner associate-custom-domain \
  --cli-input-json file://input.json
```

Contents of input.json:
Output:

```
{
    "ServiceArn": "arn:aws:apprunner:us-east-1:123456789012:service/python-app/8fe1e10304f84fd2b0df550fe98a71fa",
    "DomainName": "example.com",
    "EnableWWWSubdomain": true
}
```

- For API details, see `AssociateCustomDomain` in AWS CLI Command Reference.

**create-auto-scaling-configuration**

The following code example shows how to use `create-auto-scaling-configuration`. 
AWS CLI

To create a high availability auto scaling configuration

The following `create-auto-scaling-configuration` example creates an auto scaling configuration optimized for high availability by setting `MinSize` to 5. With this configuration, App Runner attempts to spread your service instances over the most Availability Zones possible, up to five, depending on the AWS Region.

The call returns an `AutoScalingConfiguration` object with the other settings set to their defaults. In the example, this is the first call to create a configuration named high-availability. The revision is set to 1, and it's the latest revision.

```
aws apprunner create-auto-scaling-configuration \
    --cli-input-json file://input.json
```

Contents of `input.json`:

```
{
    "AutoScalingConfigurationName": "high-availability",
    "MinSize": 5
}
```

Output:

```
{
    "AutoScalingConfiguration": {
        "AutoScalingConfigurationArn": "arn:aws:apprunner:us-east-1:123456789012:autoscalingconfiguration/high-availability/1/2f50e7656d7819fedef059672e6042e",
        "AutoScalingConfigurationName": "high-availability",
        "AutoScalingConfigurationRevision": 1,
        "CreatedAt": "2020-11-03T00:29:17Z",
        "Latest": true,
        "Status": "ACTIVE",
        "MaxConcurrency": 100,
        "MaxSize": 50,
        "MinSize": 5
    }
}
```
create-connection

The following code example shows how to use create-connection.

AWS CLI

To create a GitHub connection

The following create-connection example creates a connection to a private GitHub code repository. The connection status after a successful call is PENDING_HANDSHAKE. This is because an authentication handshake with the provider still hasn't happened. Complete the handshake using the App Runner console.

```bash
aws apprunner create-connection \
   --cli-input-json file://input.json
```

Contents of `input.json`:

```json
{
   "ConnectionName": "my-github-connection",
   "ProviderType": "GITHUB"
}
```

Output:

```json
{
   "Connection": {
      "ConnectionName": "my-github-connection",
      "Status": "PENDING_HANDSHAKE",
      "CreatedAt": "2020-11-03T00:32:51Z",
      "ProviderType": "GITHUB"
   }
}
```

For more information, see Managing App Runner connections in the AWS App Runner Developer Guide.
• For API details, see CreateConnection in AWS CLI Command Reference.

create-service

The following code example shows how to use create-service.

AWS CLI

Example 1: To create a source code repository service

The following create-service example creates an App Runner service based on a Python source code repository.

```bash
aws apprunner create-service \
--cli-input-json file://input.json
```

Contents of input.json:

```json
{
    "ServiceName": "python-app",
    "SourceConfiguration": {
        "AuthenticationConfiguration": {
            "ConnectionArn": "arn:aws:apprunner:us-east-1:123456789012:connection/my-github-connection/e7656250f67242d7819feade6800f59e"
        },
        "AutoDeploymentsEnabled": true,
        "CodeRepository": {
            "RepositoryUrl": "https://github.com/my-account/python-hello",
            "SourceCodeVersion": {
                "Type": "BRANCH",
                "Value": "main"
            },
            "CodeConfiguration": {
                "ConfigurationSource": "API",
                "CodeConfigurationValues": {
                    "Runtime": "PYTHON_3",
                    "BuildCommand": "pip install -r requirements.txt",
                    "StartCommand": "python server.py",
                    "Port": "8080",
                    "RuntimeEnvironmentVariables": [
                        {
                            "NAME": "Jane"
                        }
                    ]
                }
            }
        }
    }
}
```
Output:

```json
{
   "OperationId": "17fe9f55-7e91-4097-b243-fcabb69a4cf",
   "Service": {
      "CreatedAt": "2020-11-20T19:05:25Z",
      "UpdatedAt": "2020-11-20T19:05:25Z",
      "ServiceArn": "arn:aws:apprunner:us-east-1:123456789012:service/python-app/8fe1e10304f84fd2b0df550fe98a71fa",
      "ServiceId": "8fe1e10304f84fd2b0df550fe98a71fa",
      "ServiceName": "python-app",
      "ServiceUrl": "psbqam834h.us-east-1.awsapprunner.com",
      "SourceConfiguration": {
         "AuthenticationConfiguration": {
            "ConnectionArn": "arn:aws:apprunner:us-east-1:123456789012:connection/my-github-connection/e7656250f67242d7819feade6800f59e"
         },
         "AutoDeploymentsEnabled": true,
         "CodeRepository": {
            "CodeConfiguration": {
               "CodeConfigurationValues": {
                  "BuildCommand": "pip install -r requirements.txt",
                  "Port": "8080",
                  "Runtime": "PYTHON_3",
                  "RuntimeEnvironmentVariables": [
                     {
                        "NAME": "Jane"
                     }
                  ],
                  "StartCommand": "python server.py"
               }
            }
         }
      }
   }
}
```
Example 2: To create a source code repository service

The following `create-service` example creates an App Runner service based on a Python source code repository.

```bash
aws apprunner create-service \
  --cli-input-json file://input.json
```

Contents of `input.json`:

```json
{
  "ServiceName": "python-app",
  "SourceConfiguration": {
    "AuthenticationConfiguration": {
      "ConnectionArn": "arn:aws:apprunner:us-east-1:123456789012:connection/my-github-connection/e7656250f67242d7819feade6800f59e"
    },
    "AutoDeploymentsEnabled": true,
    "CodeRepository": {
      "RepositoryUrl": "https://github.com/my-account/python-hello",
      "SourceCodeVersion": {
        "Type": "BRANCH",
        "Value": "main"
      },
      "CodeConfiguration": {
```
"ConfigurationSource": "API",
"CodeConfigurationValues": {
  "Runtime": "PYTHON_3",
  "BuildCommand": "pip install -r requirements.txt",
  "StartCommand": "python server.py",
  "Port": "8080",
  "RuntimeEnvironmentVariables": [
    {
      "NAME": "Jane"
    }
  ]
},
"InstanceConfiguration": {
  "CPU": "1 vCPU",
  "Memory": "3 GB"
}
}

Output:

{
  "OperationId": "17fe9f55-7e91-4097-b243-fcabbb69a4cf",
  "Service": {
    "CreatedAt": "2020-11-20T19:05:25Z",
    "UpdatedAt": "2020-11-20T19:05:25Z",
    "ServiceArn": "arn:aws:apprunner:us-east-1:123456789012:service/python-app/8fe1e10304f84fd2b0df550fe98a71fa",
    "ServiceId": "8fe1e10304f84fd2b0df550fe98a71fa",
    "ServiceName": "python-app",
    "ServiceUrl": "psbqam834h.us-east-1.awsapprunner.com",
    "SourceConfiguration": {
      "AuthenticationConfiguration": {
        "ConnectionArn": "arn:aws:apprunner:us-east-1:123456789012:connection/my-github-connection/e7656250f67242d7819feade6800f59e"
      },
      "AutoDeploymentsEnabled": true,
      "CodeRepository": {
        "CodeConfiguration": {
          "CodeConfigurationValues": {
            "Actions and scenarios": 558
          }
        }
      }
    }
  }
}
Example 3: To create a source image repository service

The following create-service example creates an App Runner service based on an image stored in Elastic Container Registry (ECR).

```bash
aws apprunner create-service \\
   --cli-input-json file://input.json
```

Contents of input.json:

```json
{
   "ServiceName": "golang-container-app",
   "SourceConfiguration": {
      "AuthenticationConfiguration": {
         "AccessRoleArn": "arn:aws:iam::123456789012:role/my-ecr-role"
      },
      "RepositoryUrl": "https://github.com/my-account/python-hello",
      "SourceCodeVersion": {
         "Type": "BRANCH",
         "Value": "main"
      }
   },
   "ConfigurationSource": "Api",
   "Status": "OPERATION_IN_PROGRESS",
   "InstanceConfiguration": {
      "CPU": "1 vCPU",
      "Memory": "3 GB"
   }
}
```
"AutoDeploymentsEnabled": true,
"ImageRepository": {
    "ImageIdentifier": "123456789012.dkr.ecr.us-east-1.amazonaws.com/golang-app:latest",
    "ImageConfiguration": {
        "Port": "8080",
        "RuntimeEnvironmentVariables": [
            {
                "NAME": "Jane"
            }
        ],
        "ImageRepositoryType": "ECR"
    }
},
"InstanceConfiguration": {
    "CPU": "1 vCPU",
    "Memory": "3 GB"
}
}

Output:

{
    "OperationId": "17fe9f55-7e91-4097-b243-fcabbb69a4cf",
    "Service": {
        "CreatedAt": "2020-11-06T23:15:30Z",
        "UpdatedAt": "2020-11-06T23:15:30Z",
        "ServiceArn": "arn:aws:apprunner:us-east-1:123456789012:service/golang-container-app/51728f8a20ce46d39b25398a6c8e9d1a",
        "ServiceId": "51728f8a20ce46d39b25398a6c8e9d1a",
        "ServiceName": "golang-container-app",
        "ServiceUrl": "psbqam834h.us-east-1.awsapprunner.com",
        "SourceConfiguration": {
            "AuthenticationConfiguration": {
                "AccessRoleArn": "arn:aws:iam::123456789012:role/my-ecr-role"
            },
            "AutoDeploymentsEnabled": true,
            "ImageRepository": {
                "ImageIdentifier": "123456789012.dkr.ecr.us-east-1.amazonaws.com/golang-app:latest",
                "ImageConfiguration": {
                    "Port": "8080",
                }
            }
        }
    }
}
For API details, see CreateService in AWS CLI Command Reference.

delete-auto-scaling-configuration

The following code example shows how to use delete-auto-scaling-configuration.

AWS CLI

Example 1: To delete the latest active revision of an auto scaling configuration

The following delete-auto-scaling-configuration example deletes the latest active revision of an App Runner auto scaling configuration. To delete the latest active revision, specify an Amazon Resource Name (ARN) that ends with the configuration name, without the revision component.

In the example, two revisions exist before this action. Therefore, revision 2 (the latest) is deleted. However, it now shows "Latest": false, because, after being deleted, it isn't the latest active revision anymore.

```
aws apprunner delete-auto-scaling-configuration \
   --cli-input-json file://input.json
```

Contents of input.json:

```
{
   "RuntimeEnvironmentVariables": [
      {
         "NAME": "Jane"
      }
   ],
   "ImageRepositoryType": "ECR"
},
   "Status": "OPERATION_IN_PROGRESS",
   "InstanceConfiguration": {
      "CPU": "1 vCPU",
      "Memory": "3 GB"
   }
}
```
Example 2: To delete a specific revision of an auto scaling configuration

The following delete-auto-scaling-configuration example deletes a specific revision of an App Runner auto scaling configuration. To delete a specific revision, specify an ARN that includes the revision number.

In the example, several revisions exist before this action. The action deletes revision 1.

```sh
aws apprunner delete-auto-scaling-configuration \n  --cli-input-json file://input.json
```

Contents of `input.json`:

```json
{
  "AutoScalingConfigurationArn": "arn:aws:apprunner:us-east-1:123456789012:autoscalingconfiguration/high-availability/1"
}
```

Output:
```json
{
   "AutoScalingConfiguration": {
      "AutoScalingConfigurationArn": "arn:aws:apprunner:us-east-1:123456789012:autoscalingconfiguration/high-availability/1/2f50e7656d7819feda0f59672e68042e",
      "AutoScalingConfigurationName": "high-availability",
      "AutoScalingConfigurationRevision": 1,
      "CreatedAt": "2020-11-03T00:29:17Z",
      "DeletedAt": "2021-03-02T08:07:06Z",
      "Latest": false,
      "Status": "INACTIVE",
      "MaxConcurrency": 100,
      "MaxSize": 50,
      "MinSize": 5
   }
}
```

- For API details, see [DeleteAutoScalingConfiguration](#) in *AWS CLI Command Reference*.

**delete-connection**

The following code example shows how to use `delete-connection`.

**AWS CLI**

**To delete a connection**

The following delete-connection example deletes an App Runner connection. The connection status after a successful call is `DELETED`. This is because the connection is no longer available.

```
aws apprunner delete-connection \
   --cli-input-json file://input.json
```

**Contents of `input.json`:**

```json
{
   "ConnectionArn": "arn:aws:apprunner:us-east-1:123456789012:connection/my-github-connection"
}
```
Output:

```json
{
    "Connection": {
        "ConnectionName": "my-github-connection",
        "Status": "DELETED",
        "CreatedAt": "2020-11-03T00:32:51Z",
        "ProviderType": "GITHUB"
    }
}
```

- For API details, see [DeleteConnection](#) in *AWS CLI Command Reference*.

**delete-service**

The following code example shows how to use `delete-service`.

**AWS CLI**

**To delete a service**

The following `delete-service` example deletes an App Runner service.

```bash
aws apprunner delete-service \
    --cli-input-json file://input.json
```

Contents of `input.json`:

```json
{
    "ServiceArn": "arn:aws:apprunner:us-east-1:123456789012:service/python-app/8fe1e10304f84fd2b0df550fe98a71fa"
}
```

Output:

```json
{
    "OperationId": "17fe9f55-7e91-4097-b243-fcabb69a4cf",
    "Service": {
        "CreatedAt": "2020-11-20T19:05:25Z",
```
For API details, see [DeleteService](https://docs.aws.amazon.com/cli/latest/reference/apprunner/delete-service.html) in **AWS CLI Command Reference**.
describe-auto-scaling-configuration

The following code example shows how to use describe-auto-scaling-configuration.

**AWS CLI**

**Example 1: To describe the latest active revision of an auto scaling configuration**

The following describe-auto-scaling-configuration example gets a description of the latest active revision of an App Runner auto scaling configuration. To describe the latest active revision, specify an ARN that ends with the configuration name, without the revision component.

In the example, two revisions exist. Therefore, revision 2 (the latest) is described. The resulting object shows "Latest": true.

```bash
aws apprunner describe-auto-scaling-configuration \\
--cli-input-json file://input.json
```

**Contents of input.json:**

```
{
   "AutoScalingConfigurationArn": "arn:aws:apprunner:us-east-1:123456789012:autoscalingconfiguration/high-availability"
}
```

**Output:**

```
{
   "AutoScalingConfiguration": {
      "AutoScalingConfigurationArn": "arn:aws:apprunner:us-east-1:123456789012:autoscalingconfiguration/high-availability/2/e76562f50d78042e819fead0f59672e6",
      "AutoScalingConfigurationName": "high-availability",
      "AutoScalingConfigurationRevision": 2,
      "CreatedAt": "2021-02-25T17:42:59Z",
      "Latest": true,
      "Status": "ACTIVE",
      "MaxConcurrency": 30,
      "MaxSize": 90,
      "MinSize": 5
   }
}
```
Example 2: To describe a specific revision of an auto scaling configuration

The following describe-auto-scaling-configuration example get a description of a specific revision of an App Runner auto scaling configuration. To describe a specific revision, specify an ARN that includes the revision number.

In the example, several revisions exist and revision 1 is queried. The resulting object shows "Latest": false.

```
aws apprunner describe-auto-scaling-configuration
    --cli-input-json file://input.json
```

Contents of `input.json`:

```json
{
    "AutoScalingConfigurationArn": "arn:aws:apprunner:us-east-1:123456789012:autoscalingconfiguration/high-availability/1"
}
```

Output:

```json
{
    "AutoScalingConfiguration": {
        "AutoScalingConfigurationArn": "arn:aws:apprunner:us-east-1:123456789012:autoscalingconfiguration/high-availability/1/2f50e7656d7819f3d0f59672e68042e",
        "AutoScalingConfigurationName": "high-availability",
        "AutoScalingConfigurationRevision": 1,
        "CreatedAt": "2020-11-03T00:29:17Z",
        "Latest": false,
        "Status": "ACTIVE",
        "MaxConcurrency": 100,
        "MaxSize": 50,
        "MinSize": 5
    }
}
```

• For API details, see [DescribeAutoScalingConfiguration](#) in [AWS CLI Command Reference](#).
describe-custom-domains

The following code example shows how to use describe-custom-domains.

AWS CLI

To get descriptions of custom domain names associated with a service

The following describe-custom-domains example get descriptions and status of the custom domain names associated with an App Runner service.

```bash
aws apprunner describe-custom-domains \
--cli-input-json file://input.json
```

Contents of `input.json`:

```json
{
    "ServiceArn": "arn:aws:apprunner:us-east-1:123456789012:service/python-app/8fe1e10304f84fed2bf0df550fe98a71fa",
    "DomainName": "example.com",
    "EnableWWWSubdomain": true
}
```

Output:

```json
{
    "CustomDomains": [
        {
            "CertificateValidationRecords": [
                {
                    "Name": "_70d3f50a94f7c72dc28784cf55db2f6b.example.com",
                    "Status": "PENDING_VALIDATION",
                    "Type": "CNAME",
                    "Value": "_1270c137383c63076832db02504c4b0.bsgbmzkfwj.acm-validations.aws."
                },
                {
                    "Name": "_287870d3f50a94f7c72dc4cf55db2f6b.www.example.com",
                    "Status": "PENDING_VALIDATION",
                    "Type": "CNAME",
                    "Value": "_832db01270c137383c6307b62504c4b0.mzkbsgbfwj.acm-validations.aws."
                }
            ]
        }
    ]
}
```
For API details, see DescribeCustomDomains in AWS CLI Command Reference.

describe-service

The following code example shows how to use describe-service.

AWS CLI

To describe a service

The following describe-service example gets a description of an App Runner service.

```bash
code example
aws apprunner describe-service \
   --cli-input-json file://input.json

Contents of input.json:
```
Output:

```json
{
    "Service": {
        "CreatedAt": "2020-11-20T19:05:25Z",
        "UpdatedAt": "2020-11-20T19:05:25Z",
        "ServiceArn": "arn:aws:apprunner:us-east-1:123456789012:service/python-app/8fe1e10304f84fd2b0df550fe98a71fa",
        "ServiceId": "8fe1e10304f84fd2b0df550fe98a71fa",
        "ServiceName": "python-app",
        "ServiceUrl": "psbqam834h.us-east-1.awsapprunner.com",
        "SourceConfiguration": {
            "AuthenticationConfiguration": {
                "ConnectionArn": "arn:aws:apprunner:us-east-1:123456789012:connection/my-github-connection/e7656250f67242d7819feade6800f59e",
                "AutoDeploymentsEnabled": true,
                "CodeRepository": {
                    "CodeConfiguration":{
                        "CodeConfigurationValues": {
                            "BuildCommand": "pip install -r requirements.txt",
                            "Port": "8080",
                            "Runtime": "PYTHON_3",
                            "RuntimeEnvironmentVariables": [
                                {
                                    "NAME": "Jane"
                                }
                            ],
                            "StartCommand": "python server.py"
                        },
                        "ConfigurationSource": "Api"
                    },
                    "RepositoryUrl": "https://github.com/my-account/python-hello",
                    "SourceCodeVersion": {
                        "Type": "BRANCH",
                        "Value": "main"
                    }
                }
            }
        }
    }
}
```
disassociate-custom-domain

The following code example shows how to use disassociate-custom-domain.

AWS CLI

To disassociate a domain name from a service

The following disassociate-custom-domain example disassociates the domain example.com from an App Runner service. The call also disassociates the subdomain www.example.com that was associated together with the root domain.

```
aws apprunner disassociate-custom-domain \\
--cli-input-json file://input.json
```

Contents of `input.json`:

```
{
    "ServiceArn": "arn:aws:apprunner:us-east-1:123456789012:service/python-app/8fe1e10304f84fd2b0df550fe98a71fa",
    "DomainName": "example.com"
}
```

Output:

```
{
    "CustomDomain": {
        "CertificateValidationRecords": [
            {
```
For API details, see DisassociateCustomDomain in AWS CLI Command Reference.

list-auto-scaling-configurations

The following code example shows how to use list-auto-scaling-configurations.

AWS CLI

To get a paginated listing of App Runner auto scaling configurations

The following list-auto-scaling-configurations example lists all App Runner auto scaling configurations in your AWS account. Up to five auto scaling configurations are listed in each response. AutoScalingConfigurationName and LatestOnly aren't specified. Their defaults cause the latest revision of all active configurations to be listed.

In this example, the response includes two results and there aren't additional ones, so no NextToken is returned.

aws apprunner list-auto-scaling-configurations \

Contents of input.json:

```json
{
   "MaxResults": 5
}
```

Output:

```json
{
   "AutoScalingConfigurationSummaryList": [
      {
         "AutoScalingConfigurationArn": "arn:aws:apprunner:us-east-1:123456789012:autoscalingconfiguration/high-availability/2/e76562f50d78042e819fead0f59672e6",
         "AutoScalingConfigurationName": "high-availability",
         "AutoScalingConfigurationRevision": 2
      },
      {
         "AutoScalingConfigurationArn": "arn:aws:apprunner:us-east-1:123456789012:autoscalingconfiguration/low-cost/1/50d7804e7656f8ead0f59672e62f2e819",
         "AutoScalingConfigurationName": "low-cost",
         "AutoScalingConfigurationRevision": 1
      }
   ]
}
```

- For API details, see [ListAutoScalingConfigurations](#) in *AWS CLI Command Reference*.

**list-connections**

The following code example shows how to use `list-connections`.

**AWS CLI**

**Example 1: To list all connections**

The following `list-connections` example lists all App Runner connections in the AWS account.
aws apprunner list-connections

Output:

```
{
    "ConnectionSummaryList": [
        {
            "ConnectionName": "my-github-connection",
            "Status": "AVAILABLE",
            "CreatedAt": "2020-11-03T00:32:51Z",
            "ProviderType": "GITHUB"
        },
        {
            "ConnectionName": "my-github-org-connection",
            "Status": "AVAILABLE",
            "CreatedAt": "2020-11-03T02:54:17Z",
            "ProviderType": "GITHUB"
        }
    ]
}
```

Example 2: To list a connection by name

The following list-connections example lists a connection by its name.

```
aws apprunner list-connections \
--cli-input-json file://input.json
```

Contents of input.json:

```
{
    "ConnectionName": "my-github-org-connection"
}
```

Output:

```
{
```

Actions and scenarios 574
"ConnectionSummaryList": [  
   {  
      "ConnectionName": "my-github-org-connection",  
      "Status": "AVAILABLE",  
      "CreatedAt": "2020-11-03T02:54:17Z",  
      "ProviderType": "GITHUB"  
   }  
]  
}

• For API details, see ListConnections in AWS CLI Command Reference.

list-operations

The following code example shows how to use list-operations.

AWS CLI

To list operations that occurred on a servicee

The following list-operations example lists all operations that occurred on an App Runner service so far. In this example, the service is new and only a single operation of type CREATE_SERVICE has occurred.

aws apprunner list-operations  
   --cli-input-json file://input.json

Contents of input.json:

{
   "ServiceArn": "arn:aws:apprunner:us-east-1:123456789012:service/python-app/8fe1e10304f84fd2b0df550fe98a71fa"
}

Output:

{  
   "OperationSummaryList": [  
      {  
         "EndedAt": 1606156217,  
      }  
   ]  
}
For API details, see ListOperations in AWS CLI Command Reference.

list-services

The following code example shows how to use list-services.

AWS CLI

To get a paginated listing of App Runner services

The following list-services example lists all App Runner services in the AWS account. Up to two services are listed in each response. This example shows the first request. The response includes two results and a token that can be used in the next request. When a subsequent response doesn't include a token, all services have been listed.

```
aws apprunner list-services \  
   --cli-input-json file://input.json
```

Contents of input.json:

```
{
   "MaxResults": 2
}
```

Output:

```
{
   "NextToken":
   "eyJJDdXN0b21lckFjY291bnRJZCI6IjI3MDIwNTQwMjg0NSIsIlNlcnZpY2VtcGF0dXNDb2RlIjoiUFJPVklTSU9OSU5HIiwiSGFzaEtleSI6IjI3MDIwNTQwMjg0NSNhYjhmOTRjZmUyOWE0NjBmYjg3NjBhZmQyZWU4NzU1NSJ9",
   "ServiceSummaryList": [
```

Actions and scenarios
For API details, see [ListServices](https://docs.aws.amazon.com/cli/latest/reference/apprunner/list-tags-for-resource/) in *AWS CLI Command Reference*.

### list-tags-for-resource

The following code example shows how to use `list-tags-for-resource`.

**AWS CLI**

To list tags associated with an App Runner service

The following `list-tags-for-resource` example lists all the tags that are associated with an App Runner service.

```bash
aws apprunner list-tags-for-resource \
  --cli-input-json file://input.json
```

Contents of `input.json`:

```json
{

}
```
Output:

```json
{
    "Tags": [
        {
            "Key": "Department",
            "Value": "Retail"
        },
        {
            "Key": "CustomerId",
            "Value": "56439872357912"
        }
    ]
}
```

- For API details, see [ListTagsForResource](https://docs.aws.amazon.com/cli/latest/reference/apprunner/list-tags-for-resource.html) in *AWS CLI Command Reference*.

**pause-service**

The following code example shows how to use `pause-service`.

**AWS CLI**

**To pause a service**

The following `pause-service` example pauses an App Runner service.

```
aws apprunner pause-service \
    --cli-input-json file://input.json
```

Contents of `input.json`:

```json
{
    "ServiceArn": "arn:aws:apprunner:us-east-1:123456789012:service/python-app/8fe1e10304f84fd2b0df550fe98a71fa"
}
```
Output:

```json
{
   "OperationId": "17fe9f55-7e91-4097-b243-fcabb69a4cf",
   "Service": {
      "CreatedAt": "2020-11-20T19:05:25Z",
      "UpdatedAt": "2020-11-23T12:41:37Z",
      "ServiceArn": "arn:aws:apprunner:us-east-1:123456789012:service/python-app/8fe1e10304f84fd2b0df550fe98a71fa",
      "ServiceId": "8fe1e10304f84fd2b0df550fe98a71fa",
      "ServiceName": "python-app",
      "ServiceUrl": "psbqam834h.us-east-1.awsapprunner.com",
      "SourceConfiguration": {
         "AuthenticationConfiguration": {
            "ConnectionArn": "arn:aws:apprunner:us-east-1:123456789012:connection/my-github-connection/e7656250f67242d7819feade6800f59e"
         },
         "AutoDeploymentsEnabled": true,
         "CodeRepository": {
            "CodeConfiguration": {
               "CodeConfigurationValues": {
                  "BuildCommand": "pip install -r requirements.txt",
                  "Port": "8080",
                  "Runtime": "PYTHON_3",
                  "RuntimeEnvironmentVariables": [
                     {
                        "NAME": "Jane"
                     }
                  ],
                  "StartCommand": "python server.py"
               },
               "ConfigurationSource": "Api"
            },
            "RepositoryUrl": "https://github.com/my-account/python-hello",
            "SourceCodeVersion": {
               "Type": "BRANCH",
               "Value": "main"
            }
         }
      },
      "Status": "OPERATION_IN_PROGRESS",
      "InstanceConfiguration": {
         "CPU": "1 vCPU",
```
For API details, see PauseService in AWS CLI Command Reference.

resume-service

The following code example shows how to use resume-service.

AWS CLI

To resume a service

The following resume-service example resumes an App Runner service.

```
aws apprunner resume-service \
    --cli-input-json file://input.json
```

Contents of input.json:

```
{
    "ServiceArn": "arn:aws:apprunner:us-east-1:123456789012:service/python-app/8fe1e10304f84fd2b0df550fe98a71fa"
}
```

Output:

```
{
    "OperationId": "17fe9f55-7e91-4097-b243-fcabb69a4cf",
    "Service": {
        "CreatedAt": "2020-11-20T19:05:25Z",
        "UpdatedAt": "2020-11-23T12:41:37Z",
        "ServiceArn": "arn:aws:apprunner:us-east-1:123456789012:service/python-app/8fe1e10304f84fd2b0df550fe98a71fa",
        "ServiceId": "8fe1e10304f84fd2b0df550fe98a71fa",
        "ServiceName": "python-app",
        "ServiceUrl": "psbqam834h.us-east-1.awsapprunner.com",
        "SourceConfiguration": {
            "AuthenticationConfiguration": {
```
"ConnectionArn": "arn:aws:apprunner:us-east-1:123456789012:connection/my-github-connection/e7656250f67242d7819f6ade6800f59e",
"AutoDeploymentsEnabled": true,
"CodeRepository": {
  "CodeConfiguration": {
    "CodeConfigurationValues": {
      "BuildCommand": "pip install -r requirements.txt",
      "Port": "8080",
      "Runtime": "PYTHON_3",
      "RuntimeEnvironmentVariables": [
        {
          "NAME": "Jane"
        }
      ],
      "StartCommand": "python server.py"
    },
    "ConfigurationSource": "Api"
  },
  "RepositoryUrl": "https://github.com/my-account/python-hello",
  "SourceCodeVersion": {
    "Type": "BRANCH",
    "Value": "main"
  }
},
"Status": "OPERATION_IN_PROGRESS",
"InstanceConfiguration": {
  "CPU": "1 vCPU",
  "Memory": "3 GB"
}
}

- For API details, see ResumeService in AWS CLI Command Reference.

start-deployment

The following code example shows how to use start-deployment.
AWS CLI

To initiate a manual deployment

The following `start-deployment` example performs a manual deployment to an App Runner service.

```bash
aws apprunner start-deployment \
  --cli-input-json file://input.json
```

Contents of `input.json`:

```json
{
  "ServiceArn": "arn:aws:apprunner:us-east-1:123456789012:service/python-app/8fe1e10304f84fd2b0df550fe98a71fa"
}
```

Output:

```json
{
  "OperationId": "853a7d5b-fc9f-4730-831b-fd8037ab832a"
}
```

- For API details, see [StartDeployment](https://awscli.amazonaws.com/v2/documentation/api/latest/reference/apprunner/start-deployment.html) in *AWS CLI Command Reference*.

**tag-resource**

The following code example shows how to use `tag-resource`.

AWS CLI

To add tags to an App Runner service

The following `tag-resource` example adds two tags to an App Runner service.

```bash
aws apprunner tag-resource \\
  --cli-input-json file://input.json
```

Contents of `input.json`:
This command produces no output.

- For API details, see TagResource in AWS CLI Command Reference.

untag-resource

The following code example shows how to use untag-resource.

AWS CLI

To remove tags from an App Runner service

The following untag-resource example removes two tags from an App Runner service.

```
aws apprunner untag-resource \
  --cli-input-json file://input.json
```

Contents of input.json:

```json
{
    "ResourceArn": "arn:aws:apprunner:us-east-1:123456789012:service/python-app/8fe1e10304f84fd2b0df550fe98a71fa",
    "TagKeys": [
        "Department",
        "CustomerId"
    ]
}
```
This command produces no output.

- For API details, see `UntagResource` in *AWS CLI Command Reference*.

**update-service**

The following code example shows how to use `update-service`.

**AWS CLI**

**To update memory size**

The following `update-service` example updates the memory size of instances (scaling units) of an App Runner service to 2048 MiB.

When the call succeeds, App Runner starts an asynchronous update process. The `Service` structure that’s returned by the call reflects the new memory value that’s being applied by this call.

```bash
aws apprunner update-service \\
  --cli-input-json file://input.json
```

**Contents of `input.json`:**

```json
{
  "ServiceArn": "arn:aws:apprunner:us-east-1:123456789012:service/python-app/8fe1e10304f84fd2b0df550fe98a71fa",
  "InstanceConfiguration": {
    "Memory": "4 GB"
  }
}
```

**Output:**

```json
{
  "OperationId": "17fe9f55-7e91-4097-b243-fcabb69a4cf",
  "Service": {
    "CreatedAt": "2020-11-20T19:05:25Z",
  }
}
```
• For API details, see UpdateService in AWS CLI Command Reference.
AWS AppConfig examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS AppConfig.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- Actions

**Actions**

**create-application**

The following code example shows how to use `create-application`.

**AWS CLI**

To create an application

The following `create-application` example creates an application in AWS AppConfig.

```
aws appconfig create-application \
  --name "example-application" \
  --description "An application used for creating an example."
```

Output:

```json
{
  "Description": "An application used for creating an example.",
  "Id": "339ohji",
  "Name": "example-application"
}
```
create-configuration-profile

The following code example shows how to use create-configuration-profile.

AWS CLI

To create a configuration profile

The following create-configuration-profile example creates a configuration profile using a configuration stored in Parameter Store, a capability of Systems Manager.

```bash
aws appconfig create-configuration-profile \
  --application-id "339ohji" \
  --name "Example-Configuration-Profile" \
  --location-uri "ssm-parameter://Example-Parameter" \
  --retrieval-role-arn "arn:aws:iam::111122223333:role/Example-App-Config-Role"
```

Output:

```json
{
    "ApplicationId": "339ohji",
    "Description": null,
    "Id": "ur8hx2f",
    "LocationUri": "ssm-parameter://Example-Parameter",
    "Name": "Example-Configuration-Profile",
    "RetrievalRoleArn": "arn:aws:iam::111122223333:role/Example-App-Config-Role",
    "Type": null,
    "Validators": null
}
```

For more information, see Step 3: Creating a configuration and a configuration profile in the AWS AppConfig User Guide.

• For API details, see CreateConfigurationProfile in AWS CLI Command Reference.
**create-environment**

The following code example shows how to use `create-environment`.

**AWS CLI**

**To create an environment**

The following `create-environment` example creates an AWS AppConfig environment named Example-Environment using the application you created using `create-application`.

```bash
aws appconfig create-environment \
   --application-id "339ohji" \
   --name "Example-Environment"
```

**Output:**

```json
{
   "ApplicationId": "339ohji",
   "Description": null,
   "Id": "54j1r29",
   "Monitors": null,
   "Name": "Example-Environment",
   "State": "ReadyForDeployment"
}
```

For more information, see [Step 2: Creating an environment](#) in the *AWS AppConfig User Guide*.

- For API details, see [CreateEnvironment](#) in *AWS CLI Command Reference*.

**create-extension**

The following code example shows how to use `create-extension`.

**AWS CLI**

**To create an extension**

The following `create-extension` example creates a new extension in AWS AppConfig.

```bash
aws appconfig create-extension \
   --region us-west-2 \
```

**Actions and scenarios**
create-extension-association

The following code example shows how to use create-extension-association.

AWS CLI

To create an extension association
The following `create-extension-association` example creates a new extension association in AWS AppConfig.

```
aws appconfig create-extension-association \
   --region us-west-2 \
   --extension-identifier S3-backup-extension \
   --parameters S3bucket=FinanceConfigurationBackup
```

Output:

```
{
   "Id": "a1b2c3d4",
   "Parameters": {
      "S3bucket": "FinanceConfigurationBackup"
   },
   "ExtensionVersionNumber": 1
}
```

For more information, see [Working with AWS AppConfig extensions](#) in the *AWS AppConfig User Guide*.

- For API details, see [CreateExtensionAssociation](#) in *AWS CLI Command Reference*.

### create-hosted-configuration-version

The following code example shows how to use `create-hosted-configuration-version`.

**AWS CLI**

To create a hosted configuration version

The following `create-hosted-configuration-version` example creates a new configuration in the AWS AppConfig hosted configuration store. The configuration content must first be converted to base64.

```
aws appconfig create-hosted-configuration-version \
   --application-id "339ohji" \n```
Contents of `configuration_version_output_file`:

```
{ "Name": "ExampleApplication", "Id": ExampleID, "Rank": 7 }
```

Output:

```
{
  "ApplicationId": "339ohji",
  "ConfigurationProfileId": "ur8hx2f",
  "VersionNumber": "1",
  "ContentType": "application/json"
}
```

For more information, see About the AWS AppConfig hosted configuration store in the AWS AppConfig User Guide.

- For API details, see CreateHostedConfigurationVersion in AWS CLI Command Reference.

---

### delete-application

The following code example shows how to use `delete-application`.

**AWS CLI**

**To delete an application**

The following `delete-application` example deletes the specified application.

```
aws appconfig delete-application \
--application-id 339ohji
```

This command produces no output.

For more information, see Step 1: Creating an AWS AppConfig application in the AWS AppConfig User Guide.
delete-configuration-profile

The following code example shows how to use delete-configuration-profile.

AWS CLI

To delete a configuration profile

The following delete-configuration-profile example deletes the specified configuration profile.

```plaintext
aws appconfig delete-configuration-profile \
  --application-id 339ohji \
  --configuration-profile-id ur8hx2f
```

This command produces no output.

For more information, see Step 3: Creating a configuration and a configuration profile in the AWS AppConfig User Guide.

delete-deployment-strategy

The following code example shows how to use delete-deployment-strategy.

AWS CLI

To delete a deployment strategy

The following delete-deployment-strategy example deletes the specified deployment strategy.

```plaintext
aws appconfig delete-deployment-strategy \
  --deployment-strategy-id 1225qzk
```

This command produces no output.

For more information, see Step 4: Creating a deployment strategy in the AWS AppConfig User Guide.
For API details, see DeleteDeploymentStrategy in AWS CLI Command Reference.

delete-environment

The following code example shows how to use delete-environment.

AWS CLI

To delete an environment

The following delete-environment example deletes the specified application environment.

```bash
aws appconfig delete-environment \
   --application-id 339ohji \
   --environment-id 54j1r29
```

This command produces no output.

For more information, see Step 2: Creating an environment in the AWS AppConfig User Guide.

For API details, see DeleteEnvironment in AWS CLI Command Reference.

delete-extension

The following code example shows how to use delete-extension.

AWS CLI

To delete an extension

The following delete-extension example deletes an extension from AWS AppConfig.

```bash
aws appconfig delete-extension \
   --region us-west-2 \
   --extension-identifier S3-backup-extension
```

This command produces no output.

For more information, see Working with AWS AppConfig extensions in the AWS AppConfig User Guide.

For API details, see DeleteExtension in AWS CLI Command Reference.
delete-extension-association

The following code example shows how to use delete-extension-association.

**AWS CLI**

**To delete an extension association**

The following delete-extension-association example deletes an extension association from AWS AppConfig.

```bash
aws appconfig delete-extension-association \
  --region us-west-2 \
  --extension-association-id a1b2c3d4
```

This command produces no output.

For more information, see [Working with AWS AppConfig extensions](https://docs.aws.amazon.com/appconfig/latest/userguide/appconfig-working-with-extensions.html) in the *AWS AppConfig User Guide*.

- For API details, see [DeleteExtensionAssociation](https://docs.aws.amazon.com/cli/latest/reference/appconfig/delete-extension-association.html) in *AWS CLI Command Reference*.

delete-hosted-configuration-version

The following code example shows how to use delete-hosted-configuration-version.

**AWS CLI**

**To delete a hosted configuration version**

The following delete-hosted-configuration-version example deletes a configuration version hosted in the AWS AppConfig hosted configuration store.

```bash
aws appconfig delete-hosted-configuration-version \
  --application-id 339ohji \
  --configuration-profile-id ur8hx2f \
  --version-number 1
```

Output:: This command produces no output.

For more information, see [Step 3: Creating a configuration and a configuration profile](https://docs.aws.amazon.com/appconfig/latest/userguide/appconfig-working-with-extensions.html) in the *AWS AppConfig User Guide*. 
get-application

The following code example shows how to use get-application.

AWS CLI

To list details of an application

The following get-application example lists the details of the specified application.

```bash
aws appconfig get-application \
   --application-id 339ohji
```

Output:

```
{
   "Description": "An application used for creating an example.",
   "Id": "339ohji",
   "Name": "example-application"
}
```

For more information, see How AWS AppConfig works in the AWS AppConfig User Guide.

get-configuration

The following code example shows how to use get-configuration.

AWS CLI

To retrieve configuration details

The following get-configuration example returns the configuration details of the example application. On subsequent calls to get-configuration use the client-configuration-version parameter to only update the configuration of your application if the version has changed. Only updating the configuration when the version has changed avoids excess charges incurred by calling get-configuration.

```bash
aws appconfig get-configuration \
```
--application "example-application" \
--environment "Example-Environment" \
--configuration "Example-Configuration-Profile" \
--client-id "test-id" \
configuration-output-file

Contents of configuration-output-file:

```json
{
"Name": "ExampleApplication", "Id": ExampleID, "Rank": 7
}
```

Output:

```json
{
  "ConfigurationVersion": "1",
  "ContentType": "application/json"
}
```

For more information, see Step 6: Receiving the configuration in the AWS AppConfig User Guide.

- For API details, see GetConfiguration in AWS CLI Command Reference.

get-configuration-profile

The following code example shows how to use get-configuration-profile.

AWS CLI

To retrieve configuration profile details

The following get-configuration-profile example returns the details of the specified configuration profile.

```bash
aws appconfig get-configuration-profile \
  --application-id 339ohji \
  --configuration-profile-id ur8hx2f
```

Output:

```json
{
  "ApplicationId": "339ohji",
  "Id": "ur8hx2f",
  "Name": "Example-Configuration-Profile",
```
"LocationUri": "ssm-parameter://Example-Parameter",
"RetrievalRoleArn": "arn:aws:iam::111122223333:role/Example-App-Config-Role"
}

For more information, see Step 3: Creating a configuration and a configuration profile in the AWS AppConfig User Guide.

- For API details, see GetConfigurationProfile in AWS CLI Command Reference.

get-deployment

The following code example shows how to use get-deployment.

**AWS CLI**

To retrieve deployment details

The following get-deployment example lists details of the deployment to the application in the specified environment and deployment.

```
aws appconfig get-deployment \
   --application-id 339ohji \ 
   --environment-id 54j1r29 \ 
   --deployment-number 1
```

Output:

```
{
   "ApplicationId": "339ohji",
   "EnvironmentId": "54j1r29",
   "DeploymentStrategyId": "1225qzk",
   "ConfigurationProfileId": "ur8hx2f",
   "DeploymentNumber": 1,
   "ConfigurationName": "Example-Configuration-Profile",
   "ConfigurationLocationUri": "ssm-parameter://Example-Parameter",
   "ConfigurationVersion": "1",
   "DeploymentDurationInMinutes": 15,
   "GrowthType": "LINEAR",
   "GrowthFactor": 25.0,
   "FinalBakeTimeInMinutes": 0,
   "State": "COMPLETE",
   "EventLog": [
      {
```
"EventType": "DEPLOYMENT_COMPLETED",
"TriggeredBy": "APPCONFIG",
"Description": "Deployment completed",
"OccurredAt": "2021-09-17T21:59:03.888000+00:00"
},
{
"EventType": "BAKE_TIME_STARTED",
"TriggeredBy": "APPCONFIG",
"Description": "Deployment bake time started",
"OccurredAt": "2021-09-17T21:58:57.722000+00:00"
},
{
"EventType": "PERCENTAGE_UPDATED",
"TriggeredBy": "APPCONFIG",
"Description": "Configuration available to 100.00% of clients",
"OccurredAt": "2021-09-17T21:55:56.816000+00:00"
},
{
"EventType": "PERCENTAGE_UPDATED",
"TriggeredBy": "APPCONFIG",
"Description": "Configuration available to 75.00% of clients",
"OccurredAt": "2021-09-17T21:52:56.567000+00:00"
},
{
"EventType": "PERCENTAGE_UPDATED",
"TriggeredBy": "APPCONFIG",
"Description": "Configuration available to 50.00% of clients",
"OccurredAt": "2021-09-17T21:49:55.737000+00:00"
},
{
"EventType": "PERCENTAGE_UPDATED",
"TriggeredBy": "APPCONFIG",
"Description": "Configuration available to 25.00% of clients",
"OccurredAt": "2021-09-17T21:46:55.187000+00:00"
},
{
"EventType": "DEPLOYMENT_STARTED",
"TriggeredBy": "USER",
"Description": "Deployment started",
"OccurredAt": "2021-09-17T21:43:54.205000+00:00"
}]
"PercentageComplete": 100.0,
"StartedAt": "2021-09-17T21:43:54.205000+00:00",
get-deployment-strategy

The following code example shows how to use get-deployment-strategy.

AWS CLI

To retrieve details of a deployment strategy

The following get-deployment-strategy example lists the details of the specified deployment strategy.

```bash
aws appconfig get-deployment-strategy \
   --deployment-strategy-id 1225qzk
```

Output:

```
{
   "Id": "1225qzk",
   "Name": "Example-Deployment",
   "DeploymentDurationInMinutes": 15,
   "GrowthType": "LINEAR",
   "GrowthFactor": 25.0,
   "FinalBakeTimeInMinutes": 0,
   "ReplicateTo": "SSM_DOCUMENT"
}
```

For more information, see Step 4: Creating a deployment strategy in the AWS AppConfig User Guide.

- For API details, see GetDeploymentStrategy in AWS CLI Command Reference.

get-environment

The following code example shows how to use get-environment.
AWS CLI

To retrieve environment details

The following get-environment example returns the details and state of the specified environment.

```bash
aws appconfig get-environment \
   --application-id 339ohji \n   --environment-id 54j1r29
```

Output:

```json
{
   "ApplicationId": "339ohji",
   "Id": "54j1r29",
   "Name": "Example-Environment",
   "State": "ReadyForDeployment"
}
```

For more information, see Step 2: Creating an environment in the AWS AppConfig User Guide.

- For API details, see GetEnvironment in AWS CLI Command Reference.

get-extension

The following code example shows how to use get-extension.

AWS CLI

To get extension details

The following get-extension example displays information about an extension.

```bash
aws appconfig get-extension \
   --region us-west-2 \
   --extension-identifier S3-backup-extension
```

Output:

```json
{
   "Id": "1A2B3C4D",
}
```
"Name": "S3-backup-extension",
"VersionNumber": 1,
"Actions": {
  "PRE_CREATE_HOSTED_CONFIGURATION_VERSION": [
    {
      "Name": "S3backup",
      "RoleArn": "arn:aws:iam::123456789012:role/appconfigextensionrole"
    }
  ],
  "Parameters": {
    "S3bucket": {"Required": true}
  }
}

For more information, see [Working with AWS AppConfig extensions](#) in the [AWS AppConfig User Guide](#).

- For API details, see [GetExtension](#) in [AWS CLI Command Reference](#).

### get-extension-association

The following code example shows how to use `get-extension-association`.

#### AWS CLI

**To get extension association details**

The following `get-extension-association` example displays information about an extension association.

```sh
aws appconfig get-extension-association \
  --region us-west-2 \
  --extension-association-id a1b2c3d4
```

**Output:**
For more information, see Working with AWS AppConfig extensions in the AWS AppConfig User Guide.

- For API details, see GetExtensionAssociation in AWS CLI Command Reference.

**get-hosted-configuration-version**

The following code example shows how to use get-hosted-configuration-version.

**AWS CLI**

To retrieve hosted configuration details

The following get-hosted-configuration-version example retrieves the configuration details of the AWS AppConfig hosted configuration.

```bash
aws appconfig get-hosted-configuration-version \
  --application-id 339ohji \
  --configuration-profile-id ur8hx2f \
  --version-number 1 \
  hosted-configuration-version-output
```

Contents of hosted-configuration-version-output:

```json
{
  "Name": "ExampleApplication", "Id": ExampleID, "Rank": 7
}
```

Output:

```json
{
  "ApplicationId": "339ohji",
```
For more information, see About the AWS AppConfig hosted configuration store in the AWS AppConfig User Guide.

- For API details, see GetHostedConfigurationVersion in AWS CLI Command Reference.

### list-applications

The following code example shows how to use list-applications.

**AWS CLI**

**To list the available applications**

The following list-applications example lists the available applications in your AWS account.

```bash
aws appconfig list-applications
```

**Output:**

```json
{
   "Items": [
      {
         "Id": "339ohji",
         "Name": "test-application",
         "Description": "An application used for creating an example."
      },
      {
         "Id": "rwalwu7",
         "Name": "Test-Application"
      }
   ]
}
```

For more information, see Step 1: Creating an AWS AppConfig application in the AWS AppConfig User Guide.

- For API details, see ListApplications in AWS CLI Command Reference.
list-configuration-profiles

The following code example shows how to use list-configuration-profiles.

**AWS CLI**

To list the available configuration profiles

The following list-configuration-profiles example lists the available configuration profiles for the specified application.

```bash
aws appconfig list-configuration-profiles \
    --application-id 339ohji
```

Output:

```json
{
    "Items": [
        {
            "ApplicationId": "339ohji",
            "Id": "ur8hx2f",
            "Name": "Example-Configuration-Profile",
            "LocationUri": "ssm-parameter://Example-Parameter"
        }
    ]
}
```

For more information, see Step 3: Creating a configuration and a configuration profile in the AWS AppConfig User Guide.

- For API details, see ListConfigurationProfiles in AWS CLI Command Reference.

list-deployment-strategies

The following code example shows how to use list-deployment-strategies.

**AWS CLI**

To list the available deployment strategies

The following list-deployment-strategies example lists the available deployment strategies in your AWS account.
aws appconfig list-deployment-strategies

Output:

```json
{
    "Items": [
        {
            "Id": "1225qzk",
            "Name": "Example-Deployment",
            "DeploymentDurationInMinutes": 15,
            "GrowthType": "LINEAR",
            "GrowthFactor": 25.0,
            "FinalBakeTimeInMinutes": 0,
            "ReplicateTo": "SSM_DOCUMENT"
        },
        {
            "Id": "AppConfig.AllAtOnce",
            "Name": "AppConfig.AllAtOnce",
            "Description": "Quick",
            "DeploymentDurationInMinutes": 0,
            "GrowthType": "LINEAR",
            "GrowthFactor": 100.0,
            "FinalBakeTimeInMinutes": 10,
            "ReplicateTo": "NONE"
        },
        {
            "Id": "AppConfig.Linear50PercentEvery30Seconds",
            "Name": "AppConfig.Linear50PercentEvery30Seconds",
            "Description": "Test/Demo",
            "DeploymentDurationInMinutes": 1,
            "GrowthType": "LINEAR",
            "GrowthFactor": 50.0,
            "FinalBakeTimeInMinutes": 1,
            "ReplicateTo": "NONE"
        },
        {
            "Id": "AppConfig.Canary10Percent20Minutes",
            "Name": "AppConfig.Canary10Percent20Minutes",
            "Description": "AWS Recommended",
            "DeploymentDurationInMinutes": 20,
            "GrowthType": "EXPONENTIAL",
            "GrowthFactor": 10.0,
            "FinalBakeTimeInMinutes": 10,
        }
    ]
}
```
For more information, see Step 4: Creating a deployment strategy in the AWS AppConfig User Guide.

- For API details, see ListDeploymentStrategies in AWS CLI Command Reference.

**list-deployments**

The following code example shows how to use list-deployments.

**AWS CLI**

**To list the available deployments**

The following list-deployments example lists the available deployments in your AWS account for the specified application and environment.

```bash
aws appconfig list-deployments \
  --application-id 339ohji \
  --environment-id 54j1r29
```

Output:

```json
{
  "Items": [
    {
      "DeploymentNumber": 1,
      "ConfigurationName": "Example-Configuration-Profile",
      "ConfigurationVersion": "1",
      "DeploymentDurationInMinutes": 15,
      "GrowthType": "LINEAR",
      "GrowthFactor": 25.0,
      "FinalBakeTimeInMinutes": 0,
      "State": "COMPLETE",
      "PercentageComplete": 100.0,
      "StartedAt": "2021-09-17T21:43:54.205000+00:00",
      "CompletedAt": "2021-09-17T21:59:03.888000+00:00"
    }
  ]
}
```
list-environments

The following code example shows how to use list-environments.

AWS CLI

To list the available environments

The following list-environments example lists the available environments in your AWS account for the specified application.

```
aws appconfig list-environments \
   --application-id 339ohji
```

Output:

```
{
   "Items": [
      {
         "ApplicationId": "339ohji",
         "Id": "54j1r29",
         "Name": "Example-Environment",
         "State": "ReadyForDeployment"
      }
   ]
}
```

For more information, see Step 2: Creating an environment in the AWS AppConfig User Guide.

- For API details, see ListEnvironments in AWS CLI Command Reference.

list-extension-associations

The following code example shows how to use list-extension-associations.
AWS CLI

To list all AWS AppConfig extension associations in your AWS account for an AWS Region

The following list-extension-associations example lists all AWS AppConfig extension associations for the current AWS account in a specific AWS Region.

```bash
aws appconfig list-extension-associations \
   --region us-west-2
```

Output:

```json
{
   "Items": [
      {
         "Id": "a1b2c3d4",
      }
   ]
}
```

For more information, see [Working with AWS AppConfig extensions](https://docs.aws.amazon.com/appconfig/latest/userguide/) in the AWS AppConfig User Guide.

- For API details, see [ListExtensionAssociations](https://docs.aws.amazon.com/cli/latest/reference/appconfig/list-extension-associations.html) in AWS CLI Command Reference.

list-extensions

The following code example shows how to use list-extensions.

AWS CLI

To list all AWS AppConfig extensions in your AWS account for an AWS Region

The following list-extensions example lists all AWS AppConfig extensions for the current AWS account in a specific AWS Region. The command returns custom and AWS authored extensions.

```bash
aws appconfig list-extensions \
```

Output:

```json
{
  "Items": [
    {
      "Id": "1A2B3C4D",
      "Name": "S3-backup-extension",
      "VersionNumber": 1,
      "Arn": "arn:aws:appconfig:us-west-2:123456789012:extension/1A2B3C4D/1"
    },
    {
      "Id": "AWS.AppConfig.FeatureFlags",
      "Name": "AppConfig Feature Flags Helper",
      "VersionNumber": 1,
      "Arn": "arn:aws:appconfig:us-west-2::extension/AWS.AppConfig.FeatureFlags/1",
      "Description": "Validates AppConfig feature flag data automatically against a JSON schema that includes structure and constraints. Also transforms feature flag data prior to sending to the client. This extension is automatically associated to configuration profiles with type "AWS.AppConfig.FeatureFlags"."
    },
    {
      "Id": "AWS.AppConfig.JiraIntegration",
      "Name": "AppConfig integration with Atlassian Jira",
      "VersionNumber": 1,
      "Description": "Exports feature flag data from AWS AppConfig into Jira. The lifecycle of each feature flag in AppConfig is tracked in Jira as an individual issue. Customers can see in Jira when flags are updated, turned on or off. Works in conjunction with the AppConfig app in the Atlassian Marketplace and is automatically associated to configuration profiles configured within that app."
    },
    {
      "Id": "AWS.AppConfig.DeploymentNotificationsToEventBridge",
      "Name": "AppConfig deployment events to Amazon EventBridge",
      "VersionNumber": 1,
      "Description": "Sends events to Amazon EventBridge when a deployment of configuration data in AppConfig is started, completed, or rolled back. Can
```
be associated to the following resources in AppConfig: Application, Environment, Configuration Profile.

```
{
    "Id": "AWS.AppConfig.DeploymentNotificationsToSqs",
    "Name": "AppConfig deployment events to Amazon SQS",
    "VersionNumber": 1,
    "Description": "Sends messages to the configured Amazon SQS queue when a deployment of configuration data in AppConfig is started, completed, or rolled back. Can be associated to the following resources in AppConfig: Application, Environment, Configuration Profile."
}
```

```
{
    "Id": "AWS.AppConfig.DeploymentNotificationsToSns",
    "Name": "AppConfig deployment events to Amazon SNS",
    "VersionNumber": 1,
    "Description": "Sends events to the configured Amazon SNS topic when a deployment of configuration data in AppConfig is started, completed, or rolled back. Can be associated to the following resources in AppConfig: Application, Environment, Configuration Profile."
}
```

For more information, see Working with AWS AppConfig extensions in the AWS AppConfig User Guide.

- For API details, see ListExtensions in AWS CLI Command Reference.

list-hosted-configuration-versions

The following code example shows how to use list-hosted-configuration-versions.

**AWS CLI**

**To list the available hosted configuration versions**

The following list-hosted-configuration-versions example lists the configurations versions hosted in the AWS AppConfig hosted configuration store for the specified application and configuration profile.
aws appconfig list-hosted-configuration-versions \
  --application-id 339ohji \
  --configuration-profile-id ur8hx2f

Output:

{
   "Items": [
   {
      "ApplicationId": "339ohji",
      "ConfigurationProfileId": "ur8hx2f",
      "VersionNumber": 1,
      "ContentType": "application/json"
   }
   ]
}

For more information, see About the AWS AppConfig hosted configuration store in the AWS AppConfig User Guide.

For API details, see ListHostedConfigurationVersions in AWS CLI Command Reference.

**list-tags-for-resource**

The following code example shows how to use list-tags-for-resource.

**AWS CLI**

**To list the tags of an application**

The following list-tags-for-resource example lists the tags of a specified application.

aws appconfig list-tags-for-resource \

Output:

{
   "Tags": {
      "group1": "1"
   }
}
start-deployment

The following code example shows how to use `start-deployment`.

**AWS CLI**

To start a configuration deployment

The following `start-deployment` example starts a deployment to the application using the specified environment, deployment strategy, and configuration profile.

```
aws appconfig start-deployment \
    --application-id 339ohji \
    --environment-id 54j1r29 \
    --deployment-strategy-id 1225qzk \
    --configuration-profile-id ur8hx2f \
    --configuration-version 1
```

Output:

```
{
    "ApplicationId": "339ohji",
    "EnvironmentId": "54j1r29",
    "DeploymentStrategyId": "1225qzk",
    "ConfigurationProfileId": "ur8hx2f",
    "DeploymentNumber": 1,
    "ConfigurationName": "Example-Configuration-Profile",
    "ConfigurationLocationUri": "ssm-parameter://Example-Parameter",
    "ConfigurationVersion": "1",
    "DeploymentDurationInMinutes": 15,
    "GrowthType": "LINEAR",
    "GrowthFactor": 25.0,
    "FinalBakeTimeInMinutes": 0,
    "State": "DEPLOYING",

```
The following code example shows how to use `stop-deployment`.

**AWS CLI**

### To stop configuration deployment

The following `stop-deployment` example stops the deployment of an application configuration to the specified environment.

```bash
aws appconfig stop-deployment \
    --application-id 339ohji \ 
    --environment-id 54jir29 \ 
    --deployment-number 2
```

**Output:**

```json
{
    "DeploymentNumber": 0,
    "DeploymentDurationInMinutes": 0,
    "GrowthFactor": 0.0,
    "FinalBakeTimeInMinutes": 0,
    "PercentageComplete": 0.0
}
```
For more information, see Step 5: Deploying a configuration in the AWS AppConfig User Guide.

- For API details, see StopDeployment in AWS CLI Command Reference.

**tag-resource**

The following code example shows how to use `tag-resource`.

**AWS CLI**

**To tag an application**

The following `tag-resource` example tags an application resource.

```
aws appconfig tag-resource \
--resource-arn arn:aws:appconfig:us-east-1:682428703967:application/339ohji \
--tags '{"group1" : "1"}'
```

This command produces no output.

For more information, see Step 1: Creating an AWS AppConfig application in the AWS AppConfig User Guide.

- For API details, see TagResource in AWS CLI Command Reference.

**untag-resource**

The following code example shows how to use `untag-resource`.

**AWS CLI**

**To remove a tag from an application**

The following `untag-resource` example removes the group1 tag from the specified application.

```
aws appconfig untag-resource \
--tag-keys '[["group1"]]' 
```

This command produces no output.
update-application

The following code example shows how to use update-application.

**AWS CLI**

**To update an application**

The following update-application example updates the name of the specified application.

```bash
aws appconfig update-application \
  --application-id 339ohji \
  --name "Example-Application"
```

Output:

```json
{
  "Id": "339ohji",
  "Name": "Example-Application",
  "Description": "An application used for creating an example."
}
```

For more information, see Step 1: Creating an AWS AppConfig application in the AWS AppConfig User Guide.

- For API details, see UntagResource in AWS CLI Command Reference.

update-configuration-profile

The following code example shows how to use update-configuration-profile.

**AWS CLI**

**To update a configuration profile**

The following update-configuration-profile example updates the description of the specified configuration profile.
aws appconfig update-configuration-profile \
--application-id 339ohji \
--configuration-profile-id ur8hx2f \
--description "Configuration profile used for examples."

Output:

```
{
    "ApplicationId": "339ohji",
    "Id": "ur8hx2f",
    "Name": "Example-Configuration-Profile",
    "Description": "Configuration profile used for examples.",
    "LocationUri": "ssm-parameter://Example-Parameter",
    "RetrievalRoleArn": "arn:aws:iam::111122223333:role/Example-App-Config-Role"
}
```

For more information, see [Step 3: Creating a configuration and a configuration profile](#) in the AWS AppConfig User Guide.

- For API details, see [UpdateConfigurationProfile](#) in **AWS CLI Command Reference**.

update-deployment-strategy

The following code example shows how to use `update-deployment-strategy`.

**AWS CLI**

**To update a deployment strategy**

The following `update-deployment-strategy` example updates final bake time to 20 minutes in the specified deployment strategy.

```
aws appconfig update-deployment-strategy \
--deployment-strategy-id 1225qzk \
--final-bake-time-in-minutes 20
```

Output:

```
{
    "Id": "1225qzk",
```

Actions and scenarios
For more information, see [Step 4: Creating a deployment strategy](#) in the AWS AppConfig User Guide.

- For API details, see [UpdateDeploymentStrategy](#) in [AWS CLI Command Reference](#).

update-environment

The following code example shows how to use update-environment.

AWS CLI

**To update an environment**

The following update-environment example updates an environment's description.

```bash
aws appconfig update-environment \
   --application-id 339ohji \
   --environment-id 54j1r29 \
   --description "An environment for examples."
```

Output:

```json
{
   "ApplicationId": "339ohji",
   "Id": "54j1r29",
   "Name": "Example-Environment",
   "Description": "An environment for examples.",
   "State": "RolledBack"
}
```

For more information, see [Step 2: Creating an environment](#) in the AWS AppConfig User Guide.

- For API details, see [UpdateEnvironment](#) in [AWS CLI Command Reference](#).
update-extension

The following code example shows how to use update-extension.

AWS CLI

To update an AWS AppConfig extension

The following update-extension example adds an additional parameter Key to an extension in AWS AppConfig.

```
aws appconfig update-extension \\
  --region us-west-2 \\
  --extension-identifier S3-backup-extension \\
  --parameters S3bucket={Required=true},CampaignID={Required=false}
```

Output:

```json
{
    "Id": "1A2B3C4D",
    "Name": "S3-backup-extension",
    "VersionNumber": 1,
    "Arn": "arn:aws:appconfig:us-west-2:123456789012:extension/1A2B3C4D/1",
    "Actions": {
        "PRE_CREATE_HOSTED_CONFIGURATION_VERSION": [
            {
                "Name": "S3backup",
                "RoleArn": "arn:aws:iam::123456789012:role/appconfigextensionrole"
            }
        ],
        "Parameters": {
            "CampaignID": {
                "Required": false
            },
            "S3bucket": {
                "Required": true
            }
        }
    }
}
```
For more information, see Working with AWS AppConfig extensions in the AWS AppConfig User Guide.

- For API details, see UpdateExtension in AWS CLI Command Reference.

update-extension-association

The following code example shows how to use update-extension-association.

AWS CLI

To update an AWS AppConfig extension association

The following update-extension-association example adds a new parameter value to an extension association in AWS AppConfig.

```bash
aws appconfig update-extension-association \
   --region us-west-2 \
   --extension-association-id a1b2c3d4 \
   --parameters S3bucket=FinanceMobileApp
```

Output:

```json
{
   "Id": "a1b2c3d4",
   "Parameters": {
      "S3bucket": "FinanceMobileApp"
   },
   "ExtensionVersionNumber": 1
}
```

For more information, see Working with AWS AppConfig extensions in the AWS AppConfig User Guide.

- For API details, see UpdateExtensionAssociation in AWS CLI Command Reference.

validate-configuration

The following code example shows how to use validate-configuration.
AWS Command Line Interface

To validate a configuration

The following validate-configuration example uses the validators in a configuration profile to validate a configuration.

```
aws appconfig validate-configuration \\
   --application-id abc1234 \\
   --configuration-profile-id ur8hx2f \\
   --configuration-version 1
```

The command produces no output.

For more information, see Step 3: Creating a configuration and a configuration profile in the AWS AppConfig User Guide.

- For API details, see ValidateConfiguration in AWS CLI Command Reference.

Application Auto Scaling examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Application Auto Scaling.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics
- Actions

Actions

delete-scaling-policy

The following code example shows how to use delete-scaling-policy.
AWS CLI

**To delete a scaling policy**

This example deletes a scaling policy for the Amazon ECS service web-app running in the default cluster.

Command:

```bash
aws application-autoscaling delete-scaling-policy --policy-name web-app-cpu-lt-25 --scalable-dimension ecs:service:DesiredCount --resource-id service/default/web-app --service-namespace ecs
```

- For API details, see [DeleteScalingPolicy](https://docs.aws.amazon.com/cli/latest/reference/application-autoscaling/delete-scaling-policy.html) in *AWS CLI Command Reference*.

**delete-scheduled-action**

The following code example shows how to use `delete-scheduled-action`.

AWS CLI

**To delete a scheduled action**

The following `delete-scheduled-action` example deletes the specified scheduled action from the specified Amazon AppStream 2.0 fleet:

```bash
aws application-autoscaling delete-scheduled-action
   --service-namespace appstream
   --scalable-dimension appstream:fleet:DesiredCapacity
   --resource-id fleet/sample-fleet
   --scheduled-action-name my-recurring-action
```

This command produces no output.

For more information, see [Scheduled Scaling](https://docs.aws.amazon.com/autoscaling/application/userguide/application-auto-scaling-scheduled-scaling.html) in the *Application Auto Scaling User Guide*.

- For API details, see [DeleteScheduledAction](https://docs.aws.amazon.com/cli/latest/reference/application-autoscaling/delete-scheduled-action.html) in *AWS CLI Command Reference*.

**deregister-scalable-target**

The following code example shows how to use `deregister-scalable-target`.

Actions and scenarios
AWS CLI

To deregister a scalable target

This example deregisters a scalable target for an Amazon ECS service called web-app that is running in the default cluster.

Command:

```
aws application-autoscaling deregister-scalable-target --service-namespace ecs --scalable-dimension ecs:service:DesiredCount --resource-id service/default/web-app
```

This example deregisters a scalable target for a custom resource. The custom-resource-id.txt file contains a string that identifies the Resource ID, which, for a custom resource, is the path to the custom resource through your Amazon API Gateway endpoint.

Command:

```
```

Contents of custom-resource-id.txt file:

```
https://example.execute-api.us-west-2.amazonaws.com/prod/scalableTargetDimensions/1-23456789
```


describe-scalable-targets

The following code example shows how to use describe-scalable-targets.

AWS CLI

To describe scalable targets

The following describe-scalable-targets example describes the scalable targets for the ecs service namespace.

```
aws application-autoscaling describe-scalable-targets
```
--service-namespace ecs

Output:

```json
{
   "ScalableTargets": [
      {
         "ServiceNamespace": "ecs",
         "ScalableDimension": "ecs:service:DesiredCount",
         "ResourceId": "service/default/web-app",
         "MinCapacity": 1,
         "MaxCapacity": 10,
         "RoleARN": "arn:aws:iam::123456789012:role/aws-service-role/ecs.application-autoscaling.amazonaws.com/AWSServiceRoleForApplicationAutoScaling_ECSService",
         "CreationTime": 1462558906.199,
         "SuspendedState": {
            "DynamicScalingOutSuspended": false,
            "ScheduledScalingSuspended": false,
            "DynamicScalingInSuspended": false
         },
         "ScalableTargetARN": "arn:aws:application-autoscaling:us-west-2:123456789012:scalable-target/1234abcd56ab78cd901ef1234567890ab123"
      }
   ]
}
```

For more information, see [AWS services that you can use with Application Auto Scaling](https://docs.aws.amazon.com/autoscaling/application/userguide/compatible-cloudservices.html) in the *Application Auto Scaling User Guide*.

- For API details, see [DescribeScalableTargets](https://docs.aws.amazon.com/cli/latest/reference/application-autoscaling/describe-scaling-targets.html) in *AWS CLI Command Reference*.

### describe-scaling-activities

The following code example shows how to use `describe-scaling-activities`.

**AWS CLI**

**Example 1: To describe scaling activities for the specified Amazon ECS service**

The following `describe-scaling-activities` example describes the scaling activities for an Amazon ECS service called `web-app` that is running in the `default` cluster. The output shows a scaling activity initiated by a scaling policy.
aws application-autoscaling describe-scaling-activities \
  --service-namespace ecs \
  --resource-id service/default/web-app

Output:

{
  "ScalingActivities": [
    {
      "ScalableDimension": "ecs:service:DesiredCount",
      "Description": "Setting desired count to 1.",
      "ResourceId": "service/default/web-app",
      "ActivityId": "e6c5f7d1-dbbb-4a3f-89b2-51f33e766399",
      "StartTime": 1462575838.171,
      "ServiceNamespace": "ecs",
      "EndTime": 1462575872.111,
      "Cause": "monitor alarm web-app-cpu-1t-25 in state ALARM triggered policy web-app-cpu-1t-25",
      "StatusMessage": "Successfully set desired count to 1. Change successfully fulfilled by ecs."
    }
  ]
}

For more information, see Scaling activities for Application Auto Scaling in the Application Auto Scaling User Guide.

Example 2: To describe scaling activities for the specified DynamoDB table

The following describe-scaling-activities example describes the scaling activities for a DynamoDB table called TestTable. The output shows scaling activities initiated by two different scheduled actions.

aws application-autoscaling describe-scaling-activities \
  --service-namespace dynamodb \
  --resource-id table/TestTable

Output:

{
  "ScalingActivities": [

Actions and scenarios


```json
{
    "ScalableDimension": "dynamodb:table:WriteCapacityUnits",
    "Description": "Setting write capacity units to 10.",
    "ResourceId": "table/my-table",
    "ActivityId": "4d1308c0-bbcf-4514-a673-b0220ae38547",
    "StartTime": 1561574415.086,
    "ServiceNamespace": "dynamodb",
    "EndTime": 1561574449.51,
    "Cause": "maximum capacity was set to 10",
    "StatusMessage": "Successfully set write capacity units to 10. Change successfully fulfilled by dynamodb.",
    "StatusCode": "Successful"
},
{
    "ScalableDimension": "dynamodb:table:WriteCapacityUnits",
    "Description": "Setting min capacity to 5 and max capacity to 10",
    "ResourceId": "table/my-table",
    "ActivityId": "f2b7847b-721d-4e01-8ef0-0c8d3bacc1c7",
    "StartTime": 1561574414.644,
    "ServiceNamespace": "dynamodb",
    "EndTime": 1561574449.51,
    "Cause": "scheduled action name my-second-scheduled-action was triggered",
    "StatusMessage": "Successfully set min capacity to 5 and max capacity to 10",
    "StatusCode": "Successful"
},
{
    "ScalableDimension": "dynamodb:table:WriteCapacityUnits",
    "Description": "Setting write capacity units to 15.",
    "ResourceId": "table/my-table",
    "ActivityId": "d8ea4de6-9eaa-499f-b466-2cc5e681ba8b",
    "StartTime": 1561574108.904,
    "ServiceNamespace": "dynamodb",
    "EndTime": 1561574140.255,
    "Cause": "minimum capacity was set to 15",
    "StatusMessage": "Successfully set write capacity units to 15. Change successfully fulfilled by dynamodb.",
    "StatusCode": "Successful"
},
{
    "ScalableDimension": "dynamodb:table:WriteCapacityUnits",
    "Description": "Setting min capacity to 15 and max capacity to 20",
    "ResourceId": "table/my-table",
    "ActivityId": "3250fd06-6940-4e8e-bb1f-d494db7554d2",
    "StartTime": 1561574414.644,
    "ServiceNamespace": "dynamodb",
    "EndTime": 1561574449.51,
    "Cause": "scheduled action name my-third-scheduled-action was triggered",
    "StatusMessage": "Successfully set min capacity to 15 and max capacity to 20",
    "StatusCode": "Successful"
}
```
For more information, see [Scaling activities for Application Auto Scaling](#) in the *Application Auto Scaling User Guide*.

- For API details, see [DescribeScalingActivities](#) in *AWS CLI Command Reference*.

### describe-scaling-policies

The following code example shows how to use `describe-scaling-policies`.

**AWS CLI**

**To describe scaling policies**

This example command describes the scaling policies for the `ecs` service namespace.

**Command:**

```
aws application-autoscaling describe-scaling-policies --service-namespace ecs
```

**Output:**

```json
{
  "ScalingPolicies": [
    {
      "PolicyName": "web-app-cpu-gt-75",
      "ScalableDimension": "ecs:service:DesiredCount",
      "ResourceId": "service/default/web-app",
      "CreationTime": 1462561899.23,
      "StepScalingPolicyConfiguration": {
        "Cooldown": 60,
        "StepAdjustments": [
          {
```
"ScalingAdjustment": 200,
"MetricIntervalLowerBound": 0.0
],
"AdjustmentType": "PercentChangeInCapacity"
},
"PolicyType": "StepScaling",
"Alarms": [
{
"AlarmName": "web-app-cpu-gt-75",
}
],
"ServiceNamespace": "ecs"
},
{
"PolicyName": "web-app-cpu-lt-25",
"ScalableDimension": "ecs:service:DesiredCount",
"ResourceId": "service/default/web-app",
"CreationTime": 1462562575.099,
"StepScalingPolicyConfiguration": {
 "Cooldown": 1,
 "StepAdjustments": [
 {
 "ScalingAdjustment": -50,
 "MetricIntervalUpperBound": 0.0
 }
 ],
 "AdjustmentType": "PercentChangeInCapacity"
 },
 "PolicyType": "StepScaling",
 "Alarms": [
 {
 "AlarmName": "web-app-cpu-lt-25",
 }
]
describe-scheduled-actions

The following code example shows how to use describe-scheduled-actions.

AWS CLI

To describe scheduled actions

The following describe-scheduled-actions example displays details for the scheduled actions for the specified service namespace:

```bash
aws application-autoscaling describe-scheduled-actions \  --service-namespace dynamodb
```

Output:

```json
{
   "ScheduledActions": [
   {
      "ScalableDimension": "dynamodb:table:WriteCapacityUnits",
      "Schedule": "at(2019-05-20T18:35:00)",
      "ResourceId": "table/my-table",
      "CreationTime": 1561571888.361,
      "ScalableTargetAction": {
         "MinCapacity": 15,
         "MaxCapacity": 20
      },
      "ScheduledActionName": "my-first-scheduled-action",
      "ServiceNamespace": "dynamodb"
   },
   
```
"ScalableDimension": "dynamodb:table:WriteCapacityUnits",
"Schedule": "at(2019-05-20T18:40:00)",
"ResourceId": "table/my-table",
"CreationTime": 1561571946.021,
"ScalableTargetAction": {
    "MinCapacity": 5,
    "MaxCapacity": 10
},
"ScheduledActionName": "my-second-scheduled-action",
"ServiceNamespace": "dynamodb"

For more information, see Scheduled Scaling in the Application Auto Scaling User Guide.

- For API details, see DescribeScheduledActions in AWS CLI Command Reference.

list-tags-for-resource

The following code example shows how to use list-tags-for-resource.

AWS CLI

**To list the tags for a scalable target**

The following list-tags-for-resource example lists the tag key names and values that are attached to the scalable target specified by its ARN.

```bash
aws application-autoscaling list-tags-for-resource --resource-arn arn:aws:application-autoscaling:us-west-2:123456789012:scalable-target/1234abcd56ab78cd901ef1234567890ab123
```

**Output:**

```json
{
    "Tags": {
        "environment": "production"
    }
}
```
For more information, see Tagging support for Application Auto Scaling in the Application Auto Scaling User Guide.

- For API details, see ListTagsForResource in AWS CLI Command Reference.

**put-scaling-policy**

The following code example shows how to use put-scaling-policy.

**AWS CLI**

**Example 1: To apply a target tracking scaling policy with a predefined metric specification**

The following put-scaling-policy example applies a target tracking scaling policy with a predefined metric specification to an Amazon ECS service called web-app in the default cluster. The policy keeps the average CPU utilization of the service at 75 percent, with scale-out and scale-in cooldown periods of 60 seconds. The output contains the ARNs and names of the two CloudWatch alarms created on your behalf.

```bash
aws application-autoscaling put-scaling-policy --service-namespace ecs
   --scalable-dimension ecs:service:DesiredCount
   --resource-id service/default/web-app
   --policy-name cpu75-target-tracking-scaling-policy --policy-type TargetTrackingScaling
   --target-tracking-scaling-policy-configuration file://config.json
```

This example assumes that you have a config.json file in the current directory with the following contents:

```json
{
   "TargetValue": 75.0,
   "PredefinedMetricSpecification": {
      "PredefinedMetricType": "ECSServiceAverageCPUUtilization"
   },
   "ScaleOutCooldown": 60,
   "ScaleInCooldown": 60
}
```

**Output:**

```json
{}
```
Example 2: To apply a target tracking scaling policy with a customized metric specification

The following `put-scaling-policy` example applies a target tracking scaling policy with a customized metric specification to an Amazon ECS service called `web-app` in the default cluster. The policy keeps the average utilization of the service at 75 percent, with scale-out and scale-in cooldown periods of 60 seconds. The output contains the ARNs and names of the two CloudWatch alarms created on your behalf.

```bash
aws application-autoscaling put-scaling-policy --service-namespace ecs \
--scalable-dimension ecs:service:DesiredCount \
--resource-id service/default/web-app \
--policy-name cms75-target-tracking-scaling-policy \
--policy-type TargetTrackingScaling \
--target-tracking-scaling-policy-configuration file://config.json
```

This example assumes that you have a `config.json` file in the current directory with the following contents:

```json
{
    "Alarms": [
        {
            "AlarmName": "TargetTracking-service/default/web-app-AlarmHigh-d4f0770c-b46e-434a-a60f-3b36d653feca"
        },
        {
            "AlarmName": "TargetTracking-service/default/web-app-AlarmLow-1b437334-d19b-4a63-a812-6c67aaf2910d"
        }
    ]
}
```
"TargetValue":75.0,
"CustomizedMetricSpecification":{
    "MetricName":"MyUtilizationMetric",
    "Namespace":"MyNamespace",
    "Dimensions": [
        {
            "Name":"MyOptionalMetricDimensionName",
            "Value":"MyOptionalMetricDimensionValue"
        }
    ],
    "Statistic":"Average",
    "Unit":"Percent"
},
"ScaleOutCooldown": 60,
"ScaleInCooldown": 60
}

Output:

{
    "Alarms": [  
        {
            "AlarmARN": "arn:aws:cloudwatch:us-west-2:012345678910:alarm:TargetTracking-service/default/web-app:AlarmHigh-9bc77b56-0571-4276-ba0f-d4178882e0a0",
            "AlarmName": "TargetTracking-service/default/web-app:AlarmHigh-9bc77b56-0571-4276-ba0f-d4178882e0a0"
        },
        {
            "AlarmARN": "arn:aws:cloudwatch:us-west-2:012345678910:alarm:TargetTracking-service/default/web-app:AlarmLow-9bc77b56-0571-4276-ba0f-d4178882e0a0",
            "AlarmName": "TargetTracking-service/default/web-app:AlarmLow-9bc77b56-0571-4276-ba0f-d4178882e0a0"
        }
    ]
}

Example 3: To apply a target tracking scaling policy for scale out only
The following `put-scaling-policy` example applies a target tracking scaling policy to an Amazon ECS service called `web-app` in the default cluster. The policy is used to scale out the ECS service when the `RequestCountPerTarget` metric from the Application Load Balancer exceeds the threshold. The output contains the ARN and name of the CloudWatch alarm created on your behalf.

```
aws application-autoscaling put-scaling-policy \
  --service-namespace ecs \
  --scalable-dimension ecs:service:DesiredCount \
  --resource-id service/default/web-app \
  --policy-name alb-scale-out-target-tracking-scaling-policy \
  --policy-type TargetTrackingScaling \
  --target-tracking-scaling-policy-configuration file://config.json
```

Contents of `config.json`:

```json
{
  "TargetValue": 1000.0,
  "PredefinedMetricSpecification": {
    "PredefinedMetricType": "ALBRequestCountPerTarget",
    "ResourceLabel": "app/EC2Co-EcsEl-1TKLTMITM0EO/f37c06a68c1748aa/targetgroup/EC2Co-Default-LDNM7Q3ZHZ1Z0/6d4ea56ca2d6a18d"
  },
  "ScaleOutCooldown": 60,
  "ScaleInCooldown": 60,
  "DisableScaleIn": true
}
```

Output:

```json
{
  "Alarms": [
    {
      "AlarmName": "TargetTracking-service/default/web-app-AlarmHigh-d4f0770c-b46e-434a-a60f-3b36d653feca",
      "AlarmARN": "arn:aws:cloudwatch:us-west-2:123456789012:alarm:TargetTracking-service/default/web-app-AlarmHigh-d4f0770c-b46e-434a-a60f-3b36d653feca"
    }
  ]
}
```
For more information, see Target Tracking Scaling Policies for Application Auto Scaling in the AWS Application Auto Scaling User Guide.

- For API details, see PutScalingPolicy in AWS CLI Command Reference.

put-scheduled-action

The following code example shows how to use put-scheduled-action.

AWS CLI

To add a scheduled action to a DynamoDB table

This example adds a scheduled action to a DynamoDB table called TestTable to scale out on a recurring schedule. On the specified schedule (every day at 12:15pm UTC), if the current capacity is below the value specified for MinCapacity, Application Auto Scaling scales out to the value specified by MinCapacity.

Command:

```bash
aws application-autoscaling put-scheduled-action --service-namespace dynamodb --scheduled-action-name my-recurring-action --schedule "cron(15 12 * * ? *)" --resource-id table/TestTable --scalable-dimension dynamodb:table:WriteCapacityUnits --scalable-target-action MinCapacity=6
```

For more information, see Scheduled Scaling in the Application Auto Scaling User Guide.

- For API details, see PutScheduledAction in AWS CLI Command Reference.

register-scalable-target

The following code example shows how to use register-scalable-target.

AWS CLI

Example 1: To register an ECS service as a scalable target
The following register-scalable-target example registers an Amazon ECS service with Application Auto Scaling. It also adds a tag with the key name environment and the value production to the scalable target.

```
aws application-autoscaling register-scalable-target \
   --service-namespace ecs \
   --scalable-dimension ecs:service:DesiredCount \
   --resource-id service/default/web-app \
   --min-capacity 1 --max-capacity 10 \
   --tags environment=production
```

Output:

```
{
   "ScalableTargetARN": "arn:aws:application-autoscaling:us-west-2:123456789012:scalable-target/1234abcd56ab78cd901ef1234567890ab123"
}
```

For examples for other AWS services and custom resources, see the topics in AWS services that you can use with Application Auto Scaling in the Application Auto Scaling User Guide.

Example 2: To suspend scaling activities for a scalable target

The following register-scalable-target example suspends scaling activities for an existing scalable target.

```
aws application-autoscaling register-scalable-target \
   --service-namespace dynamodb \
   --scalable-dimension dynamodb:table:ReadCapacityUnits \
   --resource-id table/my-table \
   --suspended-state
   DynamicScalingInSuspended=true,DynamicScalingOutSuspended=true,ScheduledScalingSuspended=true
```

Output:

```
{
   "ScalableTargetARN": "arn:aws:application-autoscaling:us-west-2:123456789012:scalable-target/1234abcd56ab78cd901ef1234567890ab123"
}
```
For more information, see Suspending and resuming scaling for Application Auto Scaling in the Application Auto Scaling User Guide.

**Example 3: To resume scaling activities for a scalable target**

The following register-scalable-target example resumes scaling activities for an existing scalable target.

```
aws application-autoscaling register-scalable-target \
   --service-namespace dynamodb \
   --scalable-dimension dynamodb:table:ReadCapacityUnits \
   --resource-id table/my-table \
   --suspended-state
   DynamicScalingInSuspended=false,DynamicScalingOutSuspended=false,ScheduledScalingSuspended=false
```

Output:

```
{
   "ScalableTargetARN": "arn:aws:application-autoscaling:us-west-2:123456789012:scalable-target/1234abcd56ab78cd901ef1234567890ab123"
}
```

For more information, see Suspending and resuming scaling for Application Auto Scaling in the Application Auto Scaling User Guide.

- For API details, see RegisterScalableTarget in AWS CLI Command Reference.

**tag-resource**

The following code example shows how to use tag-resource.

**AWS CLI**

**To add a tag to a scalable target**

The following tag-resource example adds a tag with the key name environment and the value production to the scalable target specified by its ARN.

```
aws application-autoscaling tag-resource \
   --resource-arn arn:aws:application-autoscaling:us-west-2:123456789012:scalable-target/1234abcd56ab78cd901ef1234567890ab123 \
   --tag key=environment, value=production
```
This command produces no output.

For more information, see [Tagging support for Application Auto Scaling](https://docs.aws.amazon.com/autoscaling/application/latest/userguide/app-auto-scaling-tagging.html) in the *Application Auto Scaling User Guide*.

- For API details, see [TagResource](https://docs.aws.amazon.com/cli/latest/reference/application-autoscaling/tag-resource.html) in *AWS CLI Command Reference*.

**untag-resource**

The following code example shows how to use `untag-resource`.

**AWS CLI**

**To remove a tag from a scalable target**

The following `untag-resource` example removes the tag pair with the key name `environment` from the scalable target specified by its ARN.

```bash
aws application-autoscaling untag-resource \
    --resource-arn arn:aws:application-autoscaling:us-west-2:123456789012:scalable-target/1234abcd56ab78cd901ef1234567890ab123 \
    --tag-keys "environment"
```

This command produces no output.

For more information, see [Tagging support for Application Auto Scaling](https://docs.aws.amazon.com/autoscaling/application/latest/userguide/app-auto-scaling-tagging.html) in the *Application Auto Scaling User Guide*.

- For API details, see [UntagResource](https://docs.aws.amazon.com/cli/latest/reference/application-autoscaling/untag-resource.html) in *AWS CLI Command Reference*.

**Application Discovery Service examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Application Discovery Service.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.
Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics

- Actions

Actions

describe-agents

The following code example shows how to use describe-agents.

AWS CLI

Describe agents with specified collectionStatus states

This example command describes collection agents with collection status of "STARTED" or "STOPPED".

Command:

```bash
aws discovery describe-agents --filters
    name="collectionStatus",values="STARTED","STOPPED",condition="EQUALS" --max-results 3
```

Output:

```json
{
    "Snapshots": [
        {
            "version": "1.0.40.0",
            "agentType": "EC2",
            "hostName": "ip-172-31-40-234",
            "collectionStatus": "STOPPED",
            "agentNetworkInfoList": [
                {
                    "macAddress": "06:b5:97:14:fc:0d",
                }
            ]
        }
    ]
}
```
For API details, see DescribeAgents in AWS CLI Command Reference.

describe-configurations

The following code example shows how to use describe-configurations.

AWS CLI

Describe selected asset configurations

This example command describes the configurations of two specified servers. The action detects the type of asset from the configuration ID. Only one type of asset is allowed per command.

Command:
aws discovery describe-configurations --configuration-ids "d-server-099385097ef9fbcfb" "d-server-0c4f2dd1fee22c6c1"

Output:

```json
{
   "configurations": [
      {
         "server.performance.maxCpuUsagePct": "0.0",
         "server.performance.maxDiskReadIOPS": "0.0",
         "server.performance.avgCpuUsagePct": "0.0",
         "server.type": "EC2",
         "server.performance.maxNetworkReadsPerSecondInKB": "0.19140625",
         "server.hostName": "ip-172-31-35-152",
         "server.configurationId": "d-server-0c4f2dd1fee22c6c1",
         "server.tags.hasMoreValues": "false",
         "server.performance.minFreeRAMInKB": "1543496.0",
         "server.osVersion": "3.14.48-33.39.amzn1.x86_64",
         "server.performance.maxDiskReadsPerSecondInKB": "0.0",
         "server.performance.numDisks": "1",
         "server.performance.numCpus": "1",
         "server.performance.numCores": "1",
         "server.performance.maxDiskWriteIOPS": "0.0",
         "server.performance.maxNetworkWritesPerSecondInKB": "0.82421875",
         "server.performance.avgDiskWritesPerSecondInKB": "0.0",
         "server.networkInterfaceInfo": "["name":"eth0",
         "macAddress":"06:A7:7D:3F:54:57","ipAddress":"172.31.35.152","netMask":"255.255.240.0"],{"name":"lo","macAddress":"00:00:00:00:00:00","ipAddress":"127.0.0.1","netMask":"255.0.0.0"},{"name":"eth0","macAddress":"06:A7:7D:3F:54:57","ipAddress":"fe80::4a7:7dff:fe3f:5457"},{"name":"lo","macAddress":"00:00:00:00:00:00","ipAddress":"::1"],",
         "server.performance.avgNetworkReadsPerSecondInKB": "0.04915364583333333",
         "server.tags": "[]",
         "server.applications.hasMoreValues": "false",
         "server.timeOfCreation": "2016-10-28 23:44:00.0",
         "server.agentId": "i-4447bc1b",
         "server.performance.maxDiskWritesPerSecondInKB": "0.0",
         "server.performance.avgDiskReadIOPS": "0.0",
         "server.performance.avgFreeRAMInKB": "1547210.1333333333",
         "server.performance.avgDiskReadsPerSecondInKB": "0.0",
         "server.performance.avgDiskWriteIOPS": "0.0",
         "server.performance.avgNetworkReadsPerSecondInKB": "0.0",
```
"server.performance.numNetworkCards": "2",
"server.hypervisor": "xen",
"server.networkInterfaceInfo.hasMoreValues": "false",
"server.performance.avgNetworkWritesPerSecondInKB": "0.1380859375",
"server.osName": "Linux - Amazon Linux AMI release 2015.03",
"server.performance.totalRAMInKB": "1694732.0",
"server.cpuType": "x64"
},
{
"server.performance.maxCpuUsagePct": "100.0",
"server.performance.maxDiskReadIOPS": "0.0",
"server.performance.avgCpuUsagePct": "14.733333333333338",
"server.type": "EC2",
"server.performance.maxNetworkReadsPerSecondInKB": "13.400390625",
"server.hostName": "ip-172-31-42-208",
"server.configurationId": "d-server-099385097ef9fbcfb",
"server.tags.hasMoreValues": "false",
"server.performance.minFreeRAMInKB": "1531104.0",
"server.osVersion": "3.14.48-33.39.amzn1.x86_64",
"server.performance.maxDiskReadsPerSecondInKB": "0.0",
"server.applications": "[]",
"server.performance.numDisks": "1",
"server.performance.numCpus": "1",
"server.performance.numCores": "1",
"server.performance.maxDiskWriteIOPS": "1.0",
"server.performance.maxNetworkWritesPerSecondInKB": "12.271484375",
"server.performance.avgDiskWriteIOPS": "0.5333333333333334",
"server.networkInterfaceInfo": "[\"name\":\"eth0\",\"macAddress\":\"06:4A:79:60:75:61\",\"ipAddress\":\"172.31.42.208\",\"netMask\":\"255.255.240.0\"]\n,\"name\":\"eth0\",\"macAddress\":\"06:4A:79:60:75:61\",\"ipAddress\":\"fe80::44a:79ff:fe60:7561\"]\n,\"name\":\"lo\",\"macAddress\":\"00:00:00:00:00:00\",\"ipAddress\":\"::1\"]\n,\"name\":\"lo\",\"macAddress\":\"00:00:00:00:00:00\",\"ipAddress\":\"127.0.0.1\",\"netMask\":\"255.0.0.0\"]",
"server.performance.avgNetworkReadsPerSecondInKB": "2.8720052083333334",
"server.tags": "[]",
"server.applications.hasMoreValues": "false",
"server.timeOfCreation": "2016-10-28 23:44:30.0",
"server.agentId": "i-c142b99e",
"server.performance.maxDiskWritePerSecondInKB": "4.0",
"server.performance.avgDiskReadIOPS": "0.0",
"server.performance.avgFreeRAMInKB": "1534946.4",
"server.performance.avgDiskReadsPerSecondInKB": "0.0"}
Describe selected asset configurations

This example command describes the configurations of two specified applications. The action detects the type of asset from the configuration ID. Only one type of asset is allowed per command.

Command:

```
aws discovery describe-configurations --configuration-ids "d-application-0ac39bc0e4fad0e42" "d-application-02444a45288013764q"
```

Output:

```
{
  "configurations": [
    {
      "application.serverCount": "0",
      "application.name": "Application-12345",
      "application.lastModifiedTime": "2016-12-13 23:53:27.0",
      "application.description": "",
      "application.timeOfCreation": "2016-12-13 23:53:27.0",
      "application.configurationId": "d-application-0ac39bc0e4fad0e42"
    },
    {
      "application.serverCount": "0",
      "application.name": "Application-67890",
      "application.lastModifiedTime": "2016-12-13 23:53:33.0",
      "application.description": "",
      "application.timeOfCreation": "2016-12-13 23:53:33.0",
```


For API details, see DescribeConfigurations in AWS CLI Command Reference.

list-configurations

The following code example shows how to use list-configurations.

AWS CLI

To list all of the discovered servers meeting a set of filter conditions

This example command lists discovered servers matching either of two hostname patterns and not running Ubuntu.

Command:

```
aws discovery list-configurations --configuration-type SERVER --filters
name="server.hostName",values="172-31-35","172-31-42",condition="CONTAINS"
name="server.osName",values="Ubuntu",condition="NOT_CONTAINS"
```

Output:

```
{
  "configurations": [
    {
      "server.osVersion": "3.14.48-33.39.amzn1.x86_64",
      "server.type": "EC2",
      "server.hostName": "ip-172-31-42-208",
      "server.timeOfCreation": "2016-10-28 23:44:30.0",
      "server.configurationId": "d-server-099385097ef9fbcfb",
      "server.osName": "Linux - Amazon Linux AMI release 2015.03",
      "server.agentId": "i-c142b99e"
    },
    {
      "server.osVersion": "3.14.48-33.39.amzn1.x86_64",
      "server.type": "EC2",
      "server.hostName": "ip-172-31-35-152",
      "server.timeOfCreation": "2016-10-28 23:44:00.0",
```
"server.configurationId": "d-server-0c4f2dd1fee22c6c1",
"server.osName": "Linux - Amazon Linux AMI release 2015.03",
"server.agentId": "i-4447bc1b"
]
}

• For API details, see ListConfigurations in AWS CLI Command Reference.

AppRegistry examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AppRegistry.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics
• Actions

Actions

associate-attribute-group

The following code example shows how to use associate-attribute-group.

AWS CLI

To associate an attribute group

The following associate-attribute-group example associates a specific attribute group in your AWS account to a specific application in your AWS account.

aws servicecatalog-appregistry associate-attribute-group
create-application

The following code example shows how to use create-application.

AWS CLI

To create an application

The following create-application example creates a new application in your AWS account.

```bash
aws servicecatalog-appregistry create-application \\
--name "ExampleApplication"
```

Output:

```
{
   "application": {
      "id": "0ars38r6btoohvpvd9gqrp9t91",
      "arn": "arn:aws:servicecatalog:us-west-2:813737243517:/applications/0ars38r6btoohvpvd9gqrp9t91",
      "name": "ExampleApplication",
      "creationTime": "2023-02-28T21:10:10.820000+00:00",
      "lastUpdateTime": "2023-02-28T21:10:10.820000+00:00",
      "tags": {}
   }
}
```
For more information, see Creating applications in the AWS Service Catalog AppRegistry Administrator Guide.

- For API details, see CreateApplication in AWS CLI Command Reference.

create-attribute-group

The following code example shows how to use create-attribute-group.

AWS CLI

To create an attribute group

The following create-attribute-group example creates a new attribute group in your AWS account.

```bash
aws servicecatalog-appregistry create-attribute-group \   --name "ExampleAttributeGroup" \   --attributes '{"SomeKey1":"SomeValue1","SomeKey2":"SomeValue2"}'
```

Output:

```json
{
   "attributeGroup": {
      "id": "01sj5xdwhbw54kejwnt09fnpcl",
      "arn": "arn:aws:servicecatalog:us-west-2:813737243517:/attribute-groups/01sj5xdwhbw54kejwnt09fnpcl",
      "name": "ExampleAttributeGroup",
      "creationTime": "2023-02-28T20:38:01.389000+00:00",
      "lastUpdateTime": "2023-02-28T20:38:01.389000+00:00",
      "tags": {}
   }
}
```

For more information, see Creating attribute groups in the AWS Service Catalog AppRegistry Administrator Guide.

- For API details, see CreateAttributeGroup in AWS CLI Command Reference.
delete-application

The following code example shows how to use delete-application.

AWS CLI

To delete an application

The following delete-application example deletes a specific application in your AWS account.

```
aws servicecatalog-appregistry delete-application \
  --application "ExampleApplication3"
```

Output:

```
{
  "application": {
    "id": "055gw7aynr1i5mbv7kjwzx5945",
    "arn": "arn:aws:servicecatalog:us-west-2:813737243517:/applications/055gw7aynr1i5mbv7kjwzx5945",
    "name": "ExampleApplication3",
    "creationTime": "2023-02-28T22:06:28.228000+00:00",
    "lastUpdateTime": "2023-02-28T22:06:28.228000+00:00"
  }
}
```

For more information, see Deleting applications in the AWS Service Catalog AppRegistry Administrator Guide.

- For API details, see DeleteApplication in AWS CLI Command Reference.

delete-attribute-group

The following code example shows how to use delete-attribute-group.

AWS CLI

Example 8: To delete an attribute group

The following delete-attribute-group example deletes a specific attribute group in your AWS account.
aws servicecatalog-appregistry delete-attribute-group \ 
   --attribute-group "ExampleAttributeGroup3"

Output:

```json
{
   "attributeGroup": {
      "id": "011ge5y3emyjijt8dw8jn6j0hv",
      "arn": "arn:aws:servicecatalog:us-west-2:813737243517:/attribute-groups/011ge5y3emyjijt8dw8jn6j0hv",
      "name": "ExampleAttributeGroup3",
      "creationTime": "2023-02-28T22:05:35.224000+00:00",
      "lastUpdateTime": "2023-02-28T22:05:35.224000+00:00"
   }
}
```

For more information, see Deleting attribute groups in the AWS Service Catalog AppRegistry Administrator Guide.

- For API details, see DeleteAttributeGroup in AWS CLI Command Reference.

get-application

The following code example shows how to use get-application.

AWS CLI

**To get an application**

The following get-application example retrieves metadata information about a specific application in your AWS account.

```bash
aws servicecatalog-appregistry get-application \ 
   --application "ExampleApplication"
```

Output:

```json
{
   "id": "0ars38r6btoohvpvd9gqrptt91",
   "arn": "arn:aws:servicecatalog:us-west-2:813737243517:/applications/0ars38r6btoohvpvd9gqrptt91",
```
For more information, see [Using Application details](#) in the [AWS Service Catalog AppRegistry Administrator Guide](#).

- For API details, see [GetApplication](#) in [AWS CLI Command Reference](#).

### get-attribute-group

The following code example shows how to use `get-attribute-group`.

**AWS CLI**

**To get an attribute group**

The following `get-attribute-group` example retrieves a specific attribute group in your AWS account.

```
aws servicecatalog-appregistry get-attribute-group \
    --attribute-group "ExampleAttributeGroup"
```

**Output:**

```
{
    "id": "01sj5xdwhbw54kejwnt09fnpc1",
    "arn": "arn:aws:servicecatalog:us-west-2:813737243517:/attribute-groups/01sj5xdwhbw54kejwnt09fnpc1",
    "name": "ExampleAttributeGroup",
```
For more information, see [Managing metadata for attribute groups](https://docs.aws.amazon.com/servicecatalog/latest/adminguide/approxy-concepts.html) in the *AWS Service Catalog AppRegistry Administrator Guide*.

- For API details, see [GetAttributeGroup](https://docs.aws.amazon.com/cli/latest/reference/servicecatalog-appregistry/get-attribute-group.html) in *AWS CLI Command Reference*.

### list-applications

The following code example shows how to use `list-applications`.

**AWS CLI**

**To list applications**

The following list-applications example retrieves a list of all the applications in your AWS account.

```bash
aws servicecatalog-appregistry list-applications
```

**Output:**

```json
{
   "applications": [
      {
         "id": "03axw94pjfj3uan00tcgbrxnkw",
         "arn": "arn:aws:servicecatalog:us-west-2:813737243517:/applications/03axw94pjfj3uan00tcgbrxnkw",
         "name": "ExampleApplication2",
         "creationTime": "2023-02-28T21:59:34.094000+00:00",
         "lastUpdateTime": "2023-02-28T21:59:34.094000+00:00"
      },
      {
         "id": "055gw7aynr1i5mbv7kjwzx5945",
         "arn": "arn:aws:servicecatalog:us-west-2:813737243517:/applications/055gw7aynr1i5mbv7kjwzx5945"
      }
   ]
}
```
For more information, see Viewing application details in the AWS Service Catalog AppRegistry Administrator Guide.

- For API details, see ListApplications in AWS CLI Command Reference.

list-associated-attribute-groups

The following code example shows how to use list-associated-attribute-groups.

AWS CLI

To list associated attribute groups

The following list-associated-attribute-groups example retrieves a list of all attribute groups in your AWS account that are associated with a specific application in your AWS account.

```
aws servicecatalog-appregistry list-associated-attribute-groups \\
   --application "ExampleApplication"
```

Output:

```
{
   "attributeGroups": [
      "01sj5xdwhbw54kejwnt09fnpcl"
   ]
}
```
For more information, see **Associating and disassociating attribute groups** in the *AWS Service Catalog AppRegistry Administrator Guide*.

- For API details, see **ListAssociatedAttributeGroups** in *AWS CLI Command Reference*.

**list-attribute-groups**

The following code example shows how to use `list-attribute-groups`.

**AWS CLI**

**To list attribute groups**

The following `list-attribute-groups` example retrieves a list of all attribute groups in your AWS account.

```
aws servicecatalog-appregistry list-attribute-groups
```

**Output:**

```
{
    "attributeGroups": [
    {
        "id": "011ge6y3emyji8dw8jn6r0hv",
        "arn": "arn:aws:servicecatalog:us-west-2:813737243517:/attribute-groups/011ge6y3emyji8dw8jn6r0hv",
        "name": "ExampleAttributeGroup3",
        "creationTime": "2023-02-28T22:05:35.224000+00:00",
        "lastUpdateTime": "2023-02-28T22:05:35.224000+00:00"
    },
    {
        "id": "01sj5xdwhbw54kejwnt09fnpcl",
        "arn": "arn:aws:servicecatalog:us-west-2:813737243517:/attribute-groups/01sj5xdwhbw54kejwnt09fnpcl",
        "name": "ExampleAttributeGroup",
        "description": "This is an example attribute group",
        "creationTime": "2023-02-28T20:38:01.389000+00:00",
        "lastUpdateTime": "2023-02-28T21:02:04.559000+00:00"
    },
    {
        "id": "03n1yffgq6d18vwrzxf0c70nm3",
        "arn": "arn:aws:servicecatalog:us-west-2:813737243517:/attribute-groups/03n1yffgq6d18vwrzxf0c70nm3",
```

**Actions and scenarios**
For more information, see Viewing attribute group details in the AWS Service Catalog AppRegistry Administrator Guide.

- For API details, see ListAttributeGroups in AWS CLI Command Reference.

list-attribute-groups-for-application

The following code example shows how to use list-attribute-groups-for-application.

AWS CLI

To list attribute groups for an application

The following list-attribute-groups-for-application example lists the details of all attribute groups in your AWS account that are associated with a specific application in your AWS account.

```
aws servicecatalog-appregistry list-attribute-groups-for-application \
--application "ExampleApplication"
```

Output:

```
{
    "attributeGroupsDetails": [
    {
        "id": "01sj5xdwhbw54kejwnt09fnpcl",
        "arn": "arn:aws:servicecatalog:us-west-2:813737243517:/attribute-groups/01sj5xdwhbw54kejwnt09fnpcl",
        "name": "ExampleAttributeGroup"
    }
    ]
}
```

For more information, see Viewing attribute group details in the AWS Service Catalog AppRegistry Administrator Guide.
For API details, see `ListAttributeGroupsForApplication` in *AWS CLI Command Reference*.

**update-application**

The following code example shows how to use `update-application`.

**AWS CLI**

To update an application

The following `update-application` example updates a specific application in your AWS account to include a description.

```
aws servicecatalog-appregistry update-application \
   --application "ExampleApplication" \
   --description "This is an example application"
```

Output:

```
{
   "application": {
      "id": "0ars38r6btoohvpvd9gqrptt91",
      "arn": "arn:aws:servicecatalog:us-west-2:813737243517:/applications/0ars38r6btoohvpvd9gqrptt91",
      "name": "ExampleApplication",
      "description": "This is an example application",
      "creationTime": "2023-02-28T21:10:10.820000+00:00",
      "lastUpdateTime": "2023-02-28T21:24:19.729000+00:00",
      "tags": {
         "aws:servicecatalog:applicationName": "ExampleApplication"
      }
   }
}
```

For more information, see [Editing applications](https://docs.aws.amazon.com/servicecatalog-appregistry/latest/admin-guide/editing-applications.html) in the *AWS Service Catalog AppRegistry Administrator Guide*.

For API details, see `UpdateApplication` in *AWS CLI Command Reference*.

**update-attribute-group**

The following code example shows how to use `update-attribute-group`.
AWS CLI

To update an attribute group

The following update-attribute-group example updates a specific attribute group in your AWS account to include a description.

```
aws servicecatalog-appregistry update-attribute-group \
   --attribute-group "ExampleAttributeGroup" \
   --description "This is an example attribute group"
```

Output:

```
{
   "attributeGroup": {
      "id": "01sj5xdwhbw54kejwnt09fnpcl",
      "arn": "arn:aws:servicecatalog:us-west-2:813737243517:/attribute-groups/01sj5xdwhbw54kejwnt09fnpcl",
      "name": "ExampleAttributeGroup",
      "description": "This is an example attribute group",
      "creationTime": "2023-02-28T20:38:01.389000+00:00",
      "lastUpdateTime": "2023-02-28T21:02:04.559000+00:00",
      "tags": {
         "aws:servicecatalog:attributeGroupName": "ExampleAttributeGroup"
      }
   }
}
```

For more information, see Editing attribute groups in the AWS Service Catalog AppRegistry Administrator Guide.

- For API details, see UpdateAttributeGroup in AWS CLI Command Reference.

Athena examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Athena.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.
Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics

• Actions

Actions

batch-get-named-query

The following code example shows how to use batch-get-named-query.

AWS CLI

To return information about more than one query

The following batch-get-named-query example returns information about the named queries that have the specified IDs.

```bash
aws athena batch-get-named-query \ 
   --named-query-ids a1b2c3d4-5678-90ab-cdef-EXAMPLE11111 a1b2c3d4-5678-90ab-cdef-EXAMPLE22222 a1b2c3d4-5678-90ab-cdef-EXAMPLE33333
```

Output:

```json
{
   "NamedQueries": [
      {
         "Name": "Flights Select Query",
         "Description": "Sample query to get the top 10 airports with the most number of departures since 2000",
         "Database": "sampledb",
         "QueryString": "SELECT origin, count(*) AS total_departures
FROM flights_parquet
WHERE year >= '2000'
GROUP BY origin
ORDER BY total_departures DESC
LIMIT 10;",
         "NamedQueryId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
         "WorkGroup": "primary"
      }
   ]
}
```
For more information, see Running SQL Queries Using Amazon Athena in the Amazon Athena User Guide.

- For API details, see BatchGetNamedQuery in AWS CLI Command Reference.

**batch-get-query-execution**

The following code example shows how to use batch-get-query-execution.

**AWS CLI**

**To return information about one or more query executions**

The following batch-get-query-execution example returns query execution information for the queries that have the specified query IDs.

```bash
aws athena batch-get-query-execution \
    --query-execution-ids a1b2c3d4-5678-90ab-cdef-EXAMPLE11111 a1b2c3d4-5678-90ab-cdef-EXAMPLE22222
```
Output:

```json
{
    "QueryExecutions": [
        {
            "QueryExecutionId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
            "Query": "create database if not exists webdata",
            "StatementType": "DDL",
            "ResultConfiguration": {
                "OutputLocation": "s3://awsdoc-example-bucket/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111.txt"
            },
            "QueryExecutionContext": {},
            "Status": {
                "State": "SUCCEEDED",
                "SubmissionDateTime": 1593470720.592,
                "CompletionDateTime": 1593470720.902
            },
            "Statistics": {
                "EngineExecutionTimeInMillis": 232,
                "DataScannedInBytes": 0,
                "TotalExecutionTimeInMillis": 310,
                "ResultConfiguration": {
                    "QueryQueueTimeInMillis": 50,
                    "ServiceProcessingTimeInMillis": 28
                },
                "WorkGroup": "AthenaAdmin"
            }
        },
        {
            "QueryExecutionId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE22222",
            "Query": "select date, location, browser, uri, status from cloudfront_logs where method = 'GET' and status = 200 and location like 'SFO%' limit 10",
            "StatementType": "DML",
            "ResultConfiguration": {
                "OutputLocation": "s3://awsdoc-example-bucket/a1b2c3d4-5678-90ab-cdef-EXAMPLE22222.csv"
            },
            "QueryExecutionContext": {
                "Database": "mydatabase",
                "Catalog": "awsdatacatalog"
            },
            "Status": {
```
For more information, see [Running SQL Queries Using Amazon Athena](https://docs.aws.amazon.com/athena/latest/ug/querying.html) in the *Amazon Athena User Guide*.

- For API details, see [BatchGetQueryExecution](https://docs.aws.amazon.com/cli/latest/reference/athena/batch-get-query-execution.html) in *AWS CLI Command Reference*.

### create-data-catalog

The following code example shows how to use `create-data-catalog`.

**AWS CLI**

**To create a data catalog**

The following `create-data-catalog` example creates the `dynamo_db_catalog` data catalog.

```bash
aws athena create-data-catalog \
   --name dynamo_db_catalog \
   --type LAMBDA \
   --description "DynamoDB Catalog" \
```

This command produces no output. To see the result, use `aws athena get-data-catalog --name dynamo_db_catalog`.
For more information, see Registering a Catalog: create-data-catalog in the Amazon Athena User Guide.

- For API details, see CreateDataCatalog in AWS CLI Command Reference.

create-named-query

The following code example shows how to use create-named-query.

AWS CLI

**To create a named query**

The following create-named-query example creates a saved query in the AthenaAdmin workgroup that queries the flights_parquet table for flights from Seattle to New York in January, 2016 whose departure and arrival were both delayed by more than ten minutes. Because the airport code values in the table are strings that include double quotes (for example, "SEA"), they are escaped by backslashes and surrounded by single quotes.

```bash
aws athena create-named-query \
    --name "SEA to JFK delayed flights Jan 2016" \
    --description "Both arrival and departure delayed more than 10 minutes." \
    --database sampledb \
    --query-string "SELECT flightdate, carrier, flightnum, origin, dest, depdelayminutes, arrdelayminutes FROM sampledb.flights_parquet WHERE yr = 2016 AND month = 1 AND origin = "SEA" AND dest = "JFK" AND depdelayminutes > 10 AND arrdelayminutes > 10" \ 
    --work-group AthenaAdmin
```

Output:

```json
{
    "NamedQueryId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111"
}
```

For more information, see Running SQL Queries Using Amazon Athena in the Amazon Athena User Guide.

- For API details, see CreateNamedQuery in AWS CLI Command Reference.
create-work-group

The following code example shows how to use create-work-group.

AWS CLI

To create a workgroup

The following create-work-group example creates a workgroup called Data_Analyst_Group that has the query results output location s3://awsdoc-example-bucket. The command creates a workgroup that overrides client configuration settings, which includes the query results output location. The command also enables CloudWatch metrics and adds three key-value tag pairs to the workgroup to distinguish it from other workgroups. Note that the --configuration argument has no spaces before the commas that separate its options.

```bash
aws athena create-work-group \
  --name Data_Analyst_Group \
  --configuration ResultConfiguration={OutputLocation="s3://awsdoc-example-bucket"},EnforceWorkGroupConfiguration="true",PublishCloudWatchMetricsEnabled="true" \
  --description "Workgroup for data analysts" \
  --tags Key=Division,Value=West Key=Location,Value=Seattle Key=Team,Value="Big Data"
```

This command produces no output. To see the results, use `aws athena get-work-group --work-group Data_Analyst_Group`.

For more information, see [Managing Workgroups](https://docs.aws.amazon.com/athena/latest/ug/workgroups-manage.html) in the *Amazon Athena User Guide*.

- For API details, see [CreateWorkGroup](https://docs.aws.amazon.com/cli/latest/reference/athena/create-work-group.html) in *AWS CLI Command Reference*.

delete-data-catalog

The following code example shows how to use delete-data-catalog.

AWS CLI

To delete a data catalog

The following delete-data-catalog example deletes the UnusedDataCatalog data catalog.
aws athena delete-data-catalog
   --name UnusedDataCatalog

This command produces no output.

For more information, see Deleting a Catalog: delete-data-catalog in the Amazon Athena User Guide.

- For API details, see DeleteDataCatalog in AWS CLI Command Reference.

delete-named-query

The following code example shows how to use delete-named-query.

AWS CLI

To delete a named query

The following delete-named-query example deletes the named query that has the specified ID.

aws athena delete-named-query \
   --named-query-id a1b2c3d4-5678-90ab-cdef-EXAMPLE11111

This command produces no output.

For more information, see Running SQL Queries Using Amazon Athena in the Amazon Athena User Guide.

- For API details, see DeleteNamedQuery in AWS CLI Command Reference.

delete-work-group

The following code example shows how to use delete-work-group.

AWS CLI

To delete a workgroup

The following delete-work-group example deletes the TeamB workgroup.

aws athena delete-work-group \

This command produces no output. To confirm the deletion, use `aws athena list-work-groups`.

For more information, see [Managing Workgroups](https://docs.aws.amazon.com/athena/latest/ug/workgroups.html) in the *Amazon Athena User Guide*.

- For API details, see [DeleteWorkGroup](https://docs.aws.amazon.com/cli/latest/reference/athena/delete-work-group.html) in *AWS CLI Command Reference*.

### get-data-catalog

The following code example shows how to use `get-data-catalog`.

**AWS CLI**

**To return information about a data catalog**

The following `get-data-catalog` example returns information about the `dynamo_db_catalog` data catalog.

```bash
aws athena get-data-catalog \
    --name dynamo_db_catalog
```

Output:

```json
{
    "DataCatalog": {
        "Name": "dynamo_db_catalog",
        "Description": "DynamoDB Catalog",
        "Type": "LAMBDA",
        "Parameters": {
            "catalog": "dynamo_db_catalog",
        }
    }
}
```

For more information, see [Showing Catalog Details: get-data-catalog](https://docs.aws.amazon.com/athena/latest/ug/showing-catalog-details.html) in the *Amazon Athena User Guide*. 
• For API details, see GetDataCatalog in AWS CLI Command Reference.

get-database

The following code example shows how to use get-database.

AWS CLI

To return information about a database in a data catalog

The following get-database example returns information about the sampledb database in the AwsDataCatalog data catalog.

```bash
aws athena get-database \
  --catalog-name AwsDataCatalog \
  --database-name sampledb
```

Output:

```json
{
  "Database": {
    "Name": "sampledb",
    "Description": "Sample database",
    "Parameters": {
      "CreatedBy": "Athena",
      "EXTERNAL": "TRUE"
    }
  }
}
```

For more information, see Showing Database Details: get-database in the Amazon Athena User Guide.

• For API details, see GetDatabase in AWS CLI Command Reference.

get-named-query

The following code example shows how to use get-named-query.

AWS CLI

To return a named query
The following `get-named-query` example returns information about the query that has the specified ID.

```bash
aws athena get-named-query \
--named-query-id a1b2c3d4-5678-90ab-cdef-EXAMPLE11111
```

Output:

```json
{
    "NamedQuery": {
        "Name": "CloudFront Logs - SFO",
        "Description": "Shows successful GET request data for SFO",
        "Database": "default",
        "QueryString": "select date, location, browser, uri, status from cloudfront_logs where method = 'GET' and status = 200 and location like 'SFO%' limit 10",
        "NamedQueryId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
        "WorkGroup": "AthenaAdmin"
    }
}
```

For more information, see [Running SQL Queries Using Amazon Athena](https://docs.aws.amazon.com/athena/latest/ug/running-sql-queries.html) in the *Amazon Athena User Guide*.

- For API details, see [GetNamedQuery](https://docs.aws.amazon.com/athena/latest/ug/api-query-execute.html) in *AWS CLI Command Reference*.

### get-query-execution

The following code example shows how to use `get-query-execution`.

**AWS CLI**

**To return information about a query execution**

The following `get-query-execution` example returns information about the query that has the specified query ID.

```bash
aws athena get-query-execution \
--query-execution-id a1b2c3d4-5678-90ab-cdef-EXAMPLE11111
```

Output:
For more information, see Running SQL Queries Using Amazon Athena in the Amazon Athena User Guide.

- For API details, see GetQueryExecution in AWS CLI Command Reference.

get-query-results

The following code example shows how to use get-query-results.

AWS CLI

To return the results of a query
The following `get-query-results` example returns the results of the query that has the specified query ID.

```
aws athena get-query-results \
  --query-execution-id a1b2c3d4-5678-90ab-cdef-EXAMPLE11111
```

Output:

```
{
   "ResultSet": {
      "Rows": [
        {
          "Data": [
            {
              "VarCharValue": "date"
            },
            {
              "VarCharValue": "location"
            },
            {
              "VarCharValue": "browser"
            },
            {
              "VarCharValue": "uri"
            },
            {
              "VarCharValue": "status"
            }
          ]
        },
        {
          "Data": [
            {
              "VarCharValue": "2014-07-05"
            },
            {
              "VarCharValue": "SFO4"
            },
            {
              "VarCharValue": "Safari"
            },
            {
              "VarCharValue": "/test-image-2.jpeg"
            }
          ]
        }
      ]
   }
}
```
Actions and scenarios
{ "Data": [
    {
      "VarCharValue": "2014-07-05"
    },
    {
      "VarCharValue": "SFO4"
    },
    {
      "VarCharValue": "Lynx"
    },
    {
      "VarCharValue": "/test-image-3.jpeg"
    },
    {
      "VarCharValue": "200"
    }
  ]
},
{
  "Data": [
    {
      "VarCharValue": "2014-07-05"
    },
    {
      "VarCharValue": "SF04"
    },
    {
      "VarCharValue": "IE"
    },
    {
      "VarCharValue": "/test-image-2.jpeg"
    },
    {
      "VarCharValue": "200"
    }
  ]
},
{
  "Data": [
    {
      "VarCharValue": "2014-07-05"
    },
    {
      "VarCharValue": "SF04"
    },
    {
      "VarCharValue": "Lynx"
    },
    {
      "VarCharValue": "/test-image-3.jpeg"
    },
    {
      "VarCharValue": "200"
    }
  ]
]
"VarCharValue": "SFO4"},
{
    "VarCharValue": "Opera"
},
{
    "VarCharValue": "/test-image-1.jpeg"
},
{
    "VarCharValue": "200"
}
],
},
{
    "Data": [
    {
        "VarCharValue": "2014-07-05"
    },
    {
        "VarCharValue": "SFO4"
    },
    {
        "VarCharValue": "Chrome"
    },
    {
        "VarCharValue": "/test-image-3.jpeg"
    },
    {
        "VarCharValue": "200"
    }
    ]
},
{
    "Data": [
    {
        "VarCharValue": "2014-07-05"
    },
    {
        "VarCharValue": "SFO4"
    },
    {
        "VarCharValue": "Firefox"
    },
    {
        "VarCharValue": "200"
    }
    ]
}
"VarCharValue": "/test-image-2.jpeg"
        },
        {
            "VarCharValue": "200"
        }
    ]
},
{
    "Data": [
        {
            "VarCharValue": "2014-07-05"
        },
        {
            "VarCharValue": "SFO4"
        },
        {
            "VarCharValue": "Chrome"
        },
        {
            "VarCharValue": "/test-image-3.jpeg"
        },
        {
            "VarCharValue": "200"
        }
    ]
},
{
    "Data": [
        {
            "VarCharValue": "2014-07-05"
        },
        {
            "VarCharValue": "SFO4"
        },
        {
            "VarCharValue": "IE"
        },
        {
            "VarCharValue": "/test-image-2.jpeg"
        },
        {
            "VarCharValue": "200"
        }
    ]
```json
"ResultSetMetadata": {
  "ColumnInfo": [
    {
      "CatalogName": "hive",
      "SchemaName": "",
      "TableName": "",
      "Name": "date",
      "Label": "date",
      "Type": "date",
      "Precision": 0,
      "Scale": 0,
      "Nullable": "UNKNOWN",
      "CaseSensitive": false
    },
    {
      "CatalogName": "hive",
      "SchemaName": "",
      "TableName": "",
      "Name": "location",
      "Label": "location",
      "Type": "varchar",
      "Precision": 2147483647,
      "Data": [
        {
          "Scale": 0,
          "Nullable": "UNKNOWN",
          "CaseSensitive": true
        },
        {
          "CatalogName": "hive",
          "SchemaName": "",
          "TableName": "",
          "Name": "browser",
          "Label": "browser",
          "Type": "varchar",
          "Precision": 2147483647,
          "Scale": 0,
          "Nullable": "UNKNOWN",
          "CaseSensitive": true
        },
        {
          "CatalogName": "hive",
          "SchemaName": "",
          "TableName": "",
          "Name": "browser",
          "Label": "browser",
          "Type": "varchar",
          "Precision": 2147483647,
          "Scale": 0,
          "Nullable": "UNKNOWN",
          "CaseSensitive": true
        },
        {
          "CatalogName": "hive",
          "SchemaName": "",
          "TableName": "",
          "Name": "browser",
          "Label": "browser",
          "Type": "varchar",
          "Precision": 2147483647,
          "Scale": 0,
          "Nullable": "UNKNOWN",
          "CaseSensitive": true
        }
      ]
    },
    {
      "CatalogName": "hive",
      "SchemaName": "",
      "TableName": "",
      "Name": "browser",
      "Label": "browser",
      "Type": "varchar",
      "Precision": 2147483647,
      "Scale": 0,
      "Nullable": "UNKNOWN",
      "CaseSensitive": true
    }
  ]
}
```
For more information, see Working with Query Results, Output Files, and Query History in the Amazon Athena User Guide.

- For API details, see GetQueryResults in AWS CLI Command Reference.

get-table-metadata

The following code example shows how to use get-table-metadata.

AWS CLI

To return metadata information about a table
The following `get-table-metadata` example returns metadata information about the counties table, including column names and their datatypes, from the sampledb database of the AwsDataCatalog data catalog.

```bash
aws athena get-table-metadata \
   --catalog-name AwsDataCatalog \
   --database-name sampledb \
   --table-name counties
```

**Output:**

```json
{
   "TableMetadata": {
      "Name": "counties",
      "CreateTime": 1593559968.0,
      "LastAccessTime": 0.0,
      "TableType": "EXTERNAL_TABLE",
      "Columns": [
         {
            "Name": "name",
            "Type": "string",
            "Comment": "from deserializer"
         },
         {
            "Name": "boundaryshape",
            "Type": "binary",
            "Comment": "from deserializer"
         },
         {
            "Name": "motto",
            "Type": "string",
            "Comment": "from deserializer"
         },
         {
            "Name": "population",
            "Type": "int",
            "Comment": "from deserializer"
         }
      ],
      "PartitionKeys": [],
      "Parameters": {
         "EXTERNAL": "TRUE",
         "inputformat": "com.esri.json.hadoop.EnclosedJsonInputFormat",
```
For more information, see Showing Table Details: get-table-metadata in the Amazon Athena User Guide.

- For API details, see GetTableMetadata in AWS CLI Command Reference.

**get-work-group**

The following code example shows how to use get-work-group.

**AWS CLI**

To return information about a workgroup

The following get-work-group example returns information about the AthenaAdmin workgroup.

```
aws athena get-work-group \
  --work-group AthenaAdmin
```

**Output:**

```
{
  "WorkGroup": {
    "Name": "AthenaAdmin",
    "State": "ENABLED",
    "Configuration": {
      "ResultConfiguration": {
        "OutputLocation": "s3://awsdoc-example-bucket/"
      },
      "EnforceWorkGroupConfiguration": false,
      "PublishCloudWatchMetricsEnabled": true,
      "RequesterPaysEnabled": false
    }
  }
}
```
"Description": "Workgroup for Athena administrators",
"CreationTime": 1573677174.105
}
}

For more information, see Managing Workgroups in the Amazon Athena User Guide.

- For API details, see GetWorkGroup in AWS CLI Command Reference.

list-data-catalogs

The following code example shows how to use list-data-catalogs.

AWS CLI

To list the data catalogs registered with Athena

The following list-data-catalogs example lists the data catalogs registered with Athena.

aws athena list-data-catalogs

Output:

```
{
    "DataCatalogsSummary": [
    {
        "CatalogName": "AwsDataCatalog",
        "Type": "GLUE"
    },
    {
        "CatalogName": "cw_logs_catalog",
        "Type": "LAMBDA"
    },
    {
        "CatalogName": "cw_metrics_catalog",
        "Type": "LAMBDA"
    }
    ]
}
```

For more information, see Listing Registered Catalogs: list-data-catalogs in the Amazon Athena User Guide.
- For API details, see ListDataCatalogs in AWS CLI Command Reference.

**list-databases**

The following code example shows how to use list-databases.

**AWS CLI**

**To list the databases in a data catalog**

The following list-databases example lists the databases in the AwsDataCatalog data catalog.

```bash
aws athena list-databases \
   --catalog-name AwsDataCatalog
```

**Output:**

```json
{
   "DatabaseList": [
      {
         "Name": "default"
      },
      {
         "Name": "mydatabase"
      },
      {
         "Name": "newdb"
      },
      {
         "Name": "sampledb",
         "Description": "Sample database",
         "Parameters": {
            "CreatedBy": "Athena",
            "EXTERNAL": "TRUE"
         }
      },
      {
         "Name": "webdata"
      }
   ]
}
```
For more information, see Listing Databases in a Catalog: list-databases in the Amazon Athena User Guide.

- For API details, see ListDatabases in AWS CLI Command Reference.

**list-named-queries**

The following code example shows how to use list-named-queries.

**AWS CLI**

**To list the named queries for a workgroup**

The following list-named-queries example lists the named queries for the AthenaAdmin workgroup.

```
aws athena list-named-queries \
   --work-group AthenaAdmin
```

Output:

```
{
   "NamedQueryIds": [
      "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
      "a1b2c3d4-5678-90ab-cdef-EXAMPLE22222",
      "a1b2c3d4-5678-90ab-cdef-EXAMPLE33333"
   ]
}
```

For more information, see Running SQL Queries Using Amazon Athena in the Amazon Athena User Guide.

- For API details, see ListNamedQueries in AWS CLI Command Reference.

**list-query-executions**

The following code example shows how to use list-query-executions.

**AWS CLI**

**To list the query IDs of the queries in a specified workgroup**
The following `list-query-executions` example lists a maximum of ten of the query IDs in the AthenaAdmin workgroup.

```bash
aws athena list-query-executions \
   --work-group AthenaAdmin \
   --max-items 10
```

Output:

```json
{
   "QueryExecutionIds": [
      "a1b2c3d4-5678-90ab-cdef-EXAMPLE11110",
      "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
      "a1b2c3d4-5678-90ab-cdef-EXAMPLE22222",
      "a1b2c3d4-5678-90ab-cdef-EXAMPLE33333",
      "a1b2c3d4-5678-90ab-cdef-EXAMPLE11114",
      "a1b2c3d4-5678-90ab-cdef-EXAMPLE11115",
      "a1b2c3d4-5678-90ab-cdef-EXAMPLE11116",
      "a1b2c3d4-5678-90ab-cdef-EXAMPLE11117",
      "a1b2c3d4-5678-90ab-cdef-EXAMPLE11118",
      "a1b2c3d4-5678-90ab-cdef-EXAMPLE11119"
   ],
   "NextToken": "eyJOZXh0VG9rZW4iOiBudWxsLCAiYm90b190cnVuY2F0ZV9hbW91bnQiOiAyMH0="
}
```

For more information, see [Working with Query Results, Output Files, and Query History](#) in the [Amazon Athena User Guide](#).

- For API details, see [ListQueryExecutions](#) in [AWS CLI Command Reference](#).

**list-table-metadata**

The following code example shows how to use `list-table-metadata`.

**AWS CLI**

To list the metadata for tables in the specified database of a data catalog

The following `list-table-metadata` example returns metadata information for a maximum of two tables in the geography database of the AwsDataCatalog data catalog.

```bash
aws athena list-table-metadata \
```
--catalog-name AwsDataCatalog \
--database-name geography \
--max-items 2

Output:

```json
{
    "TableMetadataList": [
        {
            "Name": "country_codes",
            "CreateTime": 1586553454.0,
            "TableType": "EXTERNAL_TABLE",
            "Columns": [
                {
                    "Name": "country",
                    "Type": "string",
                    "Comment": "geo id"
                },
                {
                    "Name": "alpha-2 code",
                    "Type": "string",
                    "Comment": "geo id2"
                },
                {
                    "Name": "alpha-3 code",
                    "Type": "string",
                    "Comment": "state name"
                },
                {
                    "Name": "numeric code",
                    "Type": "bigint",
                    "Comment": ""
                },
                {
                    "Name": "latitude",
                    "Type": "bigint",
                    "Comment": "location (latitude)"
                },
                {
                    "Name": "longitude",
                    "Type": "bigint",
                    "Comment": "location (longitude)"
                }
            ]
        }
    ]
}
```
"Parameters": {
  "areColumnsQuoted": "false",
  "classification": "csv",
  "columnsOrdered": "true",
  "delimiter": ",",
  "has_encrypted_data": "false",
  "inputformat": "org.apache.hadoop.mapred.TextInputFormat",
  "location": "s3://awsdoc-example-bucket/csv/countrycode",
  "outputformat": "org.apache.hadoop.hive.ql.io.HiveIgnoreKeyTextOutputFormat",
  "serde.param.field.delim": ",",
  "serde.serialization.lib": "org.apache.hadoop.hive.serde2.lazy.LazySimpleSerDe",
  "skip.header.line.count": "1",
  "typeOfData": "file"
}
],

{ "Name": "county_populations",
  "CreateTime": 1586553446.0,
  "TableType": "EXTERNAL_TABLE",
  "Columns": [
    
    { "Name": "id",
      "Type": "string",
      "Comment": "geo id"
    },
    
    { "Name": "country",
      "Name": "id2",
      "Type": "string",
      "Comment": "geo id2"
    },
    
    { "Name": "county",
      "Type": "string",
      "Comment": "county name"
    },
    
    { "Name": "state",
      "Type": "string",
      "Comment": "state name" }
For more information, see [Showing Metadata for All Tables in a Database: list-table-metadata](https://docs.aws.amazon.com/athena/latest/ug/list-table-metadata.html) in the [Amazon Athena User Guide](https://docs.aws.amazon.com/athena/latest/ug/).  

- For API details, see [ListTableMetadata](https://docs.aws.amazon.com/cli/latest/reference/athena/list-table-metadata.html) in [AWS CLI Command Reference](https://docs.aws.amazon.com/cli/latest/reference/athena/list-table-metadata.html).

### list-tags-for-resource

The following code example shows how to use `list-tags-for-resource`.

#### AWS CLI

**Example 1: To list the tags for a workgroup**

The following `list-tags-for-resource` example lists the tags for the `Data_Analyst_Group` workgroup.
aws athena list-tags-for-resource \

Output:

{   "Tags": [   {   "Key": "Division",   "Value": "West"  },   {   "Key": "Team",   "Value": "Big Data"  },   {   "Key": "Location",   "Value": "Seattle"  }  ]}

Example 2: To list the tags for a data catalog

The following list-tags-for-resource example lists the tags for the dynamo_db_catalog data catalog.

aws athena list-tags-for-resource \

Output:

{   "Tags": [   {   "Key": "Division",   "Value": "Mountain"  },   {   }}
For more information, see [Listing the tags for a resource: list-tags-for-resource](https://docs.aws.amazon.com/athena/latest/ug/acl.list-tags-for-resource.html) in the *Amazon Athena User Guide*.

- For API details, see [ListTagsForResource](https://docs.aws.amazon.com/cli/latest/reference/athena/list-tags-for-resource.html) in *AWS CLI Command Reference*.

### list-work-groups

The following code example shows how to use `list-work-groups`.

**AWS CLI**

**To list workgroups**

The following `list-work-groups` example lists the workgroups in the current account.

```bash
aws athena list-work-groups
```

**Output:**

```json
{
    "WorkGroups": [
        {
            "Name": "Data_Analyst_Group",
            "State": "ENABLED",
            "Description": "",
            "CreationTime": 1578006683.016
        },
    ]
}
```
For more information, see [Managing Workgroups](#) in the [Amazon Athena User Guide](#).

- For API details, see [ListWorkGroups](#) in [AWS CLI Command Reference](#).

### start-query-execution

The following code example shows how to use `start-query-execution`.

**AWS CLI**

**Example 1: To run a query in a workgroup on the specified table in the specified database and data catalog**

The following `start-query-execution` example uses the AthenaAdmin workgroup to run a query on the `cloudfront_logs` table in the `cflogsdatabase` in the AwsDataCatalog data catalog.

```bash
aws athena start-query-execution \
    --query-string "select date, location, browser, uri, status from cloudfront_logs \
    where method = 'GET' and status = 200 and location like 'SFO%' limit 10" \
    --work-group "AthenaAdmin" \
    --query-execution-context Database=cflogsdatabase,Catalog=AwsDataCatalog
```

Output:

```
{
 "QueryExecutionId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111"
}
```
For more information, see [Running SQL Queries Using Amazon Athena](https://aws.amazon.com/about-us/legal/site-disclaimer/) in the *Amazon Athena User Guide*.

**Example 2: To run a query that uses a specified workgroup to create a database in the specified data catalog**

The following `start-query-execution` example uses the AthenaAdmin workgroup to create the database newdb in the default data catalog AwsDataCatalog.

```bash
aws athena start-query-execution \
  --query-string "create database if not exists newdb" \
  --work-group "AthenaAdmin"
```

Output:

```json
{
  "QueryExecutionId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11112"
}
```

For more information, see [Running SQL Queries Using Amazon Athena](https://aws.amazon.com/about-us/legal/site-disclaimer/) in the *Amazon Athena User Guide*.

**Example 3: To run a query that creates a view on a table in the specified database and data catalog**

The following `start-query-execution` example uses a `SELECT` statement on the cloudfront_logs table in the cflogsdatabase to create the view cf10.

```bash
aws athena start-query-execution \
  --query-string  "CREATE OR REPLACE VIEW cf10 AS SELECT * FROM cloudfront_logs limit 10" \
  --query-execution-context Database=cflogsdatabase
```

Output:

```json
{
  "QueryExecutionId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11113"
}
```
For more information, see [Running SQL Queries Using Amazon Athena](https://docs.aws.amazon.com/athena/latest/ug/) in the *Amazon Athena User Guide*.

- For API details, see [StartQueryExecution](https://docs.aws.amazon.com/cli/latest/reference/athena/start-query-execution.html) in *AWS CLI Command Reference*.

**stop-query-execution**

The following code example shows how to use `stop-query-execution`.

**AWS CLI**

**To stop a running query**

The following `stop-query-execution` example stops the query that has the specified query ID.

```bash
aws athena stop-query-execution \
   --query-execution-id a1b2c3d4-5678-90ab-cdef-EXAMPLE11111
```

This command produces no output.

For more information, see [Running SQL Queries Using Amazon Athena](https://docs.aws.amazon.com/athena/latest/ug/) in the *Amazon Athena User Guide*.

- For API details, see [StopQueryExecution](https://docs.aws.amazon.com/cli/latest/reference/athena/stop-query-execution.html) in *AWS CLI Command Reference*.

**tag-resource**

The following code example shows how to use `tag-resource`.

**AWS CLI**

**To add a tag to a resource**

The following `tag-resource` example adds three tags to the `dynamo_db_catalog` data catalog.

```bash
aws athena tag-resource \
```


This command produces no output. To see the result, use `aws athena list-tags-for-resource --resource-arn arn:aws:athena:us-west-2:111122223333:datacatalog/dynamo_db_catalog`.

For more information, see Adding tags to a resource: tag-resource in the Amazon Athena User Guide.

- For API details, see TagResource in AWS CLI Command Reference.

untag-resource

The following code example shows how to use untag-resource.

AWS CLI

To remove a tag from a resource

The following untag-resource example removes the Specialization and Focus keys and their associated values from the dynamo_db_catalog data catalog resource.

```
aws athena untag-resource \
dynamo_db_catalog \
    --tag-keys Specialization Focus
```

This command produces no output. To see the results, use the list-tags-for-resource command.

For more information, see Removing tags from a resource: untag-resource in the Amazon Athena User Guide.

- For API details, see UntagResource in AWS CLI Command Reference.

update-data-catalog

The following code example shows how to use update-data-catalog.
AWS CLI

**To update a data catalog**

The following `update-data-catalog` example updates the Lambda function and description of the `cw_logs_catalog` data catalog.

```bash
aws athena update-data-catalog \
   --name cw_logs_catalog \
   --type LAMBDA \
   --description "New CloudWatch Logs Catalog" \
```

This command produces no output. To see the result, use `aws athena get-data-catalog --name cw_logs_catalog`.

For more information, see [Updating a Catalog: update-data-catalog](#) in the Amazon Athena User Guide.

- For API details, see [UpdateDataCatalog](#) in **AWS CLI Command Reference**.

**update-work-group**

The following code example shows how to use `update-work-group`.

AWS CLI

**To update a workgroup**

The following `update-work-group` example disables the `Data_Analyst_Group` workgroup. Users cannot run or create queries in the disabled workgroup, but can still view metrics, data usage limit controls, workgroup settings, query history, and saved queries.

```bash
aws athena update-work-group \
   --work-group Data_Analyst_Group \
   --state DISABLED
```

This command produces no output. To verify the change in state, use `aws athena get-work-group --work-group Data_Analyst_Group` and check the `State` property in the output.

For more information, see [Managing Workgroups](#) in the Amazon Athena User Guide.
Auto Scaling examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Auto Scaling.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics
• Actions

Actions

Attach an ELB target group to an Auto Scaling group

The following code example shows how to attach an ELB target group to an Auto Scaling group.

AWS CLI

To attach a target group to an Auto Scaling group

This example attaches the specified target group to the specified Auto Scaling group.

```bash
aws autoscaling attach-load-balancer-target-groups \
   --auto-scaling-group-name my-asg \
   --target-group-arns arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067
```

This command produces no output.

For more information, see Elastic Load Balancing and Amazon EC2 Auto Scaling in the Amazon EC2 Auto Scaling User Guide.
Create a group

The following code example shows how to create an Auto Scaling group.

AWS CLI

Example 1: To create an Auto Scaling group

The following `create-auto-scaling-group` example creates an Auto Scaling group in subnets in multiple Availability Zones within a Region. The instances launch with the default version of the specified launch template. Note that defaults are used for most other settings, such as the termination policies and health check configuration.

```
aws autoscaling create-auto-scaling-group \
  --auto-scaling-group-name my-asg \
  --launch-template LaunchTemplateId=lt-1234567890abcdef12 \
  --min-size 1 \
  --max-size 5 \
  --vpc-zone-identifier "subnet-5ea0c127,subnet-6194ea3b,subnet-c934b782"
```

This command produces no output.

For more information, see [Auto Scaling groups](https://docs.aws.amazon.com/AWSEC2/latest/userguide/autoscaling-groups.html) in the [Amazon EC2 Auto Scaling User Guide](https://docs.aws.amazon.com/AWSEC2/latest/userguide/).  

Example 2: To attach an Application Load Balancer, Network Load Balancer, or Gateway Load Balancer

This example specifies the ARN of a target group for a load balancer that supports the expected traffic. The health check type specifies ELB so that when Elastic Load Balancing reports an instance as unhealthy, the Auto Scaling group replaces it. The command also defines a health check grace period of 600 seconds. The grace period helps prevent premature termination of newly launched instances.

```
aws autoscaling create-auto-scaling-group \
  --auto-scaling-group-name my-asg \
  --launch-template LaunchTemplateId=lt-1234567890abcdef12 \
  --target-group-arns arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-targets/943f017f100becff \
  --health-check-type ELB \
```

This command produces no output.

For more information, see Elastic Load Balancing and Amazon EC2 Auto Scaling in the Amazon EC2 Auto Scaling User Guide.

Example 3: To specify a placement group and use the latest version of the launch template

This example launches instances into a placement group within a single Availability Zone. This can be useful for low-latency groups with HPC workloads. This example also specifies the minimum size, maximum size, and desired capacity of the group.

```
aws autoscaling create-auto-scaling-group \
    --auto-scaling-group-name my-asg \
    --launch-template LaunchTemplateId=lt-1234567890abcde12,Version='$Latest' \
    --min-size 1 \
    --max-size 5 \
    --desired-capacity 3 \
    --placement-group my-placement-group \
    --vpc-zone-identifier "subnet-6194ea3b"
```

This command produces no output.

For more information, see Placement groups in the Amazon EC2 User Guide for Linux Instances.

Example 4: To specify a single instance Auto Scaling group and use a specific version of the launch template

This example creates an Auto Scaling group with minimum and maximum capacity set to 1 to enforce that one instance will be running. The command also specifies v1 of a launch template in which the ID of an existing ENI is specified. When you use a launch template that specifies an existing ENI for eth0, you must specify an Availability Zone for the Auto Scaling group that matches the network interface, without also specifying a subnet ID in the request.

```
aws autoscaling create-auto-scaling-group \
    --auto-scaling-group-name my-asg-single-instance \
    --launch-template LaunchTemplateName=my-template-for-auto-scaling,Version='1'
```
Example 5: To specify a different termination policy

This example creates an Auto Scaling group using a launch configuration and sets the termination policy to terminate the oldest instances first. The command also applies a tag to the group and its instances, with a key of Role and a value of WebServer.

```
aws autoscaling create-auto-scaling-group \
   --auto-scaling-group-name my-asg \
   --launch-configuration-name my-lc \
   --min-size 1 \
   --max-size 5 \
   --termination-policies "OldestInstance" \
   --tags "ResourceId=my-asg,ResourceType=auto-scaling-group,Key=Role,Value=WebServer,PropagateAtLaunch=true" \
   --vpc-zone-identifier "subnet-5ea0c127,subnet-6194ea3b,subnet-c934b782"
```

This command produces no output.

For more information, see [Working with Amazon EC2 Auto Scaling termination policies](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/terminations.html) in the Amazon EC2 Auto Scaling User Guide.

Example 6: To specify a launch lifecycle hook

This example creates an Auto Scaling group with a lifecycle hook that supports a custom action at instance launch.

```
aws autoscaling create-auto-scaling-group \n   --cli-input-json file://~/config.json
```

Contents of config.json file:

```json
{
   "AutoScalingGroupName": "my-asg",
   "LaunchConfigurationName": "my-lc",
   "MinSize": 1,
   "MaxSize": 5,
   "TerminationPolicies": ["OldestInstance"],
   "Tags": {
     "ResourceId": "my-asg",
     "ResourceType": "auto-scaling-group",
     "Key": "Role",
     "Value": "WebServer",
     "PropagateAtLaunch": true
   }
}
```
"LaunchTemplate": { 
    "LaunchTemplateId": "lt-1234567890abcde12"
},
"LifecycleHookSpecificationList": [{
    "LifecycleHookName": "my-launch-hook",
    "LifecycleTransition": "autoscaling:EC2_INSTANCE_LAUNCHING",
    "RoleARN": "arn:aws:iam::123456789012:role/my-notification-role",
    "NotificationMetadata": "SQS message metadata",
    "HeartbeatTimeout": 4800,
    "DefaultResult": "ABANDON"
}],
"MinSize": 1,
"MaxSize": 5,
"VPCZoneIdentifier": "subnet-5ea0c127,subnet-6194ea3b,subnet-c934b782",
"Tags": [{
    "ResourceType": "auto-scaling-group",
    "ResourceId": "my-asg",
    "PropagateAtLaunch": true,
    "Value": "test",
    "Key": "environment"
}]
}

This command produces no output.

For more information, see Amazon EC2 Auto Scaling lifecycle hooks in the Amazon EC2 Auto Scaling User Guide.

**Example 7: To specify a termination lifecycle hook**

This example creates an Auto Scaling group with a lifecycle hook that supports a custom action at instance termination.

```
aws autoscaling create-auto-scaling-group \
   --cli-input-json file://~/config.json
```

Contents of config.json:

```
{
    "AutoScalingGroupName": "my-asg",
    "LaunchTemplate": {
```
"LaunchTemplateId": "lt-1234567890abcde12"
},
"LifecycleHookSpecificationList": [{
  "LifecycleHookName": "my-termination-hook",
  "LifecycleTransition": "autoscaling:EC2_INSTANCE_TERMINATING",
  "HeartbeatTimeout": 120,
  "DefaultResult": "CONTINUE"
}],
"MinSize": 1,
"MaxSize": 5,
"TargetGroupARNs": [
  "arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067"
],
"VPCZoneIdentifier": "subnet-5ea0c127,subnet-6194ea3b,subnet-c934b782"
}

This command produces no output.

For more information, see Amazon EC2 Auto Scaling lifecycle hooks in the Amazon EC2 Auto Scaling User Guide.

**Example 8: To specify a custom termination policy**

This example creates an Auto Scaling group that specifies a custom Lambda function termination policy that tells Amazon EC2 Auto Scaling which instances are safe to terminate on scale in.

```bash
aws autoscaling create-auto-scaling-group \
  --auto-scaling-group-name my-asg-single-instance \
  --launch-template LaunchTemplateName=my-template-for-auto-scaling \
  --min-size 1 \ 
  --max-size 5 \ 
  --vpc-zone-identifier "subnet-5ea0c127,subnet-6194ea3b,subnet-c934b782"
```

This command produces no output.

For more information, see Creating a custom termination policy with Lambda in the Amazon EC2 Auto Scaling User Guide.

- For API details, see CreateAutoScalingGroup in AWS CLI Command Reference.
Delete a group

The following code example shows how to delete an Auto Scaling group.

AWS CLI

Example 1: To delete the specified Auto Scaling group

This example deletes the specified Auto Scaling group.

/aws autoscaling delete-auto-scaling-group
   --auto-scaling-group-name my-asg

This command produces no output.

For more information, see Deleting your Auto Scaling infrastructure in the Amazon EC2 Auto Scaling User Guide.

Example 2: To force delete the specified Auto Scaling group

To delete the Auto Scaling group without waiting for the instances in the group to terminate, use the --force-delete option.

/aws autoscaling delete-auto-scaling-group
   --auto-scaling-group-name my-asg
   --force-delete

This command produces no output.

For more information, see Deleting your Auto Scaling infrastructure in the Amazon EC2 Auto Scaling User Guide.

• For API details, see DeleteAutoScalingGroup in AWS CLI Command Reference.

Disable metrics collection for a group

The following code example shows how to disable CloudWatch metrics collection for an Auto Scaling group.

AWS CLI

To disable metrics collection for an Auto Scaling group
This example disables collection of the GroupDesiredCapacity metric for the specified Auto Scaling group.

```bash
aws autoscaling disable-metrics-collection
   --auto-scaling-group-name my-asg
   --metrics GroupDesiredCapacity
```

This command produces no output.

For more information, see Monitoring CloudWatch metrics for your Auto Scaling groups and instances in the Amazon EC2 Auto Scaling User Guide.

- For API details, see DisableMetricsCollection in AWS CLI Command Reference.

Enable metrics collection for a group

The following code example shows how to enable CloudWatch metrics collection for an Auto Scaling group.

**AWS CLI**

**Example 1: To enable metrics collection for an Auto Scaling group**

This example enables data collection for the specified Auto Scaling group.

```bash
aws autoscaling enable-metrics-collection
   --auto-scaling-group-name my-asg
   --granularity "1Minute"
```

This command produces no output.

For more information, see Monitoring CloudWatch metrics for your Auto Scaling groups and instances in the Amazon EC2 Auto Scaling User Guide.

**Example 2: To collect data for the specified metric for an Auto Scaling group**

To collect data for a specific metric, use the --metrics option.

```bash
aws autoscaling enable-metrics-collection
   --auto-scaling-group-name my-asg
```
--metrics GroupDesiredCapacity --granularity "1Minute"

This command produces no output.

For more information, see Monitoring CloudWatch metrics for your Auto Scaling groups and instances in the Amazon EC2 Auto Scaling User Guide.

• For API details, see EnableMetricsCollection in AWS CLI Command Reference.

Get information about groups

The following code example shows how to get information about Auto Scaling groups.

AWS CLI

Example 1: To describe the specified Auto Scaling group

This example describes the specified Auto Scaling group.

```bash
aws autoscaling describe-auto-scaling-groups \ 
   --auto-scaling-group-name my-asg
```

Output:

```json
{
   "AutoScalingGroups": [
   {
   "AutoScalingGroupName": "my-asg",
   "LaunchTemplate": {
   "LaunchTemplateName": "my-launch-template",
   "Version": "1",
   "LaunchTemplateId": "lt-1234567890abcde12"
   },
   "MinSize": 0,
   "MaxSize": 1,
   "DesiredCapacity": 1,
   "DefaultCooldown": 300,
   "AvailabilityZones": [
   "us-west-2a",
   ]
   }
   ]
}
```
Example 2: To describe the first 100 specified Auto Scaling group

This example describes the specified Auto Scaling groups. It allows you to specify up to 100 group names.

```bash
aws autoscaling describe-auto-scaling-groups
```

Example 2: To describe the first 100 specified Auto Scaling group

This example describes the specified Auto Scaling groups. It allows you to specify up to 100 group names.

```bash
aws autoscaling describe-auto-scaling-groups
```
Example 3: To describe an Auto Scaling group in the specified region

This example describes the Auto Scaling groups in the specified region, up to a maximum of 75 groups.

```
aws autoscaling describe-auto-scaling-groups \
  --max-items 75 \
  --region us-east-1
```

See example 1 for sample output.

Example 4: To describe the specified number of Auto Scaling group

To return a specific number of Auto Scaling groups, use the `--max-items` option.

```
aws autoscaling describe-auto-scaling-groups \
  --max-items 1
```

See example 1 for sample output.

If the output includes a `NextToken` field, there are more groups. To get the additional groups, use the value of this field with the `--starting-token` option in a subsequent call as follows.

```
aws autoscaling describe-auto-scaling-groups \
  --starting-token Z3M3LMPEXAMPLE
```

See example 1 for sample output.

Example 5: To describe Auto Scaling groups that use launch configurations

This example uses the `--query` option to describe Auto Scaling groups that use launch configurations.

```
aws autoscaling describe-auto-scaling-groups \
  --query 'AutoScalingGroups[?LaunchConfigurationName!="null"]'
```
Output:

```json
[
  {
    "AutoScalingGroupName": "my-asg",
    "LaunchConfigurationName": "my-lc",
    "MinSize": 0,
    "MaxSize": 1,
    "DesiredCapacity": 1,
    "DefaultCooldown": 300,
    "AvailabilityZones": [
      "us-west-2a",
      "us-west-2b",
      "us-west-2c"
    ],
    "LoadBalancerNames": [],
    "TargetGroupARNs": [],
    "HealthCheckType": "EC2",
    "HealthCheckGracePeriod": 0,
    "Instances": [
      {
        "InstanceId": "i-088c57934a6449037",
        "InstanceType": "t2.micro",
        "AvailabilityZone": "us-west-2c",
        "HealthStatus": "Healthy",
        "LifecycleState": "InService",
        "LaunchConfigurationName": "my-lc",
        "ProtectedFromScaleIn": false
      }
    ],
    "CreatedTime": "2023-10-28T02:39:22.152Z",
    "SuspendedProcesses": [],
    "VPCZoneIdentifier": "subnet-5ea0c127,subnet-6194ea3b,subnet-c934b782",
    "EnabledMetrics": [],
    "Tags": [],
    "TerminationPolicies": [
      "Default"
    ],
    "NewInstancesProtectedFromScaleIn": false,
    "ServiceLinkedRoleARN": "arn",
    "TrafficSources": []
  }
]
```
Get information about instances

The following code example shows how to get information about Auto Scaling instances.

**AWS CLI**

**Example 1: To describe one or more instances**

This example describes the specified instance.

```bash
aws autoscaling describe-auto-scaling-instances \
--instance-ids i-06905f55584de02da
```

Output:

```json
{
   "AutoScalingInstances": [
      {
         "InstanceId": "i-06905f55584de02da",
         "InstanceType": "t2.micro",
         "AutoScalingGroupName": "my-asg",
         "AvailabilityZone": "us-west-2b",
         "LifecycleState": "InService",
         "HealthStatus": "HEALTHY",
         "ProtectedFromScaleIn": false,
         "LaunchTemplate": {
            "LaunchTemplateId": "lt-1234567890abcde12",
            "LaunchTemplateName": "my-launch-template",
            "Version": "1"
         }
      }
   ]
}
```

**Example 2: To describe one or more instances**
This example uses the `--max-items` option to specify how many instances to return with this call.

```
aws autoscaling describe-auto-scaling-instances \
   --max-items 1
```

If the output includes a `NextToken` field, there are more instances. To get the additional instances, use the value of this field with the `--starting-token` option in a subsequent call as follows.

```
aws autoscaling describe-auto-scaling-instances \
   --starting-token Z3M3LMPEXAMPLE
```

See example 1 for sample output.

**Example 3: To describe instances that use launch configurations**

This example uses the `--query` option to describe instances that use launch configurations.

```
aws autoscaling describe-auto-scaling-instances \
   --query 'AutoScalingInstances[?LaunchConfigurationName!=`null`]'
```

Output:

```
[
  {
    "InstanceId": "i-088c57934a6449037",
    "InstanceType": "t2.micro",
    "AutoScalingGroupName": "my-asg",
    "AvailabilityZone": "us-west-2c",
    "LifecycleState": "InService",
    "HealthStatus": "HEALTHY",
    "LaunchConfigurationName": "my-lc",
    "ProtectedFromScaleIn": false
  }
]
```

For more information, see [Filter AWS CLI output](https://docs.aws.amazon.com/cli/latest/userguide/cli-aws-extend-output.html) in the *AWS Command Line Interface User Guide*.

- For API details, see [DescribeAutoScalingInstances](https://docs.aws.amazon.com/cli/latest/reference/autoscaling/describe-auto-scaling-instances.html) in *AWS CLI Command Reference*. 
Get information about scaling activities

The following code example shows how to get information about Auto Scaling activities.

AWS CLI

Example 1: To describe scaling activities for the specified group

This example describes the scaling activities for the specified Auto Scaling group.

```bash
aws autoscaling describe-scaling-activities \
  --auto-scaling-group-name my-asg
```

Output:

```json
{
   "Activities": [

   {
       "ActivityId": "f9f2d65b-f1f2-43e7-b46d-d86756459699",
       "Description": "Launching a new EC2 instance: i-0d44425630326060f",
       "AutoScalingGroupName": "my-asg",
       "Cause": "At 2020-10-30T19:35:51Z a user request update of
AutoScalingGroup constraints to min: 0, max: 16, desired: 16 changing the desired
capacity from 0 to 16. At 2020-10-30T19:36:07Z an instance was started in response
to a difference between desired and actual capacity, increasing the capacity from 0
to 16."

       "StartTime": "2020-10-30T19:36:09.766Z",
       "EndTime": "2020-10-30T19:36:41Z",
       "StatusCode": "Successful",
       "Progress": 100,
       "Details": ":\"Subnet ID\":\"subnet-5ea0c127\",\"Availability Zone\":\"us-west-2b\"
   }

   ]
}
```

For more information, see [Verify a scaling activity for an Auto Scaling group](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/verify-scaling.html) in the Amazon EC2 Auto Scaling User Guide.

Example 2: To describe the scaling activities for a deleted group

To describe scaling activities after the Auto Scaling group has been deleted, add the `--include-deleted-groups` option.
aws autoscaling describe-scaling-activities \
  --auto-scaling-group-name my-asg \n  --include-deleted-groups

Output:

```json
{
    "Activities": [
      {
        "ActivityId": "e1f5de0e-f93e-1417-34ac-092a76fba220",
        "Description": "Launching a new EC2 instance. Status Reason: Your Spot request price of 0.001 is lower than the minimum required Spot request fulfillment price of 0.0031. Launching EC2 instance failed.",
        "AutoScalingGroupName": "my-asg",
        "Cause": "At 2021-01-13T20:47:24Z a user request update of AutoScalingGroup constraints to min: 1, max: 5, desired: 3 changing the desired capacity from 0 to 3. At 2021-01-13T20:47:27Z an instance was started in response to a difference between desired and actual capacity, increasing the capacity from 0 to 3.",
        "StartTime": "2021-01-13T20:47:30.094Z",
        "EndTime": "2021-01-13T20:47:30Z",
        "StatusCode": "Failed",
        "StatusMessage": "Your Spot request price of 0.001 is lower than the minimum required Spot request fulfillment price of 0.0031. Launching EC2 instance failed.",
        "Progress": 100,
        "Details": "{"Subnet ID":"subnet-5ea0c127","Availability Zone":"us-west-2b"}",
        "AutoScalingGroupState": "Deleted",
      }
    ]
}
```

For more information, see Troubleshoot Amazon EC2 Auto Scaling in the Amazon EC2 Auto Scaling User Guide.

**Example 3: To describe a specified number of scaling activities**

To return a specific number of activities, use the `--max-items` option.
aws autoscaling describe-scaling-activities \
   --max-items 1

Output:

```
{
   "Activities": [
   {
      "ActivityId": "f9f2d65b-f1f2-43e7-b46d-d86756459699",
      "Description": "Launching a new EC2 instance: i-0d44425630326060f",
      "AutoScalingGroupName": "my-asg",
      "Cause": "At 2020-10-30T19:35:51Z a user request update of AutoScalingGroup constraints to min: 0, max: 16, desired: 16 changing the desired capacity from 0 to 16. At 2020-10-30T19:36:07Z an instance was started in response to a difference between desired and actual capacity, increasing the capacity from 0 to 16.",
      "StartTime": "2020-10-30T19:36:09.766Z",
      "EndTime": "2020-10-30T19:36:41Z",
      "StatusCode": "Successful",
      "Progress": 100,
      "Details": "{"Subnet ID":"subnet-5ea0c127","Availability Zone":"us-west-2b"}"
   }
   ]
}
```

If the output includes a `NextToken` field, there are more activities. To get the additional activities, use the value of this field with the `--starting-token` option in a subsequent call as follows.

```
aws autoscaling describe-scaling-activities \
   --starting-token Z3M3LMPEXAMPLE
```

For more information, see [Verify a scaling activity for an Auto Scaling group](https://docs.aws.amazon.com/autoscaling/userguide/verify-scaling-activity.html) in the *Amazon EC2 Auto Scaling User Guide*.

- For API details, see [DescribeScalingActivities](https://docs.aws.amazon.com/cli/latest/reference/autoscaling/describe-scaling-activities.html) in *AWS CLI Command Reference*.

**Set the desired capacity of a group**

The following code example shows how to set the desired capacity of an Auto Scaling group.
**AWS CLI**

**To set the desired capacity for an Auto Scaling group**

This example sets the desired capacity for the specified Auto Scaling group.

```bash
aws autoscaling set-desired-capacity \\
   --auto-scaling-group-name my-asg \\
   --desired-capacity 2 \\
   --honor-cooldown
```

This command returns to the prompt if successful.

- For API details, see [SetDesiredCapacity](#) in [AWS CLI Command Reference](#).

**Terminate an instance in a group**

The following code example shows how to terminate an instance in an Auto Scaling group.

**AWS CLI**

**To terminate an instance in an Auto Scaling group**

This example terminates the specified instance from the specified Auto Scaling group without updating the size of the group. Amazon EC2 Auto Scaling launches a replacement instance after the specified instance terminates.

```bash
aws autoscaling terminate-instance-in-auto-scaling-group \\
   --instance-id i-061c63c5eb45f0416 \\
   --no-should-decrement-desired-capacity
```

**Output:**

```
{
   "Activities": [
   {
   "ActivityId": "8c35d601-793c-400c-fcd0-f64a27530df7",
   "AutoScalingGroupName": "my-asg",
   "Description": "Terminating EC2 instance: i-061c63c5eb45f0416",
   "Cause": "",
   "StartTime": "2020-10-31T20:34:25.680Z",
   "StatusCode": "InProgress",
   "Progress": 0,
```

**Actions and scenarios**
Update a group

The following code example shows how to update the configuration for an Auto Scaling group.

AWS CLI

Example 1: To update the size limits of an Auto Scaling group

This example updates the specified Auto Scaling group with a minimum size of 2 and a maximum size of 10.

```bash
aws autoscaling update-auto-scaling-group \
    --auto-scaling-group-name my-asg \
    --min-size 2 \
    --max-size 10
```

This command produces no output.

For more information, see Setting capacity limits for your Auto Scaling group in the Amazon EC2 Auto Scaling User Guide.

Example 2: To add Elastic Load Balancing health checks and specify which Availability Zones and subnets to use

This example updates the specified Auto Scaling group to add Elastic Load Balancing health checks. This command also updates the value of --vpc-zone-identifier with a list of subnet IDs in multiple Availability Zones.

```bash
aws autoscaling update-auto-scaling-group \
    --auto-scaling-group-name my-asg \
    --health-check-type ELB \
    --health-check-grace-period 600 \
    --vpc-zone-identifier "subnet-5ea0c127,subnet-6194ea3b,subnet-c934b782"
```
This command produces no output.

For more information, see Elastic Load Balancing and Amazon EC2 Auto Scaling in the Amazon EC2 Auto Scaling User Guide.

Example 3: To update the placement group and termination policy

This example updates the placement group and termination policy to use.

```bash
aws autoscaling update-auto-scaling-group \
  --auto-scaling-group-name my-asg \ 
  --placement-group my-placement-group \ 
  --termination-policies "OldestInstance"
```

This command produces no output.

For more information, see Auto Scaling groups in the Amazon EC2 Auto Scaling User Guide.

Example 4: To use the latest version of the launch template

This example updates the specified Auto Scaling group to use the latest version of the specified launch template.

```bash
aws autoscaling update-auto-scaling-group \
  --auto-scaling-group-name my-asg \ 
  --launch-template LaunchTemplateId=lt-1234567890abcde12,Version='$Latest'
```

This command produces no output.

For more information, see Launch templates in the Amazon EC2 Auto Scaling User Guide.

Example 5: To use a specific version of the launch template

This example updates the specified Auto Scaling group to use a specific version of a launch template instead of the latest or default version.

```bash
aws autoscaling update-auto-scaling-group \
  --auto-scaling-group-name my-asg \ 
  --launch-template LaunchTemplateName=my-template-for-auto-scaling,Version='2'
```

This command produces no output.

For more information, see Launch templates in the Amazon EC2 Auto Scaling User Guide.
Example 6: To define a mixed instances policy and enable capacity rebalancing

This example updates the specified Auto Scaling group to use a mixed instances policy and enables capacity rebalancing. This structure lets you specify groups with Spot and On-Demand capacities and use different launch templates for different architectures.

```
aws autoscaling update-auto-scaling-group \
--cli-input-json file://~/config.json
```

Contents of config.json:

```json
{
    "AutoScalingGroupName": "my-asg",
    "CapacityRebalance": true,
    "MixedInstancesPolicy": {
        "LaunchTemplate": {
            "LaunchTemplateSpecification": {
                "LaunchTemplateName": "my-launch-template-for-x86",
                "Version": "$Latest"
            },
            "Overrides": [
                {
                    "InstanceType": "c6g.large",
                    "LaunchTemplateSpecification": {
                        "LaunchTemplateName": "my-launch-template-for-arm",
                        "Version": "$Latest"
                    }
                },
                {
                    "InstanceType": "c5.large"
                },
                {
                    "InstanceType": "c5a.large"
                }
            ]
        },
        "InstancesDistribution": {
            "OnDemandPercentageAboveBaseCapacity": 50,
            "SpotAllocationStrategy": "capacity-optimized"
        }
    }
}
```
This command produces no output.

For more information, see Auto Scaling groups with multiple instance types and purchase options in the Amazon EC2 Auto Scaling User Guide.

- For API details, see UpdateAutoScalingGroup in AWS CLI Command Reference.

**attach-instances**

The following code example shows how to use attach-instances.

**AWS CLI**

**To attach an instance to an Auto Scaling group**

This example attaches the specified instance to the specified Auto Scaling group.

```
aws autoscaling attach-instances \
    --instance-ids i-061c63c5eb45f0416 \
    --auto-scaling-group-name my-asg
```

This command produces no output.

- For API details, see AttachInstances in AWS CLI Command Reference.

**attach-load-balancers**

The following code example shows how to use attach-load-balancers.

**AWS CLI**

**To attach a Classic Load Balancer to an Auto Scaling group**

This example attaches the specified Classic Load Balancer to the specified Auto Scaling group.

```
aws autoscaling attach-load-balancers \
    --load-balancer-names my-load-balancer \
    --auto-scaling-group-name my-asg
```

This command produces no output.

For more information, see Elastic Load Balancing and Amazon EC2 Auto Scaling in the Amazon EC2 Auto Scaling User Guide.
cancel-instance-refresh

The following code example shows how to use cancel-instance-refresh.

**AWS CLI**

To cancel an instance refresh

The following cancel-instance-refresh example cancels an in-progress instance refresh for the specified Auto Scaling group.

```bash
aws autoscaling cancel-instance-refresh \
   --auto-scaling-group-name my-asg
```

Output:

```
{
   "InstanceRefreshId": "08b91cf7-8fa6-48af-b6a6-d227f40f1b9b"
}
```

For more information, see [Cancel an instance refresh](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/auto-scaling-cfm-monitoring.html) in the *Amazon EC2 Auto Scaling User Guide*.

complete-lifecycle-action

The following code example shows how to use complete-lifecycle-action.

**AWS CLI**

To complete the lifecycle action

This example notifies Amazon EC2 Auto Scaling that the specified lifecycle action is complete so that it can finish launching or terminating the instance.

```bash
aws autoscaling complete-lifecycle-action \
   --lifecycle-hook-name my-launch-hook \
   --auto-scaling-group-name my-asg \
   --lifecycle-action-result CONTINUE
```
create-launch-configuration

The following code example shows how to use create-launch-configuration.

AWS CLI

Example 1: To create a launch configuration

This example creates a simple launch configuration.

```
aws autoscaling create-launch-configuration \
  --launch-configuration-name my-lc \
  --image-id ami-04d5cc9b88example \
  --instance-type m5.large
```

This command produces no output.

For more information, see Creating a launch configuration in the Amazon EC2 Auto Scaling User Guide.

Example 2: To create a launch configuration with a security group, key pair, and bootrapping script

This example creates a launch configuration with a security group, a key pair, and a bootrapping script contained in the user data.

```
aws autoscaling create-launch-configuration \
  --launch-configuration-name my-lc \
  --image-id ami-04d5cc9b88example \
  --instance-type m5.large \
  --security-groups sg-eb2af88example \
  --key-name my-key-pair \
  --user-data file://myuserdata.txt
```
This command produces no output.

For more information, see Creating a launch configuration in the Amazon EC2 Auto Scaling User Guide.

**Example 3: To create a launch configuration with an IAM role**

This example creates a launch configuration with the instance profile name of an IAM role.

```bash
aws autoscaling create-launch-configuration \
    --launch-configuration-name my-lc \
    --image-id ami-04d5cc9b88example \
    --instance-type m5.large \
    --iam-instance-profile my-autoscaling-role
```

This command produces no output.

For more information, see IAM role for applications that run on Amazon EC2 instances in the Amazon EC2 Auto Scaling User Guide.

**Example 4: To create a launch configuration with detailed monitoring enabled**

This example creates a launch configuration with EC2 detailed monitoring enabled, which sends EC2 metrics to CloudWatch in 1-minute periods.

```bash
aws autoscaling create-launch-configuration \
    --launch-configuration-name my-lc \
    --image-id ami-04d5cc9b88example \
    --instance-type m5.large \
    --instance-monitoring Enabled=true
```

This command produces no output.

For more information, see Configuring monitoring for Auto Scaling instances in the Amazon EC2 Auto Scaling User Guide.

**Example 5: To create a launch configuration that launches Spot Instances**

This example creates a launch configuration that uses Spot Instances as the only purchase option.

```bash
aws autoscaling create-launch-configuration \
```
Example 6: To create a launch configuration using an EC2 instance

This example creates a launch configuration based on the attributes of an existing instance. It overrides the placement tenancy and whether a public IP address is set by including the --placement-tenancy and --no-associate-public-ip-address options.

```
aws autoscaling create-launch-configuration
   --launch-configuration-name my-lc-from-instance
   --instance-id i-0123a456700123456
   --instance-type m5.large
   --no-associate-public-ip-address
   --placement-tenancy dedicated
```

This command produces no output.

For more information, see Creating a launch configuration using an EC2 instance in the Amazon EC2 Auto Scaling User Guide.

Example 7: To create a launch configuration with a block device mapping for an Amazon EBS volume

This example creates a launch configuration with a block device mapping for an Amazon EBS gp3 volume with the device name /dev/sdh and a volume size of 20.

```
aws autoscaling create-launch-configuration
   --launch-configuration-name my-lc
   --image-id ami-04d5cc9b88example
   --instance-type m5.large
   --block-device-mappings '[{"DeviceName":"/dev/sdh","Ebs":
{"VolumeSize":20,"VolumeType":"gp3"}]}'
```

This command produces no output.
For more information, see EBS in the Amazon EC2 Auto Scaling API Reference.

For information about the syntax for quoting JSON-formatted parameter values, see Using quotation marks with strings in the AWS CLI in the AWS Command Line Interface User Guide.

Example 8: To create a launch configuration with a block device mapping for an instance store volume

This example creates a launch configuration with ephemeral0 as an instance store volume with the device name /dev/sdc.

```bash
aws autoscaling create-launch-configuration \
    --launch-configuration-name my-lc \
    --image-id ami-04d5cc9b88example \
    --instance-type m5.large \
    --block-device-mappings '[["DeviceName":"/dev/sdc","VirtualName":"ephemeral0"]]
```

This command produces no output.

For more information, see BlockDeviceMapping in the Amazon EC2 Auto Scaling API Reference.

For information about the syntax for quoting JSON-formatted parameter values, see Using quotation marks with strings in the AWS CLI in the AWS Command Line Interface User Guide.

Example 9: To create a launch configuration and suppress a block device from attaching at launch time

This example creates a launch configuration that suppresses a block device specified by the block device mapping of the AMI (for example, /dev/sdf).

```bash
aws autoscaling create-launch-configuration \
    --launch-configuration-name my-lc \
    --image-id ami-04d5cc9b88example \
    --instance-type m5.large \
    --block-device-mappings '[["DeviceName":"/dev/sdf","NoDevice":""]]
```

This command produces no output.

For more information, see BlockDeviceMapping in the Amazon EC2 Auto Scaling API Reference.

For information about the syntax for quoting JSON-formatted parameter values, see Using quotation marks with strings in the AWS CLI in the AWS Command Line Interface User Guide.
- For API details, see `CreateLaunchConfiguration` in AWS CLI Command Reference.

**create-or-update-tags**

The following code example shows how to use `create-or-update-tags`.

**AWS CLI**

**To create or update tags for an Auto Scaling group**

This example adds two tags to the specified Auto Scaling group.

```bash
aws autoscaling create-or-update-tags \
   --tags ResourceId=my-asg,ResourceType=auto-scaling-group,Key=Role,Value=WebServer,PropagateAtLaunch=true ResourceId=my-asg,ResourceType=auto-scaling-group,Key=Dept,Value=Research,PropagateAtLaunch=true
```

This command produces no output.

For more information, see Tagging Auto Scaling groups and instances in the Amazon EC2 Auto Scaling User Guide.

- For API details, see `CreateOrUpdateTags` in AWS CLI Command Reference.

**delete-launch-configuration**

The following code example shows how to use `delete-launch-configuration`.

**AWS CLI**

**To delete a launch configuration**

This example deletes the specified launch configuration.

```bash
aws autoscaling delete-launch-configuration \
   --launch-configuration-name my-launch-config
```

This command produces no output.

For more information, see Deleting your Auto Scaling infrastructure in the Amazon EC2 Auto Scaling User Guide.

- For API details, see `DeleteLaunchConfiguration` in AWS CLI Command Reference.
delete-lifecycle-hook

The following code example shows how to use delete-lifecycle-hook.

AWS CLI

To delete a lifecycle hook

This example deletes the specified lifecycle hook.

```
aws autoscaling delete-lifecycle-hook \
  --lifecycle-hook-name my-lifecycle-hook \
  --auto-scaling-group-name my-asg
```

This command produces no output.

- For API details, see DeleteLifecycleHook in AWS CLI Command Reference.

delete-notification-configuration

The following code example shows how to use delete-notification-configuration.

AWS CLI

To delete an Auto Scaling notification

This example deletes the specified notification from the specified Auto Scaling group.

```
aws autoscaling delete-notification-configuration \
  --auto-scaling-group-name my-asg \
```

This command produces no output.

For more information, see Delete the notification configuration in the Amazon EC2 Auto Scaling User Guide.

- For API details, see DeleteNotificationConfiguration in AWS CLI Command Reference.

delete-policy

The following code example shows how to use delete-policy.
AWS CLI

To delete a scaling policy

This example deletes the specified scaling policy.

```bash
aws autoscaling delete-policy \
    --auto-scaling-group-name my-asg \
    --policy-name alb1000-target-tracking-scaling-policy
```

This command produces no output.

- For API details, see `DeletePolicy` in *AWS CLI Command Reference*.

delete-scheduled-action

The following code example shows how to use `delete-scheduled-action`.

AWS CLI

To delete a scheduled action from an Auto Scaling group

This example deletes the specified scheduled action from the specified Auto Scaling group.

```bash
aws autoscaling delete-scheduled-action \
    --auto-scaling-group-name my-asg \
    --scheduled-action-name my-scheduled-action
```

This command produces no output.

- For API details, see `DeleteScheduledAction` in *AWS CLI Command Reference*.

delete-tags

The following code example shows how to use `delete-tags`.

AWS CLI

To delete a tag from an Auto Scaling group

This example deletes the specified tag from the specified Auto Scaling group.

```
aws autoscaling delete-tags \
```
This command produces no output.

For more information, see Tagging Auto Scaling groups and instances in the Amazon EC2 Auto Scaling User Guide.

- For API details, see DeleteTags in AWS CLI Command Reference.

delete-warm-pool

The following code example shows how to use delete-warm-pool.

AWS CLI

**Example 1: To delete a warm pool**

The following example deletes the warm pool for the specified Auto Scaling group.

```
aws autoscaling delete-warm-pool \
--auto-scaling-group-name my-asg
```

This command produces no output.

For more information, see Warm pools for Amazon EC2 Auto Scaling in the Amazon EC2 Auto Scaling User Guide.

**Example 2: To force delete a warm pool**

To delete the warm pool without waiting for its instances to terminate, use the --force-delete option.

```
aws autoscaling delete-warm-pool \
--auto-scaling-group-name my-asg \
--force-delete
```

This command produces no output.

For more information, see Warm pools for Amazon EC2 Auto Scaling in the Amazon EC2 Auto Scaling User Guide.

- For API details, see DeleteWarmPool in AWS CLI Command Reference.
describe-account-limits

The following code example shows how to use `describe-account-limits`.

**AWS CLI**

To describe your Amazon EC2 Auto Scaling account limits

This example describes the Amazon EC2 Auto Scaling limits for your AWS account.

```
aws autoscaling describe-account-limits
```

Output:

```
{
   "NumberOfLaunchConfigurations": 5,
   "MaxNumberOfLaunchConfigurations": 100,
   "NumberOfAutoScalingGroups": 3,
   "MaxNumberOfAutoScalingGroups": 20
}
```

For more information, see [Amazon EC2 Auto Scaling service quotas](https://docs.aws.amazon.com/autoscaling/ec2/userguide/autoscaling-service-quota.html) in the *Amazon EC2 Auto Scaling User Guide*.


describe-adjustment-types

The following code example shows how to use `describe-adjustment-types`.

**AWS CLI**

To describe the available scaling adjustment types

This example describes the available adjustment types.

```
aws autoscaling describe-adjustment-types
```

Output:

```
{
   "AdjustmentTypes": [
   
   
   ]
}
```
"AdjustmentType": "ChangeInCapacity"
},
{
 "AdjustmentType": "ExactCapacity"
},
{
 "AdjustmentType": "PercentChangeInCapacity"
}
]}

For more information, see Scaling adjustment types in the Amazon EC2 Auto Scaling User Guide.

- For API details, see DescribeAdjustmentTypes in AWS CLI Command Reference.

describe-auto-scaling-notification-types

The following code example shows how to use describe-auto-scaling-notification-types.

AWS CLI

To describe the available notification types

This example describes the available notification types.

aws autoscaling describe-auto-scaling-notification-types

Output:

{
 "AutoScalingNotificationTypes": [ 
 "autoscaling:EC2INSTANCE_LAUNCH",
 "autoscaling:EC2INSTANCE_LAUNCH_ERROR",
 "autoscaling:EC2INSTANCE_TERMINATE",
 "autoscaling:EC2INSTANCE_TERMINATE_ERROR",
 "autoscaling:TEST_NOTIFICATION"
 ]
}

For more information, see Getting Amazon SNS notifications when your Auto Scaling group scales in the Amazon EC2 Auto Scaling User Guide.
describe-instance-refreshes

The following code example shows how to use describe-instance-refreshes.

AWS CLI

To describe instance refreshes

The following describe-instance-refreshes example returns a description of all instance refresh requests for the specified Auto Scaling group, including the status message and (if available) the status reason.

```bash
aws autoscaling describe-instance-refreshes \
  --auto-scaling-group-name my-asg
```

Output:

```json
{
  "InstanceRefreshes": [
    {
      "InstanceRefreshId": "08b91cf7-8fa6-48af-b6a6-d227f40f1b9b",
      "AutoScalingGroupName": "my-asg",
      "Status": "InProgress",
      "StatusReason": "Waiting for instances to warm up before continuing. For example: 0e69cc3f05f825f4f is warming up."
    }
  ],
  "EndTime": "2023-03-23T16:42:55Z",
  "PercentageComplete": 0,
  "InstancesToUpdate": 0,
  "Preferences": {
    "MinHealthyPercentage": 100,
    "InstanceWarmup": 300,
    "CheckpointPercentages": [50],
    "CheckpointDelay": 3600,
    "SkipMatching": false,
    "AutoRollback": true,
    "ScaleInProtectedInstances": "Ignore",
    "StandbyInstances": "Ignore"
  }
}
```
For more information, see [Check the status of an instance refresh](https://docs.aws.amazon.com/AmazonEC2AutoScaling/latest/UserGuide/check-status-of-instance-refresh.html) in the *Amazon EC2 Auto Scaling User Guide*.

- For API details, see [DescribeInstanceRefreshes](https://docs.aws.amazon.com/AWSCommandLineInterface/latest/APIReference/API_DescribeInstanceRefreshes.html) in *AWS CLI Command Reference*.

### describe-launch-configurations

The following code example shows how to use `describe-launch-configurations`.

**AWS CLI**

**Example 1: To describe the specified launch configuration**

This example describes the specified launch configuration.

```
aws autoscaling describe-launch-configurations \
    --launch-configuration-names my-launch-config
```

Output:

```json
{
    "LaunchConfigurations": [
    
    
```
"LaunchConfigurationName": "my-launch-config",
"ImageId": "ami-0528a5175983e7f28",
"KeyName": "my-key-pair-uswest2",
"SecurityGroups": [
   "sg-05eaec502fcdadc2e"
],
"ClassicLinkVPCSecurityGroups": [],
"UserData": "",
"InstanceType": "t2.micro",
"KernelId": "",
"RamdiskId": "",
"BlockDeviceMappings": [
   {
      "DeviceName": "/dev/xvda",
      "Ebs": {
         "SnapshotId": "snap-06c1606ba5ca274b1",
         "VolumeSize": 8,
         "VolumeType": "gp2",
         "DeleteOnTermination": true,
         "Encrypted": false
      }
   }
],
"InstanceMonitoring": {
   "Enabled": true
},
"CreatedTime": "2020-10-28T02:39:22.321Z",
"EbsOptimized": false,
"AssociatePublicIpAddress": true,
"MetadataOptions": {
   "HttpTokens": "required",
   "HttpPutResponseHopLimit": 1,
   "HttpEndpoint": "disabled"
}
]
}

Example 2: To describe a specified number of launch configurations

To return a specific number of launch configurations, use the --max-items option.
aws autoscaling describe-launch-configurations \
   --max-items 1

If the output includes a NextToken field, there are more launch configurations. To get the additional launch configurations, use the value of this field with the --starting-token option in a subsequent call as follows.

aws autoscaling describe-launch-configurations \
   --starting-token Z3M3LMPEXAMPLE

• For API details, see DescribeLaunchConfigurations in AWS CLI Command Reference.

describe-lifecycle-hook-types

The following code example shows how to use describe-lifecycle-hook-types.

AWS CLI

To describe the available lifecycle hook types

This example describes the available lifecycle hook types.

aws autoscaling describe-lifecycle-hook-types

Output:

{
   "LifecycleHookTypes": [
      "autoscaling:EC2_INSTANCE_LAUNCHING",
      "autoscaling:EC2_INSTANCE_TERMINATING"
   ]
}

• For API details, see DescribeLifecycleHookTypes in AWS CLI Command Reference.

describe-lifecycle-hooks

The following code example shows how to use describe-lifecycle-hooks.
AWS CLI

To describe your lifecycle hooks

This example describes the lifecycle hooks for the specified Auto Scaling group.

```bash
aws autoscaling describe-lifecycle-hooks \
   --auto-scaling-group-name my-asg
```

Output:

```json
{
   "LifecycleHooks": [
   {
      "GlobalTimeout": 3000,
      "HeartbeatTimeout": 30,
      "AutoScalingGroupName": "my-asg",
      "LifecycleHookName": "my-launch-hook",
      "DefaultResult": "ABANDON",
      "LifecycleTransition": "autoscaling:EC2_INSTANCE_LAUNCHING"
   },
   {
      "GlobalTimeout": 6000,
      "HeartbeatTimeout": 60,
      "AutoScalingGroupName": "my-asg",
      "LifecycleHookName": "my-termination-hook",
      "DefaultResult": "CONTINUE",
      "LifecycleTransition": "autoscaling:EC2_INSTANCE_TERMINATING"
   }
   ]
}
```

- For API details, see [DescribeLifecycleHooks](https://docs.aws.amazon.com/cli/latest/reference/autoscaling/describe-lifecycle-hooks.html) in *AWS CLI Command Reference*.

**describe-load-balancer-target-groups**

The following code example shows how to use `describe-load-balancer-target-groups`.

AWS CLI

To describe the load balancer target groups for an Auto Scaling group
This example describes the load balancer target groups attached to the specified Auto Scaling group.

```
aws autoscaling describe-load-balancer-target-groups \
--auto-scaling-group-name my-asg
```

Output:

```
{
   "LoadBalancerTargetGroups": [ 
      {
         "LoadBalancerTargetGroupARN": "arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067",
         "State": "Added"
      }
   ]
}
```

- For API details, see `DescribeLoadBalancerTargetGroups` in `AWS CLI Command Reference`.

**describe-load-balancers**

The following code example shows how to use `describe-load-balancers`.

**AWS CLI**

**To describe the Classic Load Balancers for an Auto Scaling group**

This example describes the Classic Load Balancers for the specified Auto Scaling group.

```
aws autoscaling describe-load-balancers \
--auto-scaling-group-name my-asg
```

Output:

```
{
   "LoadBalancers": [ 
      {
         "State": "Added",
         "LoadBalancerName": "my-load-balancer"
      }
   ]
}
```
For API details, see `DescribeLoadBalancers` in `AWS CLI Command Reference`.

**describe-metric-collection-types**

The following code example shows how to use `describe-metric-collection-types`.

**AWS CLI**

To describe the available metric collection types

This example describes the available metric collection types.

```bash
aws autoscaling describe-metric-collection-types
```

Output:

```json
{
    "Metrics": [
        {
            "Metric": "GroupMinSize"
        },
        {
            "Metric": "GroupMaxSize"
        },
        {
            "Metric": "GroupDesiredCapacity"
        },
        {
            "Metric": "GroupInServiceInstances"
        },
        {
            "Metric": "GroupInServiceCapacity"
        },
        {
            "Metric": "GroupPendingInstances"
        },
        {
            "Metric": "GroupPendingCapacity"
        },
        {
            "Metric": "GroupTerminatingInstances"
        }
    ]
}
```
For more information, see Auto Scaling group metrics in the Amazon EC2 Auto Scaling User Guide.

- For API details, see DescribeMetricCollectionTypes in AWS CLI Command Reference.

describe-notification-configurations

The following code example shows how to use describe-notification-configurations.

AWS CLI

Example 1: To describe the notification configurations of a specified group

This example describes the notification configurations for the specified Auto Scaling group.

```bash
aws autoscaling describe-notification-configurations \
  --auto-scaling-group-name my-asg
```

Output:
For more information, see [Getting Amazon SNS notifications when your Auto Scaling group scales](https://docs.aws.amazon.com/AWSEC2/latest/userguide/autoscaling-sns-notifications.html) in the [Amazon EC2 Auto Scaling User Guide](https://docs.aws.amazon.com/AWSEC2/latest/userguide/). 

**Example 1: To describe a specified number of notification configurations**

To return a specific number of notification configurations, use the `max-items` parameter.

```
aws autoscaling describe-notification-configurations \
  --auto-scaling-group-name my-auto-scaling-group \
  --max-items 1
```

**Output:**

```
{
  "NotificationConfigurations": [
    {
      "AutoScalingGroupName": "my-asg",
      "NotificationType": "autoscaling:TEST_NOTIFICATION",
    },
    {
      "AutoScalingGroupName": "my-asg",
      "NotificationType": "autoscaling:TEST_NOTIFICATION",
    }
  ]
}
```
If the output includes a NextToken field, there are more notification configurations. To get the additional notification configurations, use the value of this field with the starting-token parameter in a subsequent call as follows.

```
aws autoscaling describe-notification-configurations \
  --auto-scaling-group-name my-asg \
  --starting-token Z3M3LMPEXAMPLE
```

For more information, see [Getting Amazon SNS notifications when your Auto Scaling group scales](https://docs.aws.amazon.com/AmazonEC2/latest/UserGuide/autoscaling-sns-notifications.html) in the *Amazon EC2 Auto Scaling User Guide*.

- For API details, see [DescribeNotificationConfigurations](https://docs.aws.amazon.com/cli/latest/reference/autoscaling/describe-notification-configurations.html) in *AWS CLI Command Reference*.

### describe-policies

The following code example shows how to use `describe-policies`.

**AWS CLI**

**Example 1: To describe the scaling policies of a specified group**

This example describes the scaling policies for the specified Auto Scaling group.

```
aws autoscaling describe-policies \
  --auto-scaling-group-name my-asg
```

**Output:**

```
{
    "ScalingPolicies": [
        {
            "AutoScalingGroupName": "my-asg",
            "PolicyName": "alb1000-target-tracking-scaling-policy",
            "PolicyType": "TargetTrackingScaling",
            "StepAdjustments": [],
            "Alarms": [
                {
                    "AlarmName": "AverageCPUUtilizationAboveThreshold",
                    "ActionType": "EnableAlarmActions",
                    "InsufficientDataActions": [],
                    "Namespace": "AWS/EC2",
                    "Statistic": "Average",
                    "Statistical运营商": "None",
                    "Threshold": 50,
                    "ComparisonOperator": "GreaterThanOrEqualToThreshold",
                    "EvaluationPeriods": 1,
                    "Period": 300
                }
            ]
        }
    ]
}
```
"AlarmName": "TargetTracking-my-asg-AlarmHigh-924887a9-12d7-4e01-8686-6f844d13a196",
],
{
"AlarmName": "TargetTracking-my-asg-AlarmLow-f96f899d-b8e7-4d09-a010-c1aaa35da296",
}
],
"TargetTrackingConfiguration": {
"PredefinedMetricSpecification": {
"PredefinedMetricType": "ALBRequestCountPerTarget",
"ResourceLabel": "app/my-alb/778d41231b141a0f/targetgroup/my-alb-target-group/943f017f100becff"
},
"TargetValue": 1000.0,
"DisableScaleIn": false
},
"Enabled": true
],
{
"AutoScalingGroupName": "my-asg",
"PolicyName": "cpu40-target-tracking-scaling-policy",
"PolicyType": "TargetTrackingScaling",
"StepAdjustments": [],
"Alarms": [
{
"AlarmName": "TargetTracking-my-asg-AlarmHigh-139f9789-37b9-42ad-bea5-b5b147d7f473",
},
{
}
"AlarmName": "TargetTracking-my-asg-AlarmLow-bd681c67-fc18-4c56-8468-fb8e413009c9",
},
  "TargetTrackingConfiguration": {
    "PredefinedMetricSpecification": {
      "PredefinedMetricType": "ASGAverageCPUUtilization"
    },
    "TargetValue": 40.0,
    "DisableScaleIn": false
  },
  "Enabled": true
}

For more information, see Dynamic scaling in the Amazon EC2 Auto Scaling User Guide.

Example 2: To describe the scaling policies of a specified name

To return specific scaling policies, use the --policy-names option.

```
aws autoscaling describe-policies \
  --auto-scaling-group-name my-asg \
  --policy-names cpu40-target-tracking-scaling-policy
```

See example 1 for sample output.

For more information, see Dynamic scaling in the Amazon EC2 Auto Scaling User Guide.

Example 3: To describe a number of scaling policies

To return a specific number of policies, use the --max-items option.

```
aws autoscaling describe-policies \
  --auto-scaling-group-name my-asg \
  --max-items
```

See example 1 for sample output.
If the output includes a NextToken field, use the value of this field with the --starting-token option in a subsequent call to get the additional policies.

```
aws autoscaling describe-policies --auto-scaling-group-name my-asg --starting-token Z3M3LMPEXAMPLE
```

For more information, see Dynamic scaling in the Amazon EC2 Auto Scaling User Guide.

- For API details, see DescribePolicies in AWS CLI Command Reference.

**describe-scaling-process-types**

The following code example shows how to use describe-scaling-process-types.

**AWS CLI**

**To describe the available process types**

This example describes the available process types.

```
aws autoscaling describe-scaling-process-types
```

Output:

```
{
  "Processes": [
    {
      "ProcessName": "AZRebalance"
    },
    {
      "ProcessName": "AddToLoadBalancer"
    },
    {
      "ProcessName": "AlarmNotification"
    },
    {
      "ProcessName": "HealthCheck"
    },
    {
      "ProcessName": "InstanceRefresh"
    },
    {
      "ProcessName": "AutomaticScalingIn"
    },
    {
      "ProcessName": "AutomaticScalingOut"
    },
    {
      "ProcessName": "InstanceRefreshTerminationProtection"
    },
    {
      "ProcessName": "InstanceRefreshProtection"
    },
    {
      "ProcessName": "LaunchBeforeStopProtection"
    },
    {
      "ProcessName": "StopBeforeLaunchProtection"
    },
    {
      "ProcessName": "StopBeforeInstanceRefreshProtection"
    },
    {
      "ProcessName": "StartBeforeStopProtection"
    },
    {
      "ProcessName": "FirstInFirstOutProtection"
    }
  ]
}
```
The following code example shows how to use `describe-scheduled-actions`.

**AWS CLI**

**Example 1: To describe all scheduled actions**

This example describes all your scheduled actions.

```
aws autoscaling describe-scheduled-actions
```

Output:

```json
{
    "ScheduledUpdateGroupActions": [
        {
            "AutoScalingGroupName": "my-asg",
            "ScheduledActionName": "my-recurring-action",
            "Recurrence": "30 0 1 1,6,12 *",
        }
    ]
}
```
Example 2: To describe scheduled actions for the specified group

To describe the scheduled actions for a specific Auto Scaling group, use the --auto-scaling-group-name option.

```
aws autoscaling describe-scheduled-actions \
  --auto-scaling-group-name my-asg
```

Output:

```
{
    "ScheduledUpdateGroupActions": [
        {
            "AutoScalingGroupName": "my-asg",
            "ScheduledActionName": "my-recurring-action",
            "Recurrence": "30 0 1 1,6,12 *",
            "StartTime": "2023-12-01T04:00:00Z",
            "Time": "2023-12-01T04:00:00Z",
            "MinSize": 1,
            "MaxSize": 6,
            "DesiredCapacity": 4,
            "TimeZone": "America/New_York"
        }
    ]
}
```

For more information, see Scheduled scaling in the Amazon EC2 Auto Scaling User Guide.
Example 3: To describe the specified scheduled action

To describe a specific scheduled action, use the `--scheduled-action-names` option.

/aws autoscaling describe-scheduled-actions \  
  --scheduled-action-names my-recurring-action

Output:

```
{
  "ScheduledUpdateGroupActions": [
    {
      "AutoScalingGroupName": "my-asg",
      "ScheduledActionName": "my-recurring-action",
      "Recurrence": "30 0 1 1,6,12 *",
      "StartTime": "2023-12-01T04:00:00Z",
      "Time": "2023-12-01T04:00:00Z",
      "MinSize": 1,
      "MaxSize": 6,
      "DesiredCapacity": 4,
      "TimeZone": "America/New_York"
    }
  ]
}
```

For more information, see Scheduled scaling in the Amazon EC2 Auto Scaling User Guide.

Example 4: To describe scheduled actions with a specified start time

To describe the scheduled actions that start at a specific time, use the `--start-time` option.

/aws autoscaling describe-scheduled-actions \  
  --start-time "2023-12-01T04:00:00Z"

Output:

```
{
  "ScheduledUpdateGroupActions": [
```
For more information, see [Scheduled scaling](#) in the *Amazon EC2 Auto Scaling User Guide*.

**Example 5: To describe scheduled actions that end at a specified time**

To describe the scheduled actions that end at a specific time, use the `--end-time` option.

```bash
aws autoscaling describe-scheduled-actions \
   --end-time "2023-12-01T04:00:00Z"
```

Output:

```json
{
   "ScheduledUpdateGroupActions": [
      {
         "AutoScalingGroupName": "my-asg",
         "ScheduledActionName": "my-recurring-action",
         "Recurrence": "30 0 1 1,6,12 *",
         "StartTime": "2023-12-01T04:00:00Z",
         "Time": "2023-12-01T04:00:00Z",
         "MinSize": 1,
         "MaxSize": 6,
         "DesiredCapacity": 4,
         "TimeZone": "America/New_York"
      }
   ]
}
```
For more information, see Scheduled scaling in the Amazon EC2 Auto Scaling User Guide.

**Example 6: To describe a specified number of scheduled actions**

To return a specific number of scheduled actions, use the `--max-items` option.

```bash
aws autoscaling describe-scheduled-actions
   --auto-scaling-group-name my-asg
   --max-items 1
```

**Output:**

```
{
   "ScheduledUpdateGroupActions": [
   {
      "AutoScalingGroupName": "my-asg",
      "ScheduledActionName": "my-recurring-action",
      "Recurrence": "30 0 1,6,12 *",
      "StartTime": "2023-12-01T04:00:00Z",
      "Time": "2023-12-01T04:00:00Z",
      "MinSize": 1,
      "MaxSize": 6,
      "DesiredCapacity": 4,
      "TimeZone": "America/New_York"
   }
   ]
}
```

If the output includes a `NextToken` field, there are more scheduled actions. To get the additional scheduled actions, use the value of this field with the `--starting-token` option in a subsequent call as follows.

```bash
aws autoscaling describe-scheduled-actions
   --auto-scaling-group-name my-asg
   --starting-token
```
For more information, see Scheduled scaling in the Amazon EC2 Auto Scaling User Guide.

- For API details, see DescribeScheduledActions in AWS CLI Command Reference.

describe-tags

The following code example shows how to use describe-tags.

**AWS CLI**

**To describe all tags**

This example describes all your tags.

```
aws autoscaling describe-tags
```

**Output:**

```
{
   "Tags": [
       {
           "ResourceType": "auto-scaling-group",
           "ResourceId": "my-asg",
           "PropagateAtLaunch": true,
           "Value": "Research",
           "Key": "Dept"
       },
       {
           "ResourceType": "auto-scaling-group",
           "ResourceId": "my-asg",
           "PropagateAtLaunch": true,
           "Value": "WebServer",
           "Key": "Role"
       }
   ]
}
```

For more information, see Tagging Auto Scaling groups and instances in the Amazon EC2 Auto Scaling User Guide.
Example 2: To describe tags for a specified group

To describe tags for a specific Auto Scaling group, use the --filters option.

```bash
aws autoscaling describe-tags --filters Name=auto-scaling-group,Values=my-asg
```

For more information, see Tagging Auto Scaling groups and instances in the Amazon EC2 Auto Scaling User Guide.

Example 3: To describe the specified number of tags

To return a specific number of tags, use the --max-items option.

```bash
aws autoscaling describe-tags \
  --max-items 1
```

If the output includes a NextToken field, there are more tags. To get the additional tags, use the value of this field with the --starting-token option in a subsequent call as follows.

```bash
aws autoscaling describe-tags \
  --filters Name=auto-scaling-group,Values=my-asg \
  --starting-token Z3M3LMPEXAMPLE
```

For more information, see Tagging Auto Scaling groups and instances in the Amazon EC2 Auto Scaling User Guide.

- For API details, see DescribeTags in AWS CLI Command Reference.

describe-termination-policy-types

The following code example shows how to use describe-termination-policy-types.

AWS CLI

To describe available termination policy types

This example describes the available termination policy types.

```bash
aws autoscaling describe-termination-policy-types
```
Output:

```json
{
   "TerminationPolicyTypes": [
      "AllocationStrategy",
      "ClosestToNextInstanceHour",
      "Default",
      "NewestInstance",
      "OldestInstance",
      "OldestLaunchConfiguration",
      "OldestLaunchTemplate"
   ]
}
```

For more information, see [Controlling which Auto Scaling instances terminate during scale in](https://docs.aws.amazon.com/autoscaling/userguide/as-supported-features.html) in the *Amazon EC2 Auto Scaling User Guide*.

- For API details, see [DescribeTerminationPolicyTypes](https://docs.aws.amazon.com/cli/latest/index.html) in *AWS CLI Command Reference*.

**describe-warm-pool**

The following code example shows how to use `describe-warm-pool`.

**AWS CLI**

**To describe a warm pool**

This example describes the warm pool for the specified Auto Scaling group.

```bash
aws autoscaling describe-warm-pool \
   --auto-scaling-group-name my-asg
```

Output:

```json
{
   "WarmPoolConfiguration": {
      "MinSize": 2,
      "PoolState": "Stopped"
   },
   "Instances": [
   {  
```
"InstanceId": "i-070a5bbc7e7f40dc5",
"InstanceType": "t2.micro",
"AvailabilityZone": "us-west-2c",
"LifecycleState": "Warmed:Pending",
"HealthStatus": "Healthy",
"LaunchTemplate": {
    "LaunchTemplateId": "lt-00a731f6e9fa48610",
    "LaunchTemplateName": "my-template-for-auto-scaling",
    "Version": "6"
}
},
{
    "InstanceId": "i-0b52f061814d3bd2d",
    "InstanceType": "t2.micro",
    "AvailabilityZone": "us-west-2b",
    "LifecycleState": "Warmed:Pending",
    "HealthStatus": "Healthy",
    "LaunchTemplate": {
        "LaunchTemplateId": "lt-00a731f6e9fa48610",
        "LaunchTemplateName": "my-template-for-auto-scaling",
        "Version": "6"
    }
}
]
}

For more information, see [Warm pools for Amazon EC2 Auto Scaling](#) in the [Amazon EC2 Auto Scaling User Guide](#).

- For API details, see [DescribeWarmPool](#) in [AWS CLI Command Reference](#).

detach-instances

The following code example shows how to use detach-instances.

**AWS CLI**

**To detach an instance from an Auto Scaling group**

This example detaches the specified instance from the specified Auto Scaling group.

```
aws autoscaling detach-instances \
    --instance-ids i-030017cfa84b20135 \
```
Output:

```json
{
  "Activities": [
    {
      "ActivityId": "5091cb52-547a-47ce-a236-c9ccbc2cb2c9",
      "AutoScalingGroupName": "my-asg",
      "Description": "Detaching EC2 instance: i-030017cfa84b20135",
      "Cause": "At 2020-10-31T17:35:04Z instance i-030017cfa84b20135 was attached in response to a user request, shrinking the capacity from 2 to 1.",
      "StartTime": "2020-04-12T15:02:16.179Z",
      "StatusCode": "InProgress",
      "Progress": 50,
      "Details": "{"Subnet ID": "subnet-6194ea3b","Availability Zone": "us-west-2c"}"
    }
  ]
}
```

- For API details, see [DetachInstances](#) in *AWS CLI Command Reference*.

### detach-load-balancer-target-groups

The following code example shows how to use `detach-load-balancer-target-groups`.

**AWS CLI**

**To detach a load balancer target group from an Auto Scaling group**

This example detaches the specified load balancer target group from the specified Auto Scaling group.

```bash
aws autoscaling detach-load-balancer-target-groups \
  --auto-scaling-group-name my-asg \
  --target-group-arns arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067
```

This command produces no output
For more information, see [Attaching a load balancer to your Auto Scaling group](https://docs.aws.amazon.com/autoscaling/ec2/userguide/auto-scaling-load-balancer.html) in the *Amazon EC2 Auto Scaling User Guide*.

- For API details, see [DetachLoadBalancerTargetGroups](https://docs.aws.amazon.com/cli/latest/reference/autoscaling/detach-load-balancers.html) in *AWS CLI Command Reference*.

**detach-load-balancers**

The following code example shows how to use `detach-load-balancers`.

**AWS CLI**

*To detach a Classic Load Balancer from an Auto Scaling group*

This example detaches the specified Classic Load Balancer from the specified Auto Scaling group.

```bash
aws autoscaling detach-load-balancers \
  --load-balancer-names my-load-balancer \
  --auto-scaling-group-name my-asg
```

This command produces no output.

For more information, see [Attaching a load balancer to your Auto Scaling group](https://docs.aws.amazon.com/autoscaling/ec2/userguide/auto-scaling-load-balancer.html) in the *Amazon EC2 Auto Scaling User Guide*.

- For API details, see [DetachLoadBalancers](https://docs.aws.amazon.com/cli/latest/reference/autoscaling/detach-load-balancers.html) in *AWS CLI Command Reference*.

**enter-standby**

The following code example shows how to use `enter-standby`.

**AWS CLI**

*To move instances into standby mode*

This example puts the specified instance into standby mode. This is useful for updating or troubleshooting an instance that is currently in service.

```bash
aws autoscaling enter-standby \
  --instance-ids i-061c63c5eb45f0416 \
  --auto-scaling-group-name my-asg
```
Output:

```json
{
    "Activities": [
        {
            "ActivityId": "ffa056b4-6ed3-41ba-ae7c-249dfae6eba1",
            "AutoScalingGroupName": "my-asg",
            "Description": "Moving EC2 instance to Standby: i-061c63c5eb45f0416",
            "Cause": "At 2020-10-31T20:31:00Z instance i-061c63c5eb45f0416 was moved to standby in response to a user request, shrinking the capacity from 1 to 0."
        }
    ]
}
```

For more information, see [Amazon EC2 Auto Scaling instance lifecycle](https://docs.aws.amazon.com/autoscaling/userguide/autoscaling-lifecycle-hooks.html) in the *Amazon EC2 Auto Scaling User Guide*.

- For API details, see [EnterStandby](https://docs.aws.amazon.com/cli/latest/reference/autoscaling/enter-standby.html) in *AWS CLI Command Reference*.

**execute-policy**

The following code example shows how to use `execute-policy`.

**AWS CLI**

To execute a scaling policy

This example executes the scaling policy named `my-step-scale-out-policy` for the specified Auto Scaling group.

```bash
aws autoscaling execute-policy
    --auto-scaling-group-name my-asg
    --policy-name my-step-scale-out-policy
    --metric-value 95
```
This command produces no output.

For more information, see Step and simple scaling policies in the Amazon EC2 Auto Scaling User Guide.

- For API details, see ExecutePolicy in AWS CLI Command Reference.

exit-standby

The following code example shows how to use exit-standby.

AWS CLI

To move instances out of standby mode

This example moves the specified instance out of standby mode.

```bash
aws autoscaling exit-standby \
  --instance-ids i-061c63c5eb45f0416 \
  --auto-scaling-group-name my-asg
```

Output:

```json
{
  "Activities": [
    {
      "ActivityId": "142928e1-a2dc-453a-9b24-b85ad6735928",
      "AutoScalingGroupName": "my-asg",
      "Description": "Moving EC2 instance out of Standby: i-061c63c5eb45f0416",
      "Cause": "At 2020-10-31T20:32:50Z instance i-061c63c5eb45f0416 was moved out of standby in response to a user request, increasing the capacity from 0 to 1.",
      "StartTime": "2020-10-31T20:32:50.222Z",
      "StatusCode": "PreInService",
      "Progress": 30,
      "Details": "{"Subnet ID"":"subnet-6194ea3b","Availability Zone":"us-west-2c"}"
    }
  ]
}
```
For more information, see Temporarily removing instances from your Auto Scaling group in the Amazon EC2 Auto Scaling User Guide.

- For API details, see ExitStandby in AWS CLI Command Reference.

put-lifecycle-hook

The following code example shows how to use put-lifecycle-hook.

AWS CLI

Example 1: To create a lifecycle hook

This example creates a lifecycle hook that will invoke on any newly launched instances, with a timeout of 4800 seconds. This is useful for keeping the instances in a wait state until the user data scripts have finished, or for invoking an AWS Lambda function using EventBridge.

```
aws autoscaling put-lifecycle-hook \
  --auto-scaling-group-name my-asg \
  --lifecycle-hook-name my-launch-hook \
  --lifecycle-transition autoscaling:EC2_INSTANCE_LAUNCHING \
  --heartbeat-timeout 4800
```

This command produces no output. If a lifecycle hook with the same name already exists, it will be overwritten by the new lifecycle hook.

For more information, see Amazon EC2 Auto Scaling lifecycle hooks in the Amazon EC2 Auto Scaling User Guide.

Example 2: To send an Amazon SNS email message to notify you of instance state transitions

This example creates a lifecycle hook with the Amazon SNS topic and IAM role to use to receive notification at instance launch.

```
aws autoscaling put-lifecycle-hook \
  --auto-scaling-group-name my-asg \
  --lifecycle-hook-name my-launch-hook \
```
This command produces no output.

For more information, see Amazon EC2 Auto Scaling lifecycle hooks in the Amazon EC2 Auto Scaling User Guide.

Example 3: To publish a message to an Amazon SQS queue

This example creates a lifecycle hook that publishes a message with metadata to the specified Amazon SQS queue.

```
aws autoscaling put-lifecycle-hook
   --auto-scaling-group-name my-asg
   --lifecycle-hook-name my-launch-hook
   --lifecycle-transition autoscaling:EC2_INSTANCE_LAUNCHING
   --role-arn arn:aws:iam::123456789012:role/my-notification-role
   --notification-metadata "SQS message metadata"
```

This command produces no output.

For more information, see Amazon EC2 Auto Scaling lifecycle hooks in the Amazon EC2 Auto Scaling User Guide.

- For API details, see PutLifecycleHook in AWS CLI Command Reference.

put-notification-configuration

The following code example shows how to use put-notification-configuration.

AWS CLI

To add a notification

This example adds the specified notification to the specified Auto Scaling group.

```
aws autoscaling put-notification-configuration
   --auto-scaling-group-name my-asg
```
--notification-type autoscaling:TEST_NOTIFICATION

This command produces no output.

For more information, see Getting Amazon SNS notifications when your Auto Scaling group scales in the Amazon EC2 Auto Scaling User Guide.

- For API details, see PutNotificationConfiguration in AWS CLI Command Reference.

put-scaling-policy

The following code example shows how to use put-scaling-policy.

AWS CLI

To add a target tracking scaling policy to an Auto Scaling group

The following put-scaling-policy example applies a target tracking scaling policy to the specified Auto Scaling group. The output contains the ARNs and names of the two CloudWatch alarms created on your behalf. If a scaling policy with the same name already exists, it will be overwritten by the new scaling policy.

```
aws autoscaling put-scaling-policy --auto-scaling-group-name my-asg \  
--policy-name alb1000-target-tracking-scaling-policy \  
--policy-type TargetTrackingScaling \  
--target-tracking-configuration file://config.json
```

Contents of config.json:

```
{
    "TargetValue": 1000.0,
    "PredefinedMetricSpecification": {
        "PredefinedMetricType": "ALBRequestCountPerTarget",
        "ResourceLabel": "app/my-alb/778d41231b141a0f/targetgroup/my-alb-target-group/943f017f100becff"
    }
}
```

Output:
For more examples, see Example scaling policies for the AWS Command Line Interface (AWS CLI) in the Amazon EC2 Auto Scaling User Guide.

- For API details, see PutScalingPolicy in AWS CLI Command Reference.

**put-scheduled-update-group-action**

The following code example shows how to use put-scheduled-update-group-action.

**AWS CLI**

**Example 1: To add a scheduled action to an Auto Scaling group**

This example adds the specified scheduled action to the specified Auto Scaling group.

```bash
aws autoscaling put-scheduled-update-group-action \    --auto-scaling-group-name my-asg \    --scheduled-action-name my-scheduled-action \    --start-time "2023-05-12T08:00:00Z" \    --min-size 2 \    --max-size 6 \    --desired-capacity 4
```
This command produces no output. If a scheduled action with the same name already exists, it will be overwritten by the new scheduled action.

For more examples, see Scheduled scaling in the Amazon EC2 Auto Scaling User Guide.

**Example 2: To specify a recurring schedule**

This example creates a scheduled action to scale on a recurring schedule that is scheduled to execute at 00:30 hours on the first of January, June, and December every year.

```
aws autoscaling put-scheduled-update-group-action \
  --auto-scaling-group-name my-asg \
  --scheduled-action-name my-recurring-action \
  --recurrence "30 0 1 1,6,12 *" \
  --min-size 2 \n  --max-size 6 \n  --desired-capacity 4
```

This command produces no output. If a scheduled action with the same name already exists, it will be overwritten by the new scheduled action.

For more examples, see Scheduled scaling in the Amazon EC2 Auto Scaling User Guide.

- For API details, see PutScheduledUpdateGroupAction in AWS CLI Command Reference.

**put-warm-pool**

The following code example shows how to use put-warm-pool.

**AWS CLI**

**To create a warm pool**

The following example creates a warm pool for the specified Auto Scaling group.

```
aws autoscaling put-warm-pool \
  --auto-scaling-group-name my-asg \
  --min-size 2
```

This command produces no output. If a warm pool already exists, it will be updated.
For more information, see [Warm pools for Amazon EC2 Auto Scaling](https://docs.aws.amazon.com/autoscaling/ec2/userguide/warm-pools.html) in the *Amazon EC2 Auto Scaling User Guide*.

- For API details, see [PutWarmPool](https://awscli.amazonaws.com/v2/AWSEvents/2019/05/25/events/put-warm-pool.md) in *AWS CLI Command Reference*.

**record-lifecycle-action-heartbeat**

The following code example shows how to use `record-lifecycle-action-heartbeat`.

**AWS CLI**

**To record a lifecycle action heartbeat**

This example records a lifecycle action heartbeat to keep the instance in a pending state.

```bash
aws autoscaling record-lifecycle-action-heartbeat \
  --lifecycle-hook-name my-launch-hook \
  --auto-scaling-group-name my-asg \
  --lifecycle-action-token bcd2f1b8-9a78-44d3-8a7a-4dd07d7cf635
```

This command produces no output.

For more information, see [Amazon EC2 Auto Scaling lifecycle hooks](https://docs.aws.amazon.com/autoscaling/ec2/userguide/lifecycle-hooks.html) in the *Amazon EC2 Auto Scaling User Guide*.

- For API details, see [RecordLifecycleActionHeartbeat](https://awscli.amazonaws.com/v2/AWSEvents/2019/05/25/events/record-lifecycle-action-heartbeat.md) in *AWS CLI Command Reference*.

**resume-processes**

The following code example shows how to use `resume-processes`.

**AWS CLI**

**To resume suspended processes**

This example resumes the specified suspended scaling process for the specified Auto Scaling group.

```bash
aws autoscaling resume-processes \
  --auto-scaling-group-name my-asg \
  --scaling-processes AlarmNotification
```

---

**Actions and scenarios**

754
This command produces no output.

For more information, see Suspending and resuming scaling processes in the Amazon EC2 Auto Scaling User Guide.

- For API details, see ResumeProcesses in AWS CLI Command Reference.

rollback-instance-refresh

The following code example shows how to use rollback-instance-refresh.

**AWS CLI**

**To roll back an instance refresh**

The following rollback-instance-refresh example rolls back an in-progress instance refresh for the specified Auto Scaling group.

```
aws autoscaling rollback-instance-refresh \
  --auto-scaling-group-name my-asg
```

Output:

```
{
    "InstanceRefreshId": "08b91cf7-8fa6-48af-b6a6-d227f40f1b9b"
}
```

For more information, see Undo changes with a rollback in the Amazon EC2 Auto Scaling User Guide.

- For API details, see RollbackInstanceRefresh in AWS CLI Command Reference.

set-instance-health

The following code example shows how to use set-instance-health.

**AWS CLI**

**To set the health status of an instance**

This example sets the health status of the specified instance to Unhealthy.
aws autoscaling set-instance-health \
   --instance-id i-061c63c5eb45f0416 \ 
   --health-status Unhealthy

This command produces no output.

- For API details, see SetInstanceHealth in AWS CLI Command Reference.

set-instance-protection

The following code example shows how to use set-instance-protection.

AWS CLI

Example 1: To enable the instance protection setting for an instance

This example enables instance protection for the specified instance.

aws autoscaling set-instance-protection \
   --instance-ids i-061c63c5eb45f0416 \ 
   --auto-scaling-group-name my-asg --protected-from-scale-in

This command produces no output.

Example 2: To disable the instance protection setting for an instance

This example disables instance protection for the specified instance.

aws autoscaling set-instance-protection \
   --instance-ids i-061c63c5eb45f0416 \ 
   --auto-scaling-group-name my-asg \ 
   --no-protected-from-scale-in

This command produces no output.

- For API details, see SetInstanceProtection in AWS CLI Command Reference.

start-instance-refresh

The following code example shows how to use start-instance-refresh.
**AWS CLI**

**Example 1: To start an instance refresh using command line parameters**

The following `start-instance-refresh` example starts an instance refresh using command line arguments. The optional `preferences` parameter specifies an `InstanceWarmup` of 60 seconds and a `MinHealthyPercentage` of 50 percent.

```
aws autoscaling start-instance-refresh \
  --auto-scaling-group-name my-asg \
  --preferences '{"InstanceWarmup": 60, "MinHealthyPercentage": 50}'
```

Output:

```json
{
  "InstanceRefreshId": "08b91cf7-8fa6-48af-b6a6-d227f40f1b9b"
}
```

For more information, see [Start an instance refresh](https://docs.aws.amazon.com/autoscaling/ec2/userguide/instance-refresh.html) in the *Amazon EC2 Auto Scaling User Guide*.

**Example 2: To start an instance refresh using a JSON file**

The following `start-instance-refresh` example starts an instance refresh using a JSON file. You can specify the Auto Scaling group and define your desired configuration and preferences in a JSON file, as shown in the following example.

```
aws autoscaling start-instance-refresh \
  --cli-input-json file://config.json
```

Contents of `config.json`:

```json
{
  "AutoScalingGroupName": "my-asg",
  "DesiredConfiguration": {
    "LaunchTemplate": {
      "LaunchTemplateId": "lt-068f72b729example",
      "Version": "$Default"
    }
  },
  "Preferences": {
    "InstanceWarmup": 60,
```
The following code example shows how to use `suspend-processes`.

**AWS CLI**

**To suspend Auto Scaling processes**

This example suspends the specified scaling process for the specified Auto Scaling group.

```
aws autoscaling suspend-processes \
  --auto-scaling-group-name my-asg \
  --scaling-processes AlarmNotification
```

This command produces no output.

For more information, see [Suspending and resuming scaling processes](https://docs.aws.amazon.com/autoscaling/userguide/suspending-and-resuming-scaling-processes.html) in the *Amazon EC2 Auto Scaling User Guide*.

- For API details, see [SuspendProcesses](https://docs.aws.amazon.com/cli/index.html#awscmd.command.suspendprocesses) in *AWS CLI Command Reference*.

## Auto Scaling Plans examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Auto Scaling Plans.
*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- [Actions](#)

**Actions**

**create-scaling-plan**

The following code example shows how to use `create-scaling-plan`.

**AWS CLI**

**To create a scaling plan**

The following `create-scaling-plan` example creates a scaling plan named `my-scaling-plan` using an already-created JSON file (named `config.json`). The structure of the scaling plan includes a scaling instruction for an Auto Scaling group named `my-asg`. It specifies the `TagFilters` property as the application source and enables predictive scaling and dynamic scaling.

```bash
aws autoscaling-plans create-scaling-plan \
  --scaling-plan-name my-scaling-plan \
  --cli-input-json file://~/config.json
```

**Contents of config.json file:**

```json
{
  "ApplicationSource": {
    "TagFilters": [
      
```
"Key": "purpose",
"Values": [
   "my-application"
]
],
"ScalingInstructions": [
{
   "ServiceNamespace": "autoscaling",
   "ResourceId": "autoScalingGroup/my-asg",
   "ScalableDimension": "autoscaling:autoScalingGroup:DesiredCapacity",
   "ScheduledActionBufferTime": 300,
   "PredictiveScalingMaxCapacityBehavior": "SetForecastCapacityToMaxCapacity",
   "PredictiveScalingMode": "ForecastAndScale",
   "PredefinedLoadMetricSpecification": {
      "PredefinedLoadMetricType": "ASGTotalCPUUtilization"
   },
   "ScalingPolicyUpdateBehavior": "ReplaceExternalPolicies",
   "MinCapacity": 1,
   "MaxCapacity": 4,
   "TargetTrackingConfigurations": [
      {
         "PredefinedScalingMetricSpecification": {
            "PredefinedScalingMetricType": "ASGAverageCPUUtilization"
         },
         "TargetValue": 50
      }
   ]
}
]

Output:

{
   "ScalingPlanVersion": 1
}

For more information, see the AWS Auto Scaling User Guide.

- For API details, see CreateScalingPlan in AWS CLI Command Reference.
**delete-scaling-plan**

The following code example shows how to use delete-scaling-plan.

**AWS CLI**

To delete a scaling plan

The following delete-scaling-plan example deletes the specified scaling plan.

```
aws autoscaling-plans delete-scaling-plan \
   --scaling-plan-name my-scaling-plan \
   --scaling-plan-version 1
```

This command produces no output.

For more information, see the [AWS Auto Scaling User Guide](https://docs.aws.amazon.com/autoscaling/userguide/).  

**describe-scaling-plan-resources**

The following code example shows how to use describe-scaling-plan-resources.

**AWS CLI**

To describe the scalable resources for a scaling plan

The following describe-scaling-plan-resources example displays details about the single scalable resource (an Auto Scaling group) that is associated with the specified scaling plan.

```
aws autoscaling-plans describe-scaling-plan-resources \
   --scaling-plan-name my-scaling-plan \
   --scaling-plan-version 1
```

Output:

```json
{
   "ScalingPlanResources": [
      {
         "ScalableDimension": "autoscaling:autoScalingGroup:DesiredCapacity",
         "ScalingPlanVersion": 1,
      }
   ]
}```
"ResourceId": "autoScalingGroup/my-asg",
"ScalingStatusCode": "Active",
"ScalingStatusMessage": "Target tracking scaling policies have been applied to the resource.",
"ScalingPolicies": [
    {
        "PolicyName": "AutoScaling-my-asg-b1ab65ae-4be3-4634-bd64-c7471662b251",
        "PolicyType": "TargetTrackingScaling",
        "TargetTrackingConfiguration": {
            "PredefinedScalingMetricSpecification": {
                "PredefinedScalingMetricType": "ALBRequestCountPerTarget",
                "ResourceLabel": "app/my-alb/f37c06a68c1748aa/targetgroup/my-target-group/6d4ea56ca2d6a18d"
            },
            "TargetValue": 40.0
        }
    }]
"ServiceNamespace": "autoscaling",
"ScalingPlanName": "my-scaling-plan"
}
]
}

For more information, see What Is AWS Auto Scaling? in the AWS Auto Scaling User Guide.

- For API details, see DescribeScalingPlanResources in AWS CLI Command Reference.

describe-scaling-plans

The following code example shows how to use describe-scaling-plans.

AWS CLI

To describe a scaling plan

The following describe-scaling-plans example displays the details of the specified scaling plan.

```
aws autoscaling-plans describe-scaling-plans
  --scaling-plan-names scaling-plan-with-asg-and-ddb
```
Output:

```json
{
    "ScalingPlans": [
        {
            "LastMutatingRequestTime": 1565388443.963,
            "ScalingPlanVersion": 1,
            "CreationTime": 1565388443.963,
            "ScalingInstructions": [
                {
                    "ScalingPolicyUpdateBehavior": "ReplaceExternalPolicies",
                    "ScalableDimension": "autoscaling:autoScalingGroup:DesiredCapacity",
                    "TargetTrackingConfigurations": [
                        {
                            "PredefinedScalingMetricSpecification": {
                                "PredefinedScalingMetricType": "ASGAverageCPUUtilization"
                            },
                            "TargetValue": 50.0,
                            "EstimatedInstanceWarmup": 300,
                            "DisableScaleIn": false
                        }
                    ],
                    "ResourceId": "autoScalingGroup/my-asg",
                    "DisableDynamicScaling": false,
                    "MinCapacity": 1,
                    "ServiceNamespace": "autoscaling",
                    "MaxCapacity": 10
                },
                {
                    "ScalingPolicyUpdateBehavior": "ReplaceExternalPolicies",
                    "ScalableDimension": "dynamodb:table:ReadCapacityUnits",
                    "TargetTrackingConfigurations": [
                        {
                            "PredefinedScalingMetricSpecification": {
                                "PredefinedScalingMetricType": "DynamoDBReadCapacityUtilization"
                            },
                            "TargetValue": 50.0,
                            "ScaleInCooldown": 60,
                            "DisableScaleIn": false,
                            "ScaleOutCooldown": 60
                        }
                    ],
                    "ResourceId": "dynamodb:table/my-table",
                    "DisableDynamicScaling": false,
                    "MinCapacity": 1,
                    "ServiceNamespace": "dynamodb",
                    "MaxCapacity": 10
                }
            ]
        }
    ]
}
```
"ResourceId": "table/my-table",
"DisableDynamicScaling": false,
"MinCapacity": 5,
"ServiceNamespace": "dynamodb",
"MaxCapacity": 10000
},
{
  "ScalingPolicyUpdateBehavior": "ReplaceExternalPolicies",
  "ScalableDimension": "dynamodb:table:WriteCapacityUnits",
  "TargetTrackingConfigurations": [
    {
      "PredefinedScalingMetricSpecification": {
        "PredefinedScalingMetricType": "DynamoDBWriteCapacityUtilization"
      },
      "TargetValue": 50.0,
      "ScaleInCooldown": 60,
      "DisableScaleIn": false,
      "ScaleOutCooldown": 60
    }
  ],
  "ResourceId": "table/my-table",
  "DisableDynamicScaling": false,
  "MinCapacity": 5,
  "ServiceNamespace": "dynamodb",
  "MaxCapacity": 10000
}]
],
"ApplicationSource": {
  "TagFilters": [
    {
      "Values": [
        "my-application-id"
      ],
      "Key": "application"
    }
  ],
  "StatusStartTime": 1565388455.836,
  "ScalingPlanName": "scaling-plan-with-asg-and-ddb",
  "StatusMessage": "Scaling plan has been created and applied to all resources."
},
"StatusCode": "Active"
get-scaling-plan-resource-forecast-data

The following code example shows how to use `get-scaling-plan-resource-forecast-data`.

**AWS CLI**

**To retrieve load forecast data**

This example retrieves load forecast data for a scalable resource (an Auto Scaling group) that is associated with the specified scaling plan.

```
aws autoscaling-plans get-scaling-plan-resource-forecast-data \
  --scaling-plan-name my-scaling-plan \
  --scaling-plan-version 1 \
  --service-namespace "autoscaling" \
  --resource-id autoScalingGroup/my-asg \
  --scalable-dimension "autoscaling:autoScalingGroup:DesiredCapacity" \
  --forecast-data-type "LoadForecast" \
  --start-time "2019-08-30T00:00:00Z" \
  --end-time "2019-09-06T00:00:00Z"
```

Output:

```
{
  "Datapoints": [...]
}
```


- For API details, see [DescribeScalingPlans](https://docs.aws.amazon.com/cli/latest/reference/autoscaling-plans/describe-scaling-plans.html) in *AWS CLI Command Reference*.

update-scaling-plan

The following code example shows how to use `update-scaling-plan`.


AWS CLI

To update a scaling plan

The following update-scaling-plan example modifies the scaling metric for an Auto Scaling group in the specified scaling plan.

```
aws autoscaling-plans update-scaling-plan \
   --scaling-plan-name my-scaling-plan \
   --scaling-plan-version 1 \
   --scaling-instructions
   '{"ScalableDimension":"autoscaling:autoScalingGroup:DesiredCapacity","ResourceId":"autoScalingGroup/my-asg","ServiceNamespace":"autoscaling","TargetTrackingConfigurations":
    [{"PredefinedScalingMetricSpecification":
      {"PredefinedScalingMetricType":"ALBRequestCountPerTarget","ResourceLabel":"app/my-alb/f37c06a68c1748aa/targetgroup/my-target-group/6d4ea56ca2d6a18d"},"TargetValue":40.0}],"MinCapacity": 1,"MaxCapacity": 10}'
```

This command produces no output.

For more information, see What Is AWS Auto Scaling? in the AWS Auto Scaling User Guide.

- For API details, see UpdateScalingPlan in AWS CLI Command Reference.

AWS Backup examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS Backup.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics

- Actions
**Actions**

**create-backup-plan**

The following code example shows how to use create-backup-plan.

**AWS CLI**

**To create a backup plan**

The following create-backup-plan example creates the specified backup plan with a 35 day retention.

```
aws backup create-backup-plan \
  --backup-plan "{"BackupPlanName":"Example-Backup-Plan","Rules":[{"RuleName":"DailyBackups","ScheduleExpression":"cron(0 5 ? * * *)","StartWindowMinutes":480,"TargetBackupVaultName":"Default","Lifecycle":{"DeleteAfterDays":35}}]]"
```

Output:

```
{
  "BackupPlanId": "1fa3895c-a7f5-484a-a371-2dd6a1a9f729",
  "BackupPlanArn": "arn:aws:backup:us-west-2:123456789012:backup-plan:1fa3895c-a7f5-484a-a371-2dd6a1a9f729",
  "CreationDate": 1568928754.747,
  "VersionId": "ZjQ2ZTI5YWQtZDg5Yi00MzYzLWJmZTAtMDI1MzhlMDhjYjEz"
}
```

For more information, see Creating a Backup Plan in the AWS Backup Developer Guide.

- For API details, see CreateBackupPlan in AWS CLI Command Reference.

**create-backup-vault**

The following code example shows how to use create-backup-vault.

**AWS CLI**

**To create a backup vault**

The following create-backup-vault example creates a backup vault with the specified name.
aws backup create-backup-vault
   --backup-vault-name sample-vault

This command produces no output. Output:

```json
{
   "BackupVaultName": "sample-vault",
   "CreationDate": 1568928338.385
}
```

For more information, see Creating a Backup Vault in the AWS Backup Developer Guide.

- For API details, see CreateBackupVault in AWS CLI Command Reference.

**get-backup-plan**

The following code example shows how to use get-backup-plan.

AWS CLI

To get the details of a backup plan

The following get-backup-plan example displays the details of the specified backup plan.

```
aws backup get-backup-plan \
   --backup-plan-id "fcbf5d8f-bd77-4f3a-9c97-f24fb3d373a5"
```

Output:

```json
{
   "BackupPlan": {
      "BackupPlanName": "Example-Backup-Plan",
      "Rules": [
         {
            "RuleName": "DailyBackups",
            "TargetBackupVaultName": "Default",
            "ScheduleExpression": "cron(0 5 ? * * *)",
            "StartWindowMinutes": 480,
            "CompletionWindowMinutes": 10080,
            "Lifecycle": {
```

Actions and scenarios
For more information, see Creating a Backup Plan in the AWS Backup Developer Guide.

- For API details, see GetBackupPlan in AWS CLI Command Reference.

get-backup-plan-from-template

The following code example shows how to use get-backup-plan-from-template.

AWS CLI

To get an existing backup plan from a template

The following get-backup-plan-from-template example gets an existing backup plan from a template that specifies a daily backup with a 35 day retention.

```
aws backup get-backup-plan-from-template \n  --backup-plan-template-id "87c0c1ef-254d-4180-8fef-2e76a2c38aaa"
```

Output:

```
{
    "BackupPlanDocument": {
        "Rules": [
            {
                "RuleName": "DailyBackups",
                "ScheduleExpression": "cron(0 5 ? * * *)",
                "StartWindowMinutes": 480,
                "Lifecycle": {
                    "DeleteAfterDays": 35
                }
            }
        ]
    }
}
```
For more information, see Creating a Backup Plan in the AWS Backup Developer Guide.

- For API details, see GetBackupPlanFromTemplate in AWS CLI Command Reference.

**list-backup-jobs**

The following code example shows how to use `list-backup-jobs`.

**AWS CLI**

**Example 1: To list all backup jobs**

The following `list-backup-jobs` example returns metadata about your backup jobs in your AWS account.

```bash
aws backup list-backup-jobs
```

**Output:**

```json
{
  "BackupJobs": [
    {
      "BackupJobId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
      "BackupVaultName": "Default",
      "CreationDate": 1600721892.929,
      "State": "CREATED",
      "PercentDone": "0.0",
      "IamRoleArn": "arn:aws:iam::123456789012:role/service-role/AWSBackupDefaultServiceRole",
      "StartBy": 1600725492.929,
      "ResourceType": "EC2"
    },
    {
      "BackupJobId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE22222",
      "BackupVaultName": "Default",
      "CreationDate": 1600721892.929,
      "State": "CREATED",
      "PercentDone": "0.0",
      "IamRoleArn": "arn:aws:iam::123456789012:role/service-role/AWSBackupDefaultServiceRole",
      "StartBy": 1600725492.929,
      "ResourceType": "EC2"
    }
  ]
}
```
"BackupVaultName": "Default",
"RecoveryPointArn": "arn:aws:backup:us-west-2:123456789012:recovery-point:a1b2c3d4-5678-90ab-cdef-EXAMPLE33333",
"CreationDate": 1600721724.77,
"CompletionDate": 1600721744.488,
"State": "COMPLETED",
"PercentDone": "100.0",
"BackupSizeInBytes": 71,
"IamRoleArn": "arn:aws:iam::123456789012:role/service-role/AWSBackupDefaultServiceRole",
"StartBy": 1600725324.77,
"ResourceType": "EFS"
] } ]

For more information, see Creating a Backup in the AWS Backup Developer Guide.

**Example 2: To list completed backup jobs**

The following list-backup-jobs example returns metadata about your completed backup jobs in your AWS account.

```
aws backup list-backup-jobs \
  --by-state COMPLETED
```

Output:

```json
{
  "BackupJobs": [
  {
    "BackupJobId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE22222",
    "BackupVaultName": "Default",
    "RecoveryPointArn": "arn:aws:backup:us-west-2:123456789012:recovery-point:a1b2c3d4-5678-90ab-cdef-EXAMPLE33333",
  }
  ]
}```
For more information, see Creating a Backup in the AWS Backup Developer Guide.

- For API details, see ListBackupJobs in AWS CLI Command Reference.

AWS Batch examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS Batch.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics

- Actions

Actions

Describe compute environments

The following code example shows how to describe one or more AWS Batch compute environments.
To describe a compute environment

This example describes the P2OnDemand compute environment.

Command:

```
aws batch describe-compute-environments --compute-environments P2onDemand
```

Output:

```json
{
    "computeEnvironments": [
        {
            "status": "VALID",
            "serviceRole": "arn:aws:iam::012345678910:role/AWSBatchServiceRole",
            "computeEnvironmentArn": "arn:aws:batch:us-east-1:012345678910:compute-environment/P2OnDemand",
            "computeResources": {
                "subnets": [
                    "subnet-220c0e0a",
                    "subnet-1a95556d",
                    "subnet-978f6dce"
                ],
                "tags": {
                    "Name": "Batch Instance - P2OnDemand"
                },
                "desiredvCpus": 48,
                "minvCpus": 0,
                "instanceTypes": [
                    "p2"
                ],
                "securityGroupIds": [
                    "sg-cf5093b2"
                ],
                "instanceRole": "ecsInstanceRole",
                "maxvCpus": 128,
                "type": "EC2",
                "ec2KeyPair": "id_rsa"
            },
            "statusReason": "ComputeEnvironment Healthy",
            "ecsClusterArn": "arn:aws:ecs:us-east-1:012345678910:cluster/P20nDemand_Batch_2c06f29d-d1fe-3a49-879d-42394c86effc"
        }
    ]
}
```
• For API details, see DescribeComputeEnvironments in AWS CLI Command Reference.

cancel-job

The following code example shows how to use cancel-job.

AWS CLI

To cancel a job

This example cancels a job with the specified job ID.

Command:

```
aws batch cancel-job --job-id bcf0b186-a532-4122-842e-2ccab8d54efb --reason "Cancelling job."
```

• For API details, see CancelJob in AWS CLI Command Reference.

create-compute-environment

The following code example shows how to use create-compute-environment.

AWS CLI

To create a managed compute environment with On-Demand instances

This example creates a managed compute environment with specific C4 instance types that are launched on demand. The compute environment is called C4OnDemand.

Command:

```
aws batch create-compute-environment --cli-input-json file://<path_to_json_file>/C4OnDemand.json
```
**JSON file format:**

```json
{
    "computeEnvironmentName": "C4OnDemand",
    "type": "MANAGED",
    "state": "ENABLED",
    "computeResources": {
        "type": "EC2",
        "minvCpus": 0,
        "maxvCpus": 128,
        "desiredvCpus": 48,
        "instanceTypes": [
            "c4.large",
            "c4.xlarge",
            "c4.2xlarge",
            "c4.4xlarge",
            "c4.8xlarge"
        ],
        "subnets": [
            "subnet-220c0e0a",
            "subnet-1a95556d",
            "subnet-978f6dce"
        ],
        "securityGroupIds": [
            "sg-cf5093b2"
        ],
        "ec2KeyPair": "id_rsa",
        "instanceRole": "ecsInstanceRole",
        "tags": {
            "Name": "Batch Instance - C4OnDemand"
        }
    },
    "serviceRole": "arn:aws:iam::012345678910:role/AWSBatchServiceRole"
}
```

**Output:**

```json
{
    "computeEnvironmentName": "C4OnDemand",
    "computeEnvironmentArn": "arn:aws:batch:us-east-1:012345678910:compute-environment/C4OnDemand"
}
```
To create a managed compute environment with Spot Instances

This example creates a managed compute environment with the M4 instance type that is launched when the Spot bid price is at or below 20% of the On-Demand price for the instance type. The compute environment is called M4Spot.

Command:

```
aws batch create-compute-environment --cli-input-json file://<path_to_json_file>/M4Spot.json
```

JSON file format:

```json
{
   "computeEnvironmentName": "M4Spot",
   "type": "MANAGED",
   "state": "ENABLED",
   "computeResources": {
      "type": "SPOT",
      "spotIamFleetRole": "arn:aws:iam::012345678910:role/aws-ec2-spot-fleet-role",
      "minvCpus": 0,
      "maxvCpus": 128,
      "desiredvCpus": 4,
      "instanceTypes": ["m4"],
      "bidPercentage": 20,
      "subnets": [
         "subnet-220c0e0a",
         "subnet-1a95556d",
         "subnet-978f6dce"
      ],
      "securityGroupIds": [
         "sg-cf5093b2"
      ],
      "ec2KeyPair": "id_rsa",
      "instanceRole": "ecsInstanceRole",
      "tags": {
         "Name": "Batch Instance - M4Spot"
      }
   },
   "serviceRole": "arn:aws:iam::012345678910:role/AWSBatchServiceRole"
}
```
Output:

```json
{
    "computeEnvironmentName": "M4Spot",
    "computeEnvironmentArn": "arn:aws:batch:us-east-1:012345678910:compute-environment/M4Spot"
}
```

- For API details, see [CreateComputeEnvironment](#) in *AWS CLI Command Reference*.

**create-job-queue**

The following code example shows how to use `create-job-queue`.

**AWS CLI**

**To create a low priority job queue with a single compute environment**

This example creates a job queue called LowPriority that uses the M4Spot compute environment.

**Command:**

```bash
aws batch create-job-queue --cli-input-json file://<path_to_json_file>/LowPriority.json
```

**JSON file format:**

```json
{
    "jobQueueName": "LowPriority",
    "state": "ENABLED",
    "priority": 10,
    "computeEnvironmentOrder": [
        {  
            "order": 1,
            "computeEnvironment": "M4Spot"
        }
    ]
}
```
To create a high priority job queue with two compute environments

This example creates a job queue called HighPriority that uses the C4OnDemand compute environment with an order of 1 and the M4Spot compute environment with an order of 2. The scheduler will attempt to place jobs on the C4OnDemand compute environment first.

Command:

```
aws batch create-job-queue --cli-input-json file://<path_to_json_file>/HighPriority.json
```

JSON file format:

```
{
    "jobQueueName": "HighPriority",
    "state": "ENABLED",
    "priority": 1,
    "computeEnvironmentOrder": [
        {
            "order": 1,
            "computeEnvironment": "C4OnDemand"
        },
        {
            "order": 2,
            "computeEnvironment": "M4Spot"
        }
    ]
}
```

Output:

```
{
    "jobQueueName": "HighPriority"
}
```
• For API details, see CreateJobQueue in AWS CLI Command Reference.

delete-compute-environment

The following code example shows how to use delete-compute-environment.

AWS CLI

To delete a compute environment

This example deletes the P2OnDemand compute environment.

Command:

```
aws batch delete-compute-environment --compute-environment P2OnDemand
```

• For API details, see DeleteComputeEnvironment in AWS CLI Command Reference.

delete-job-queue

The following code example shows how to use delete-job-queue.

AWS CLI

To delete a job queue

This example deletes the GPGPU job queue.

Command:

```
aws batch delete-job-queue --job-queue GPGPU
```

• For API details, see DeleteJobQueue in AWS CLI Command Reference.

deregister-job-definition

The following code example shows how to use deregister-job-definition.
AWS CLI

To deregister a job definition

This example deregisters a job definition called sleep10.

Command:

```bash
aws batch deregister-job-definition --job-definition sleep10
```

- For API details, see [DeregisterJobDefinition](https://docs.aws.amazon.com/cli/latest/reference/batch/deregister-job-definition.html) in AWS CLI Command Reference.

**describe-job-definitions**

The following code example shows how to use `describe-job-definitions`.

AWS CLI

To describe active job definitions

This example describes all of your active job definitions.

Command:

```bash
aws batch describe-job-definitions --status ACTIVE
```

Output:

```json
{
   "jobDefinitions": [
   {
      "status": "ACTIVE",
      "jobDefinitionArn": "arn:aws:batch:us-east-1:012345678910:job-definition/sleep60:1",
      "containerProperties": {
         "mountPoints": [],
         "parameters": {},
         "image": "busybox",
         "environment": {},
         "vcpus": 1,
         "command": [
```
```json
{
    "sleep",
    "60"
],
    "volumes": [],
    "memory": 128,
    "ulimits": []
},
    "type": "container",
    "jobDefinitionName": "sleep60",
    "revision": 1
}
]
]

• For API details, see DescribeJobDefinitions in AWS CLI Command Reference.

describe-job-queues

The following code example shows how to use describe-job-queues.

AWS CLI

To describe a job queue

This example describes the HighPriority job queue.

Command:

```bash
aws batch describe-job-queues --job-queues HighPriority
```

Output:

```json
{
    "jobQueues": [
        {
            "status": "VALID",
            "computeEnvironmentOrder": [
                {
                    "status": "VALID",
                    "computeEnvironmentOrder": [
                        {
                            "status": "VALID"
                        }
                    ]
                }
            ]
        }
    ]
}
For API details, see DescribeJobQueues in AWS CLI Command Reference.

**describe-jobs**

The following code example shows how to use describe-jobs.

**AWS CLI**

**To describe a job**

The following describe-jobs example describes a job with the specified job ID.

```shell
aws batch describe-jobs \
  --jobs bcf0b186-a532-4122-842e-2ccab8d54efb
```

**Output:**

```json
{
  "jobs": [
    {
      "status": "SUBMITTED",
      "container": {
        "mountPoints": [],
        "image": "busybox",
        "environment": [],
        "vcpus": 1,
        "command": [
          "sleep",
          "60"
        ],
        "volumes": []
      }
    }
  ]
}
```
For API details, see [DescribeJobs](#) in [AWS CLI Command Reference](#).

**list-jobs**

The following code example shows how to use `list-jobs`.

**AWS CLI**

**To list running jobs**

This example lists the running jobs in the HighPriority job queue.

**Command:**

```bash
aws batch list-jobs --job-queue HighPriority
```

**Output:**

```json
{
   "jobSummaryList": [
      {
         "jobName": "example",
         "jobId": "e66ff5fd-a1ff-4640-b1a2-0b0a142f49bb"
      }
   ]
}
```
To list submitted jobs

This example lists jobs in the HighPriority job queue that are in the SUBMITTED job status.

Command:

```bash
aws batch list-jobs --job-queue HighPriority --job-status SUBMITTED
```

Output:

```json
{
  "jobSummaryList": [
    {
      "jobName": "example",
      "jobId": "68f0c163-fbd4-44e6-9fd1-25b14a434786"
    }
  ]
}
```

- For API details, see [ListJobs](https://docs.aws.amazon.com/cli/latest/reference/batch/list-jobs.html) in *AWS CLI Command Reference*.

register-job-definition

The following code example shows how to use register-job-definition.

**AWS CLI**

**To register a job definition**

This example registers a job definition for a simple container job.

Command:

```bash
aws batch register-job-definition --job-definition-name sleep30 --type container --container-properties '{ "image": "busybox", "vcpus": 1, "memory": 128, "command": [ "sleep", "30"]}'
```

Output:

```json
{
}
```
submit-job

The following code example shows how to use submit-job.

AWS CLI

To submit a job

This example submits a simple container job called example to the HighPriority job queue.

Command:

```
aws batch submit-job --job-name example --job-queue HighPriority --job-definition sleep60
```

Output:

```
{
    "jobName": "example",
    "jobId": "876da822-4198-45f2-a252-6cea32512ea8"
}
```

For API details, see RegisterJobDefinition in AWS CLI Command Reference.

terminate-job

The following code example shows how to use terminate-job.

AWS CLI

To terminate a job

This example terminates a job with the specified job ID.
Command:

```
aws batch terminate-job --job-id 61e743ed-35e4-48da-b2de-5c833821c84 --reason "Terminating job."
```

- For API details, see `TerminateJob` in `AWS CLI Command Reference`.

**update-compute-environment**

The following code example shows how to use `update-compute-environment`.

**AWS CLI**

**To update a compute environment**

This example disables the P2OnDemand compute environment so it can be deleted.

Command:

```
aws batch update-compute-environment --compute-environment P2OnDemand --state DISABLED
```

Output:

```
{
    "computeEnvironmentName": "P2OnDemand",
    "computeEnvironmentArn": "arn:aws:batch:us-east-1:012345678910:compute-environment/P2OnDemand"
}
```

- For API details, see `UpdateComputeEnvironment` in `AWS CLI Command Reference`.

**update-job-queue**

The following code example shows how to use `update-job-queue`.

**AWS CLI**

**To update a job queue**
This example disables a job queue so that it can be deleted.

Command:

```bash
aws batch update-job-queue --job-queue GPGPU --state DISABLED
```

Output:

```json
{
   "jobQueueName": "GPGPU"
}
```

- For API details, see [UpdateJobQueue](#) in [*AWS CLI Command Reference*](#).

### AWS Budgets examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS Budgets.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

### Topics

- [Actions](#)

### Actions

**create-budget**

The following code example shows how to use `create-budget`. 
AWS CLI

**To create a Cost and Usage budget**

The following `create-budget` command creates a Cost and Usage budget.

```bash
aws budgets create-budget \
   --account-id 111122223333 \
   --budget file://budget.json \
   --notifications-with-subscribers file://notifications-with-subscribers.json
```

**Contents of `budget.json`:**

```json
{
   "BudgetLimit": {
       "Amount": "100",
       "Unit": "USD"
   },
   "BudgetName": "Example Tag Budget",
   "BudgetType": "COST",
   "CostFilters": {
       "TagKeyValue": [
           "user:Key$value1",
           "user:Key$value2"
       ]
   },
   "CostTypes": {
       "IncludeCredit": true,
       "IncludeDiscount": true,
       "IncludeOtherSubscription": true,
       "IncludeRecurring": true,
       "IncludeRefund": true,
       "IncludeSubscription": true,
       "IncludeSupport": true,
       "IncludeTax": true,
       "IncludeUpfront": true,
       "UseBlended": false
   },
   "TimePeriod": {
       "Start": 1477958399,
       "End": 3706473600
   },
   "TimeUnit": "MONTHLY"
}
```
Contents of notifications-with-subscribers.json:

```
[
  {
    "Notification": {
      "ComparisonOperator": "GREATER_THAN",
      "NotificationType": "ACTUAL",
      "Threshold": 80,
      "ThresholdType": "PERCENTAGE"
    },
    "Subscribers": [
      {
        "Address": "example@example.com",
        "SubscriptionType": "EMAIL"
      }
    ]
  }
]
```

- For API details, see CreateBudget in AWS CLI Command Reference.

**create-notification**

The following code example shows how to use create-notification.

**AWS CLI**

**To create a notification for the specified Cost and Usage budget**

This example creates a notification for the specified Cost and Usage budget.

Command:

```
aws budgets create-notification --account-id 111122223333 --budget-name "Example Budget" --notification NotificationType=ACTUAL,ComparisonOperator=GREATER_THAN,Threshold=80,ThresholdType=PERCENTAGE --subscriber SubscriptionType=EMAIL,Address/example@example.com
```

- For API details, see CreateNotification in AWS CLI Command Reference.
create-subscriber

The following code example shows how to use create-subscriber.

AWS CLI

To create a subscriber for a notification associated with a Cost and Usage budget

This example creates a subscriber for the specified notification.

Command:

```bash
aws budgets create-subscriber --account-id 111122223333 --budget-name "Example Budget" --notification
NotificationType=ACTUAL,ComparisonOperator=GREATER_THAN,Threshold=80,ThresholdType=PERCENTAGE
--subscriber SubscriptionType=EMAIL,Address=example@example.com
```

- For API details, see CreateSubscriber in AWS CLI Command Reference.

delete-budget

The following code example shows how to use delete-budget.

AWS CLI

To delete a Cost and Usage budget

This example deletes the specified Cost and Usage budget.

Command:

```bash
aws budgets delete-budget --account-id 111122223333 --budget-name "Example Budget"
```

- For API details, see DeleteBudget in AWS CLI Command Reference.

delete-notification

The following code example shows how to use delete-notification.

AWS CLI

To delete a notification from a budget
This example deletes the specified notification from the specified budget.

Command:

```
aws budgets delete-notification --account-id 111122223333 --budget-name "Example Budget" --notification
NotificationType=ACTUAL,ComparisonOperator=GREATER_THAN,Threshold=80,ThresholdType=PERCENTAGE
```

- For API details, see [DeleteNotification](#) in *AWS CLI Command Reference*.

**delete-subscriber**

The following code example shows how to use delete-subscriber.

**AWS CLI**

**To delete a subscriber from a notification**

This example deletes the specified subscriber from the specified notification.

Command:

```
aws budgets delete-subscriber --account-id 111122223333 --budget-name "Example Budget" --notification
NotificationType=ACTUAL,ComparisonOperator=GREATER_THAN,Threshold=80,ThresholdType=PERCENTAGE
--subscriber SubscriptionType=EMAIL,Address=example@example.com
```

- For API details, see [DeleteSubscriber](#) in *AWS CLI Command Reference*.

**describe-budget**

The following code example shows how to use describe-budget.

**AWS CLI**

**To retrieve a budget associated with an account**

This example retrieves the specified Cost and Usage budget.

Command:

```
aws budgets describe-budget --account-id 111122223333 --budget-name "Example Budget"
```
Output:

```json
{
    "Budget": {
        "CalculatedSpend": {
            "ForecastedSpend": {
                "Amount": "2641.54800000000022919266484677791595458984375",
                "Unit": "USD"
            },
            "ActualSpend": {
                "Amount": "604.456000000000017280399336856365203857421875",
                "Unit": "USD"
            }
        },
        "BudgetType": "COST",
        "BudgetLimit": {
            "Amount": "100",
            "Unit": "USD"
        },
        "BudgetName": "Example Budget",
        "CostTypes": {
            "IncludeOtherSubscription": true,
            "IncludeUpfront": true,
            "IncludeRefund": true,
            "UseBlended": false,
            "IncludeDiscount": true,
            "UseAmortized": false,
            "IncludeTax": true,
            "IncludeCredit": true,
            "IncludeSupport": true,
            "IncludeRecurring": true,
            "IncludeSubscription": true
        },
        "TimeUnit": "MONTHLY",
        "TimePeriod": {
            "Start": 1477958399.0,
            "End": 3706473600.0
        },
        "CostFilters": {
            "AZ": ["us-east-1"
        ]
    }
}
```
describe-budgets

The following code example shows how to use describe-budgets.

AWS CLI

To retrieve the budgets associated with an account

This example retrieves the Cost and Usage budgets for an account.

Command:

```
aws budgets describe-budgets --account-id 111122223333 --max-results 20
```

Output:

```json
{
   "Budgets": [
      {
         "CalculatedSpend": {
            "ForecastedSpend": {
               "Amount": "2641.54800000000022919266484677791595458984375",
               "Unit": "USD"
            },
            "ActualSpend": {
               "Amount": "604.4560000000000172803993336856365203857421875",
               "Unit": "USD"
            }
         },
         "BudgetType": "COST",
         "BudgetLimit": {
            "Amount": "100",
            "Unit": "USD"
         },
         "BudgetName": "Example Budget",
         "CostTypes": {
            "IncludeOtherSubscription": true,
            "IncludeUpfront": true,
            "IncludeSubscription": true,
            "IncludeRecurringFee": true
         }
      }
   ]
}
```
For API details, see `DescribeBudgets` in AWS CLI Command Reference.

describe-notifications-for-budget

The following code example shows how to use `describe-notifications-for-budget`.

**AWS CLI**

**To retrieve the notifications for a budget**

This example retrieves the notifications for a Cost and Usage budget.

Command:

```bash
aws budgets describe-notifications-for-budget --account-id 111122223333 --budget-name "Example Budget" --max-results 5
```

Output:
For API details, see [DescribeNotificationsForBudget](#) in *AWS CLI Command Reference*.

**describe-subscribers-for-notification**

The following code example shows how to use `describe-subscribers-for-notification`.

**AWS CLI**

**To retrieve the subscribers for a budget notification**

This example retrieves the subscribers for a Cost and Usage budget notification.

**Command:**

```
aws budgets describe-subscribers-for-notification --account-id 111122223333 --budget-name "Example Budget" --notification NotificationType=ACTUAL,ComparisonOperator=GREATER_THAN,Threshold=80,ThresholdType=PERCENTAGE --max-results 5
```

**Output:**

```json
{
    "Subscribers": [
        {
            "SubscriptionType": "EMAIL",
            "Address": "example2@example.com"
        },
        {
            "SubscriptionType": "EMAIL",
            "Address": "example@example.com"
        }
    ]
}
```
update-budget

The following code example shows how to use update-budget.

AWS CLI

To replace a budget for a Cost and Usage budget

This example replaces a Cost and Usage budget with a new budget.

Command:

```
aws budgets update-budget --account-id 111122223333 --new-budget file://new-budget.json
```

new-budget.json:

```json
{
   "BudgetLimit": {
      "Amount": "100",
      "Unit": "USD"
   },
   "BudgetName": "Example Budget",
   "BudgetType": "COST",
   "CostFilters": {
      "AZ": [ "us-east-1" ]
   },
   "CostTypes": {
      "IncludeCredit": false,
      "IncludeDiscount": true,
      "IncludeOtherSubscription": true,
      "IncludeRecurring": true,
      "IncludeRefund": true,
      "IncludeSubscription": true,
      "IncludeSupport": true,
      "IncludeTax": true,
      "IncludeUpfront": true,
   }
}
```
For API details, see [UpdateBudget](https://awscli.amazonaws.com/v2/documentation/api/current/reference/services/budgets/operations/UpdateBudget) in *AWS CLI Command Reference*.

**update-notification**

The following code example shows how to use `update-notification`.

**AWS CLI**

**To replace a notification for a Cost and Usage budget**

This example replaces an 80% notification for a Cost and Usage budget with a 90% notification.

**Command:**

```bash
aws budgets update-notification --account-id 111122223333 --budget-name "Example Budget" --old-notification NotificationType=ACTUAL,ComparisonOperator=GREATER_THAN,Threshold=80,ThresholdType=PERCENTAGE --new-notification NotificationType=ACTUAL,ComparisonOperator=GREATER_THAN,Threshold=90,ThresholdType=PERCENTAGE
```

For API details, see [UpdateNotification](https://awscli.amazonaws.com/v2/documentation/api/current/reference/services/budgets/operations/UpdateNotification) in *AWS CLI Command Reference*.

**update-subscriber**

The following code example shows how to use `update-subscriber`.

**AWS CLI**

**To replace a subscriber for a Cost and Usage budget**

This example replaces the subscriber for a Cost and Usage budget.

**Command:**

```bash
aws budgets update-subscriber --account-id 111122223333 --budget-name "Example Budget" --old-subscriber notification-arn --new-subscriber notification-arn
```

For API details, see [UpdateSubscriber](https://awscli.amazonaws.com/v2/documentation/api/current/reference/services/budgets/operations/UpdateSubscriber) in *AWS CLI Command Reference*. 
Command:

```bash
aws budgets update-subscriber --account-id 111122223333 --budget-name "Example Budget" --notification
NotificationType=ACTUAL,ComparisonOperator=GREATER_THAN,Threshold=80,ThresholdType=PERCENTAGE
--old-subscriber SubscriptionType=EMAIL,Address=example@example.com --new-subscriber SubscriptionType=EMAIL,Address=example2@example.com
```

- For API details, see UpdateSubscriber in AWS CLI Command Reference.

Amazon Chime examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon Chime.

**Actions** are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

**Scenarios** are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- **Actions**

**Actions**

**associate-phone-number-with-user**

The following code example shows how to use `associate-phone-number-with-user`.

**AWS CLI**

To associate a phone number with a user

The following `associate-phone-number-with-user` example associates the specified phone number with a user.
aws chime associate-phone-number-with-user \
   --account-id 12a3456b-7c89-012d-3456-78901e23fg45 \
   --user-id 1ab2345c-67de-8901-f23g-45h678901j2k \
   --e164-phone-number "+12065550100"

This command produces no output.

For more information, see Managing User Phone Numbers in the Amazon Chime Administration Guide.

- For API details, see AssociatePhoneNumberWithUser in AWS CLI Command Reference.

associate-phone-numbers-with-voice-connector

The following code example shows how to use associate-phone-numbers-with-voice-connector.

AWS CLI

To associate phone numbers with an Amazon Chime Voice Connector

The following associate-phone-numbers-with-voice-connector example associates the specified phone numbers with an Amazon Chime Voice Connector.

aws chime associate-phone-numbers-with-voice-connector \
   --voice-connector-id abcdef1ghij2klmno3pqr4 \
   --e164-phone-numbers "+12065550100" "+12065550101" \
   --force-associate

Output:

{
   "PhoneNumberErrors": []
}

For more information, see Working with Amazon Chime Voice Connectors in the Amazon Chime Administration Guide.

- For API details, see AssociatePhoneNumbersWithVoiceConnector in AWS CLI Command Reference.
associate-phone-numbers-with-voice-connector-group

The following code example shows how to use associate-phone-numbers-with-voice-connector-group.

AWS CLI

To associate phone numbers with an Amazon Chime Voice Connector group

The following associate-phone-numbers-with-voice-connector-group example associates the specified phone numbers with an Amazon Chime Voice Connector group.

```bash
aws chime associate-phone-numbers-with-voice-connector-group \
   --voice-connector-group-id 123a456b-c7d8-90e1-fg23-4h567jkl8901 \
   --e164-phone-numbers "+12065550100" "+12065550101" \
   --force-associate
```

Output:

```json
{
   "PhoneNumberErrors": []
}
```

For more information, see Working with Amazon Chime Voice Connector groups in the Amazon Chime Administration Guide.

- For API details, see AssociatePhoneNumbersWithVoiceConnectorGroup in AWS CLI Command Reference.

associate-signin-delegate-groups-with-account

The following code example shows how to use associate-signin-delegate-groups-with-account.

AWS CLI

To associate sign-in delegate groups

The following associate-signin-delegate-groups-with-account example associates the specified sign-in delegate group with the specified Amazon Chime account.

```bash
aws chime associate-signin-delegate-groups-with-account \
```

Actions and scenarios
--account-id 12a3456b-7c89-012d-3456-78901e23fg45 \
--signin-delegate-groups GroupName=my_users

This command produces no output.

For more information, see Managing User Access and Permissions in the Amazon Chime Administration Guide.

- For API details, see AssociateSigninDelegateGroupsWithAccount in AWS CLI Command Reference.

**batch-create-room-membership**

The following code example shows how to use batch-create-room-membership.

**AWS CLI**

**To create multiple room memberships**

The following batch-create-room-membership example adds multiple users to a chat room as chat room members. It also assigns administrator and member roles to the users.

```sh
aws chime batch-create-room-membership \
    --account-id 12a3456b-7c89-012d-3456-78901e23fg45 \
    --room-id abcd1e2d-3e45-6789-01f2-3g45h67i890j \
    --membership-item-list "MemberId=1ab2345c-67de-8901-f23g-45h678901j2k,Role=Administrator" "MemberId=2ab2345c-67de-8901-f23g-45h678901j2k,Role=Member"
```

Output:

```json
{
    "ResponseMetadata": {
        "RequestId": "169ba401-d886-475f-8b3f-e01ac6fadfb",
        "HTTPStatusCode": 201,
        "HTTPHeaders": {
            "x-amzn-requestid": "169ba401-d886-475f-8b3f-e01ac6fadfb",
            "content-type": "application/json",
            "content-length": "13",
            "date": "Mon, 02 Dec 2019 22:46:58 GMT",
            "connection": "keep-alive"
        }
    }
}
```
For more information, see Creating a Chat Room in the Amazon Chime User Guide.

- For API details, see BatchCreateRoomMembership in AWS CLI Command Reference.

batch-delete-phone-number

The following code example shows how to use batch-delete-phone-number.

AWS CLI

To delete multiple phone numbers

The following batch-delete-phone-number example deletes all of the specified phone numbers.

```
aws chime batch-delete-phone-number 
   --phone-number-ids "%2B12065550100" "%2B12065550101"
```

This command produces no output. Output:

```
{
   "PhoneNumberErrors": []
}
```

For more information, see Working with Phone Numbers in the Amazon Chime Administration Guide.

- For API details, see BatchDeletePhoneNumber in AWS CLI Command Reference.

batch-suspend-user

The following code example shows how to use batch-suspend-user.

AWS CLI

To suspend multiple users
The following `batch-suspend-user` example suspends the listed users from the specified Amazon Chime account.

```bash
aws chime batch-suspend-user \
   --account-id a1b2c3d4-5678-90ab-cdef-11111EXAMPLE \
   --user-id-list "a1b2c3d4-5678-90ab-cdef-22222EXAMPLE" "a1b2c3d4-5678-90ab-cdef-33333EXAMPLE" "a1b2c3d4-5678-90ab-cdef-44444EXAMPLE"
```

Output:

```json
{
   "UserErrors": []
}
```

- For API details, see [BatchSuspendUser](https://docs.aws.amazon.com/cli/latest/reference/chime/batch-suspend-user.html) in *AWS CLI Command Reference*.

`batch-unsuspend-user`

The following code example shows how to use `batch-unsuspend-user`.

**AWS CLI**

### To unsuspend multiple users

The following `batch-unsuspend-user` example removes any previous suspension for the listed users on the specified Amazon Chime account.

```bash
aws chime batch-unsuspend-user \
   --account-id a1b2c3d4-5678-90ab-cdef-11111EXAMPLE \
   --user-id-list "a1b2c3d4-5678-90ab-cdef-22222EXAMPLE" "a1b2c3d4-5678-90ab-cdef-33333EXAMPLE" "a1b2c3d4-5678-90ab-cdef-44444EXAMPLE"
```

Output:

```json
{
   "UserErrors": []
}
```

- For API details, see [BatchUnsuspendUser](https://docs.aws.amazon.com/cli/latest/reference/chime/batch-unsuspend-user.html) in *AWS CLI Command Reference*. 
batch-update-phone-number

The following code example shows how to use `batch-update-phone-number`.

**AWS CLI**

To update several phone number product types at the same time

The following `batch-update-phone-number` example updates the product types for all of the specified phone numbers.

```bash
aws chime batch-update-phone-number \
   --update-phone-number-request-items PhoneNumberId=\n   %2B12065550100,ProductType=BusinessCalling PhoneNumberId=\n   %2B12065550101,ProductType=BusinessCalling
```

Output:

```json
{
   "PhoneNumberErrors": []
}
```

To update several phone number calling names at the same time

The following `batch-update-phone-number` example updates the calling names for all of the specified phone numbers.

```bash
aws chime batch-update-phone-number \
   --update-phone-number-request-items PhoneNumberId=\n   %2B14013143874,CallingName=phonenumber1 PhoneNumberId=\n   %2B14013144061,CallingName=phonenumber2
```

Output:

```json
{
   "PhoneNumberErrors": []
}
```

For more information, see [Working with Phone Numbers](#) in the *Amazon Chime Administration Guide*. 
batch-update-user

The following code example shows how to use batch-update-user.

**AWS CLI**

**To update multiple users in a single command**

The following batch-update-user example updates the LicenseType for each of the listed users in the specified Amazon Chime account.

```bash
aws chime batch-update-user \
   --account-id a1b2c3d4-5678-90ab-cdef-11111EXAMPLE \
   --update-user-request-items "UserId=a1b2c3d4-5678-90ab-cdef-22222EXAMPLE,LicenseType=Basic" "UserId=a1b2c3d4-5678-90ab-cdef-33333EXAMPLE,LicenseType=Basic"
```

Output:

```json
{
   "UserErrors": []
}
```


create-account

The following code example shows how to use create-account.

**AWS CLI**

**To create an account**

The following create-account example creates an Amazon Chime account under the administrator's AWS account.

```bash
aws chime create-account \
   --name MyChimeAccount
```
Output:

```json
{
    "Account": {
        "AwsAccount": "111122223333",
        "AccountId": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
        "Name": "MyChimeAccount",
        "AccountType": "Team",
        "CreatedTimestamp": "2019-01-04T17:11:22.003Z",
        "DefaultLicense": "Pro",
        "SupportedLicenses": [
            "Basic",
            "Pro"
        ],
        "SigninDelegateGroups": [
            {
                "GroupName": "myGroup"
            }
        ]
    }
}
```

For more information, see Getting Started in the Amazon Chime Administration Guide.

- For API details, see CreateAccount in AWS CLI Command Reference.

create-bot

The following code example shows how to use create-bot.

AWS CLI

To create an Amazon Chime bot

The following create-bot example creates a bot for the specified Amazon Chime Enterprise account.

```bash
aws chime create-bot \
    --account-id 12a3456b-7c89-012d-3456-78901e23fg45 \
    --display-name "myBot" \
    --domain "example.com"
```

Output:
For more information, see Integrate a Chat Bot with Amazon Chime in the Amazon Chime Developer Guide.

- For API details, see CreateBot in AWS CLI Command Reference.

create-phone-number-order

The following code example shows how to use create-phone-number-order.

AWS CLI

To create a phone number order

The following create-phone-number-order example creates a phone number order for the specified phone numbers.

```
aws chime create-phone-number-order \
  --product-type VoiceConnector \
  --e164-phone-numbers "+12065550100" "+12065550101" "+12065550102"
```

Output:

```
{
    "PhoneNumberOrder": {
        "PhoneNumberOrderId": "abc12345-de67-89f0-123g-h45i678j9012",
        "ProductType": "VoiceConnector",
        "Status": "Processing",
        "OrderedPhoneNumbers": [ ]
    }
}
```
The following code example shows how to use `create-proxy-session`.

**AWS CLI**

**To create a proxy session**

The following `create-proxy-session` example creates a proxy session with voice and SMS capabilities.

```bash
aws chime create-proxy-session \
   --voice-connector-id abcdef1ghij2klmno3pqr4 \
   --participant-phone-numbers "+14015550101" "+12065550100" \
   --capabilities "Voice" "SMS"
```

Output:

```json
{
   "CreatedTimestamp": "2019-08-09T21:35:21.427Z",
   "UpdatedTimestamp": "2019-08-09T21:35:22.408Z"
}
```

For more information, see [Working with Phone Numbers](https://aws.amazon.com) in the *Amazon Chime Administration Guide*.

- For API details, see [CreatePhoneNumberOrder](https://aws.amazon.com) in *AWS CLI Command Reference*.
"ProxySession": {
    "VoiceConnectorId": "abcdef1ghij2klmno3pqr4",
    "ProxySessionId": "123a4bc5-67d8-901e-2f3g-h4ghjk567891",
    "Status": "Open",
    "ExpiryMinutes": 60,
    "Capabilities": [
        "SMS",
        "Voice"
    ],
    "CreatedTimestamp": "2020-04-15T16:10:10.288Z",
    "UpdatedTimestamp": "2020-04-15T16:10:10.288Z",
    "Participants": [
        {
            "PhoneNumber": "+12065550100",
            "ProxyPhoneNumber": "+19135550199"
        },
        {
            "PhoneNumber": "+14015550101",
            "ProxyPhoneNumber": "+19135550199"
        }
    ]
}

For more information, see Proxy Phone Sessions in the Amazon Chime Developer Guide.

• For API details, see CreateProxySession in AWS CLI Command Reference.

create-room

The following code example shows how to use create-room.

AWS CLI

To create a chat room

The following create-room example creates a chat room for the specified Amazon Chime account.

```bash
aws chime create-room \
    --account-id 12a3456b-7c89-012d-3456-78901e23fg45 \
    --name chatRoom
```
create-room-membership

The following code example shows how to use create-room-membership.

AWS CLI

To create a room membership

The following create-room-membership example adds the specified user to the chat room as a chat room member.

```bash
aws chime create-room-membership \
   --account-id 12a3456b-7c89-012d-3456-78901e23fg45 \
   --room-id abcd1e2d-3e45-6789-01f2-3g45h67i890j \
   --member-id 1ab2345c-67de-8901-f23g-45h678901j2k
```

Output:

```json
{
   "RoomMembership": {
      "RoomId": "abcd1e2d-3e45-6789-01f2-3g45h67i890j",
      "Member": {
         "MemberId": "1ab2345c-67de-8901-f23g-45h678901j2k",
         "MemberType": "User",
         "Email": "janed@example.com"
      }
   }
}
```
create-user

The following code example shows how to use create-user.

AWS CLI

To create a user profile for a shared device

The following create-user example creates a shared device profile for the specified email address.

```bash
aws chime create-user \
  --account-id 12a3456b-7c89-012d-3456-78901e23fg45 \n  --email roomdevice@example.com \n  --user-type SharedDevice
```

Output:

```json
{
  "User": {
    "UserId": "1ab2345c-67de-8901-f23g-45h678901j2k",
    "AccountID": "12a3456b-7c89-012d-3456-78901e23fg45",
    "PrimaryEmail": "roomdevice@example.com",
    "DisplayName": "Room Device",
    "LicenseType": "Pro",
    "UserType": "SharedDevice",
    "UserRegistrationStatus": "Registered",
    "RegisteredOn": "2020-01-15T22:38:09.806Z",
    "AlexaForBusinessMetadata": {
```
For more information, see [Preparing for Setup](#) in the *Amazon Chime Administration Guide*.

- For API details, see [CreateUser](#) in *AWS CLI Command Reference*.

**create-voice-connector**

The following code example shows how to use `create-voice-connector`.

### AWS CLI

**To create an Amazon Chime Voice Connector**

The following `create-voice-connector` example creates an Amazon Chime Voice Connector in the specified AWS Region, with encryption enabled.

```bash
aws chime create-voice-connector \
   --name newVoiceConnector \
   --aws-region us-west-2 \
   --require-encryption
```

**Output:**

```json
{
   "VoiceConnector": {
      "VoiceConnectorId": "abcdef1ghij2klmno3pqr4",
      "AwsRegion": "us-west-2",
      "Name": "newVoiceConnector",
      "OutboundHostName": "abcdef1ghij2klmno3pqr4.voiceconnector.chime.aws",
      "RequireEncryption": true,
      "CreatedTimestamp": "2019-09-18T20:34:01.352Z",
      "UpdatedTimestamp": "2019-09-18T20:34:01.352Z"
   }
}
```

For more information, see [Working with Amazon Chime Voice Connectors](#) in the *Amazon Chime Administration Guide*. 
For API details, see CreateVoiceConnector in AWS CLI Command Reference.

create-voice-connector-group

The following code example shows how to use create-voice-connector-group.

AWS CLI

To create an Amazon Chime Voice Connector group

The following create-voice-connector-group example creates an Amazon Chime Voice Connector group that includes the specified Amazon Chime Voice Connector.

```
aws chime create-voice-connector-group \\
   --name myGroup \\
   --voice-connector-items VoiceConnectorId=abcdef1ghij2klmno3pqr4,Priority=2
```

Output:

```
{
   "VoiceConnectorGroup": {
      "VoiceConnectorGroupId": "123a456b-c7d8-90e1-fg23-4h567jk18901",
      "Name": "myGroup",
      "VoiceConnectorItems": [],
      "CreatedTimestamp": "2019-09-18T16:38:34.734Z",
      "UpdatedTimestamp": "2019-09-18T16:38:34.734Z"
   }
}
```

For more information, see Working with Amazon Chime Voice Connector Groups in the Amazon Chime Administration Guide.

For API details, see CreateVoiceConnectorGroup in AWS CLI Command Reference.

delete-account

The following code example shows how to use delete-account.

AWS CLI

To delete an account
The following delete-account example deletes the specified account.

```bash
aws chime delete-account --account-id a1b2c3d4-5678-90ab-cdef-11111EXAMPLE
```

This command produces no output.

For more information, see [Deleting Your Account](https://docs.aws.amazon.com/chime/latest/admin-guide/) in the *Amazon Chime Administration Guide*.

- For API details, see [DeleteAccount](https://docs.aws.amazon.com/cli/latest/reference/chime/delete-account.html) in *AWS CLI Command Reference*.

### delete-phone-number

The following code example shows how to use delete-phone-number.

**AWS CLI**

**To delete a phone number**

The following delete-phone-number example moves the specified phone number into the deletion queue.

```bash
aws chime delete-phone-number \
--phone-number-id "+12065550100"
```

This command produces no output.

For more information, see [Working with Phone Numbers](https://docs.aws.amazon.com/chime/latest/admin-guide/) in the *Amazon Chime Administration Guide*.

- For API details, see [DeletePhoneNumber](https://docs.aws.amazon.com/cli/latest/reference/chime/delete-phone-number.html) in *AWS CLI Command Reference*.

### delete-proxy-session

The following code example shows how to use delete-proxy-session.

**AWS CLI**

**To delete a proxy session**

The following delete-proxy-session example deletes the specified proxy session.

```bash
aws chime delete-proxy-session \
```

Actions and scenarios
This command produces no output.

For more information, see Proxy Phone Sessions in the Amazon Chime Developer Guide.  
• For API details, see DeleteProxySession in AWS CLI Command Reference.

delete-room

The following code example shows how to use delete-room.

AWS CLI

To delete a chat room

The following delete-room example deletes the specified chat room and removes the chat room memberships.

```
aws chime delete-room \
  --account-id 12a3456b-7c89-012d-3456-78901e23fg45 \
  --room-id abcd1e2d-3e45-6789-01f2-3g45h67i890j
```

This command produces no output.

For more information, see Creating a Chat Room in the Amazon Chime User Guide.  
• For API details, see DeleteRoom in AWS CLI Command Reference.

delete-room-membership

The following code example shows how to use delete-room-membership.

AWS CLI

To remove a user as a member of a chat room

The following delete-room-membership example removes the specified member from the specified chat room.

```
aws chime delete-room-membership \
```
This command produces no output.

For more information, see Creating a Chat Room in the Amazon Chime User Guide.

• For API details, see DeleteRoomMembership in AWS CLI Command Reference.

delete-voice-connector

The following code example shows how to use delete-voice-connector.

AWS CLI

To delete an Amazon Chime Voice Connector

The following delete-voice-connector example does this

```bash
aws chime delete-voice-connector \
  --voice-connector-id abcdef1ghij2klmno3pqr4
```

This command produces no output.

For more information, see Working with Amazon Chime Voice Connectors in the Amazon Chime Administration Guide.

• For API details, see DeleteVoiceConnector in AWS CLI Command Reference.

delete-voice-connector-group

The following code example shows how to use delete-voice-connector-group.

AWS CLI

title

The following delete-voice-connector-group example deletes the specified Amazon Chime Voice Connector group.

```bash
aws chime delete-voice-connector-group \
```
This command produces no output.

For more information, see Working with Amazon Chime Voice Connector Groups in the Amazon Chime Administration Guide.

- For API details, see DeleteVoiceConnectorGroup in AWS CLI Command Reference.

**delete-voice-connector-origination**

The following code example shows how to use delete-voice-connector-origination.

**AWS CLI**

To delete origination settings

The following delete-voice-connector-origination example deletes the origination host, port, protocol, priority, and weight from the specified Amazon Chime Voice Connector.

```
aws chime delete-voice-connector-origination \
   --voice-connector-id abcdef1ghij2klmno3pqr4
```

This command produces no output.

For more information, see Working with Amazon Chime Voice Connectors in the Amazon Chime Administration Guide.

- For API details, see DeleteVoiceConnectorOrigination in AWS CLI Command Reference.

**delete-voice-connector-proxy**

The following code example shows how to use delete-voice-connector-proxy.

**AWS CLI**

To delete a proxy configuration

The following delete-voice-connector-proxy example deletes the proxy configuration from your Amazon Chime Voice Connector.

```
aws chime delete-voice-connector-proxy \
```
--voice-connector-id abcdef1ghij2klmno3pqr4

This command produces no output.

For more information, see `Proxy Phone Sessions` in the `Amazon Chime Developer Guide`.

- For API details, see `DeleteVoiceConnectorProxy` in `AWS CLI Command Reference`.

**delete-voice-connector-streaming-configuration**

The following code example shows how to use `delete-voice-connector-streaming-configuration`.

**AWS CLI**

**To delete a streaming configuration**

The following `delete-voice-connector-streaming-configuration` example deletes the streaming configuration for the specified Amazon Chime Voice Connector.

```
aws chime delete-voice-connector-streaming-configuration \
   --voice-connector-id abcdef1ghij2klmno3pqr4
```

This command produces no output.

For more information, see `Streaming Amazon Chime Voice Connector Data to Kinesis` in the `Amazon Chime Administration Guide`.

- For API details, see `DeleteVoiceConnectorStreamingConfiguration` in `AWS CLI Command Reference`.

**delete-voice-connector-termination**

The following code example shows how to use `delete-voice-connector-termination`.

**AWS CLI**

**To delete termination settings**

The following `delete-voice-connector-termination` example deletes the termination settings for the specified Amazon Chime Voice Connector.
aws chime delete-voice-connector-termination \
   --voice-connector-id abcdef1ghij2klmno3pqr4

This command produces no output.

For more information, see Working with Amazon Chime Voice Connectors in the Amazon Chime Administration Guide.

• For API details, see DeleteVoiceConnectorTermination in AWS CLI Command Reference.

disassociate-phone-number-from-user

The following code example shows how to use disassociate-phone-number-from-user.

AWS CLI

To disassociate a phone number from a user
The following `disassociate-phone-number-from-user` example disassociates a phone number from the specified user.

```
aws chime disassociate-phone-number-from-user \
   --account-id 12a3456b-7c89-012d-3456-78901e23fg45 \
   --user-id 1ab2345c-67de-8901-f23g-45h678901j2k
```

This command produces no output.

For more information, see Managing User Phone Numbers in the Amazon Chime Administration Guide.

- For API details, see DisassociatePhoneNumberFromUser in AWS CLI Command Reference.

### disassociate-phone-numbers-from-voice-connector

The following code example shows how to use `disassociate-phone-numbers-from-voice-connector`.

**AWS CLI**

**To disassociate phone numbers from an Amazon Chime Voice Connector**

The following `disassociate-phone-numbers-from-voice-connector` example disassociates the specified phone numbers from an Amazon Chime Voice Connector.

```
aws chime disassociate-phone-numbers-from-voice-connector \
   --voice-connector-id abcdef1ghij2klmno3pqr4 \
   --e164-phone-numbers "+12065550100" "+12065550101"
```

Output:

```
{
  "PhoneNumberErrors": []
}
```

For more information, see Working with Amazon Chime Voice Connectors in the Amazon Chime Administration Guide.

- For API details, see DisassociatePhoneNumbersFromVoiceConnector in AWS CLI Command Reference.
disassociate-phone-numbers-from-voice-connector-group

The following code example shows how to use disassociate-phone-numbers-from-voice-connector-group.

AWS CLI

To disassociate phone numbers from an Amazon Chime Voice Connector group

The following disassociate-phone-numbers-from-voice-connector-group example disassociates the specified phone numbers from an Amazon Chime Voice Connector group.

```bash
aws chime disassociate-phone-numbers-from-voice-connector-group \
    --voice-connector-group-id 123a456b-c7d8-90e1-fg23-4h567jk18901 \
    --e164-phone-numbers "+12065550100" "+12065550101"
```

Output:

```json
{
    "PhoneNumberErrors": []
}
```

For more information, see Working with Amazon Chime Voice Connector Groups in the Amazon Chime Administration Guide.

- For API details, see DisassociatePhoneNumbersFromVoiceConnectorGroup in AWS CLI Command Reference.

disassociate-signin-delegate-groups-from-account

The following code example shows how to use disassociate-signin-delegate-groups-from-account.

AWS CLI

To disassociate sign-in delegate groups

The following disassociate-signin-delegate-groups-from-account example disassociates the specified sign-in delegate group from the specified Amazon Chime account.

```bash
aws chime disassociate-signin-delegate-groups-from-account \
    --account-id 12a3456b-7c89-012d-3456-78901e23fg45
```
The following code example shows how to use get-account.

**AWS CLI**

_to retrieve the details for an account_

The following get-account example retrieves the details for the specified Amazon Chime account.

```
aws chime get-account \
  --account-id a1b2c3d4-5678-90ab-cdef-11111EXAMPLE
```

**Output:**

```
{
   "Account": {
      "AwsAccountId": "111122223333",
      "AccountId": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
      "Name": "EnterpriseDirectory",
      "AccountType": "EnterpriseDirectory",
      "CreatedTimestamp": "2018-12-20T18:38:02.181Z",
      "DefaultLicense": "Pro",
      "SupportedLicenses": [
         "Basic",
         "Pro"
      ],
      "SigninDelegateGroups": [
         {
            "GroupName": "myGroup"
         }
      ]
   }
}
```
get-account-settings

The following code example shows how to use get-account-settings.

AWS CLI

To retrieve settings for an account

The following get-account-settings example retrieves the account settings for the specified account.

```
aws chime get-account-settings --account-id a1b2c3d4-5678-90ab-cdef-11111EXAMPLE
```

Output:

```
{
   "AccountSettings": {
       "DisableRemoteControl": false,
       "EnableDialOut": false
   }
}
```

For more information, see Managing Your Amazon Chime Accounts in the Amazon Chime Administration Guide.

- For API details, see GetAccount in AWS CLI Command Reference.

get-bot

The following code example shows how to use get-bot.

AWS CLI

To retrieve details about a bot
The following `get-bot` example displays the details for the specified bot.

```bash
code{aws chime get-bot \
  --account-id 12a3456b-7c89-012d-3456-78901e23fg45 \
  --bot-id 123abcd4-5ef6-789g-0h12-34j56789012k}
```

Output:

```json
{
  "Bot": {
    "BotId": "123abcd4-5ef6-789g-0h12-34j56789012k",
    "UserId": "123abcd4-5ef6-789g-0h12-34j56789012k",
    "DisplayName": "myBot (Bot)",
    "BotType": "ChatBot",
    "Disabled": false,
    "CreatedTimestamp": "2019-09-09T18:05:56.749Z",
    "UpdatedTimestamp": "2019-09-09T18:05:56.749Z",
    "BotEmail": "myBot-chimebot@example.com",
    "SecurityToken": "wJalrXUtFEMI/K7MDENG/bPxRfiCYEXAMPLEKEY"
  }
}
```

For more information, see [Update Chat Bots](#) in the Amazon Chime Developer Guide.

- For API details, see [GetBot](#) in AWS CLI Command Reference.

**get-global-settings**

The following code example shows how to use `get-global-settings`.

**AWS CLI**

**To get global settings**

The following `get-global-settings` example retrieves the S3 bucket names used to store call detail records for Amazon Chime Business Calling and Amazon Chime Voice Connectors associated with the administrator's AWS account.

```bash
code{aws chime get-global-settings}
```

Output:
For more information, see [Managing Global Settings](#) in the [Amazon Chime Administration Guide](#).

- For API details, see [GetGlobalSettings](#) in [AWS CLI Command Reference](#).

### get-phone-number

The following code example shows how to use `get-phone-number`.

**AWS CLI**

**To get phone number details**

The following `get-phone-number` example displays the details of the specified phone number.

```bash
aws chime get-phone-number \    
   --phone-number-id +12065550100
```

**Output:**

```json
{
   "PhoneNumber": {
      "PhoneNumberId": "%2B12065550100",
      "E164PhoneNumber": "+12065550100",
      "Type": "Local",
      "ProductType": "VoiceConnector",
      "Status": "Unassigned",
      "Capabilities": {
         "InboundCall": true,
         "OutboundCall": true,
         "InboundSMS": true,
         "OutboundSMS": true,
         "InboundMMS": true,
         "OutboundMMS": true
      }
   }
}
```
For more information, see Working with Phone Numbers in the Amazon Chime Administration Guide.

- For API details, see GetPhoneNumber in AWS CLI Command Reference.

get-phone-number-order

The following code example shows how to use get-phone-number-order.

AWS CLI

To get details for a phone number order

The following get-phone-number-order example displays the details of the specified phone number order.

```
aws chime get-phone-number-order \
   --phone-number-order-id abc12345-de67-89f0-123g-h45i678j9012
```

Output:

```
{
   "PhoneNumberOrder": {
      "PhoneNumberOrderId": "abc12345-de67-89f0-123g-h45i678j9012",
      "ProductType": "VoiceConnector",
      "Status": "Partial",
      "OrderedPhoneNumbers": [
          
      ]
   }
}
```
For more information, see [Working with Phone Numbers](https://docs.aws.amazon.com/chime/latest/adminguide/working-with-phone-numbers.html) in the Amazon Chime Administration Guide.

- For API details, see [GetPhoneNumberOrder](https://docs.aws.amazon.com/cli/latest/reference/chime/get-phone-number-order.html) in AWS CLI Command Reference.

### get-phone-number-settings

The following code example shows how to use get-phone-number-settings.

**AWS CLI**

**To retrieve an outbound calling name**

The following get-phone-number-settings example retrieves the default outbound calling name for the calling user's AWS account.

```
aws chime get-phone-number-settings
```

This command produces no output. Output:

```
{
    "CallingName": "myName",
    "CallingNameUpdatedTimestamp": "2019-10-28T18:56:42.911Z"
}
```
For more information, see Working with Phone Numbers in the Amazon Chime Administration Guide.

- For API details, see GetPhoneNumberSettings in AWS CLI Command Reference.

get-proxy-session

The following code example shows how to use get-proxy-session.

**AWS CLI**

**To get proxy session details**

The following get-proxy-session example lists the details of the specified proxy session.

```bash
aws chime get-proxy-session \
   --voice-connector-id abcdef1ghij2klmno3pqr4 \
   --proxy-session-id 123a4bc5-67d8-901e-2f3g-h4ghjk56789l
```

Output:

```json
{
   "ProxySession": {
      "VoiceConnectorId": "abcdef1ghij2klmno3pqr4",
      "ProxySessionId": "123a4bc5-67d8-901e-2f3g-h4ghjk56789l",
      "Status": "Open",
      "ExpiryMinutes": 60,
      "Capabilities": [
         "SMS",
         "Voice"
      ],
      "CreatedTimestamp": "2020-04-15T16:10:10.288Z",
      "UpdatedTimestamp": "2020-04-15T16:10:10.288Z",
      "Participants": [
         {
            "PhoneNumber": "+12065550100",
            "ProxyPhoneNumber": "+19135550199"
         },
         {
            "PhoneNumber": "+14015550101",
            "ProxyPhoneNumber": "+19135550199"
         }
      ]
   }
}
```
For more information, see Proxy Phone Sessions in the Amazon Chime Developer Guide.

- For API details, see GetProxySession in AWS CLI Command Reference.

get-room

The following code example shows how to use get-room.

AWS CLI

To get the details about a chat room

The following get-room example displays details about the specified chat room.

```bash
aws chime get-room \
 --account-id 12a3456b-7c89-012d-3456-78901e23fg45 \
 --room-id abcd1e2d-3e45-6789-01f2-3g45h67i890j
```

Output:

```json
{
    "Room": {
        "RoomId": "abcd1e2d-3e45-6789-01f2-3g45h67i890j",
        "Name": "chatRoom",
        "AccountId": "12a3456b-7c89-012d-3456-78901e23fg45",
        "CreatedBy": "arn:aws:iam::111122223333:user/alejandro",
        "CreatedTimestamp": "2019-12-02T22:29:31.549Z",
        "UpdatedTimestamp": "2019-12-02T22:29:31.549Z"
    }
}
```

For more information, see Creating a Chat Room in the Amazon Chime User Guide.

- For API details, see GetRoom in AWS CLI Command Reference.

get-user

The following code example shows how to use get-user.
AWS CLI

To get details about a user

The following get-user example retrieves the details for the specified user.

```
aws chime get-user \
   --account-id a1b2c3d4-5678-90ab-cdef-11111EXAMPLE \
   --user-id a1b2c3d4-5678-90ab-cdef-22222EXAMPLE
```

Output:

```
{
   "User": { 
      "UserId": "a1b2c3d4-5678-90ab-cdef-22222EXAMPLE",
      "AccountId": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
      "PrimaryEmail": "marthar@example.com",
      "DisplayName": "Martha Rivera",
      "LicenseType": "Pro",
      "UserRegistrationStatus": "Registered",
      "RegisteredOn": "2018-12-20T18:45:25.231Z",
      "InvitedOn": "2018-12-20T18:45:25.231Z",
      "AlexaForBusinessMetadata": { 
         "IsAlexaForBusinessEnabled": false,
         "AlexaForBusinessRoomArn": "null"
      },
      "PersonalPIN": "XXXXXXXXXX"
   }
}
```

For more information, see Managing Users in the Amazon Chime Administration Guide.

- For API details, see GetUser in AWS CLI Command Reference.

get-user-settings

The following code example shows how to use get-user-settings.

AWS CLI

To retrieve user settings

The following get-user-settings example displays the specified user settings.
aws chime get-user-settings \
   --account-id 12a3456b-7c89-012d-3456-78901e23fg45 \
   --user-id 1ab2345c-67de-8901-f23g-45h678901j2k

Output:

```
{
   "UserSettings": {
      "Telephony": {
         "InboundCalling": true,
         "OutboundCalling": true,
         "SMS": true
      }
   }
}
```

For more information, see Managing User Phone Numbers in the Amazon Chime Administration Guide.

- For API details, see GetUserSettings in AWS CLI Command Reference.

get-voice-connector

The following code example shows how to use get-voice-connector.

AWS CLI

To get details for an Amazon Chime Voice Connector

The following get-voice-connector example displays the details of the specified Amazon Chime Voice Connector.

aws chime get-voice-connector \
   --voice-connector-id abcdef1ghij2klmno3pqr4

Output:

```
{
   "VoiceConnector": {
      "VoiceConnectorId": "abcdef1ghij2klmno3pqr4",
      "AwsRegion": "us-west-2",
```

Actions and scenarios
"Name": "newVoiceConnector",
"OutboundHostName": "abcdef1ghij2klmno3pqr4.voiceconnector.chime.aws",
"RequireEncryption": true,
"CreatedTimestamp": "2019-09-18T20:34:01.353Z",
"UpdatedTimestamp": "2019-09-18T20:34:01.353Z"
}
}

For more information, see Working with Amazon Chime Voice Connectors in the Amazon Chime Administration Guide.

- For API details, see GetVoiceConnector in AWS CLI Command Reference.

get-voice-connector-group

The following code example shows how to use get-voice-connector-group.

AWS CLI

To get details for an Amazon Chime Voice Connector group

The following get-voice-connector-group example displays details for the specified Amazon Chime Voice Connector group.

```bash
aws chime get-voice-connector-group \
   --voice-connector-group-id 123a456b-c7d8-90e1-fg23-4h567jk18901
```

Output:

```
{
   "VoiceConnectorGroup": {
      "VoiceConnectorGroupId": "123a456b-c7d8-90e1-fg23-4h567jk18901",
      "Name": "myGroup",
      "VoiceConnectorItems": [],
      "CreatedTimestamp": "2019-09-18T16:38:34.734Z",
      "UpdatedTimestamp": "2019-09-18T16:38:34.734Z"
   }
}
```

For more information, see Working with Amazon Chime Voice Connector Groups in the Amazon Chime Administration Guide.
get-voice-connector-logging-configuration

The following code example shows how to use get-voice-connector-logging-configuration.

AWS CLI

To get logging configuration details

The following get-voice-connector-logging-configuration example retrieves the logging configuration details for the specified Amazon Chime Voice Connector.

```
aws chime get-voice-connector-logging-configuration \
  --voice-connector-id abcdef1ghij2klmno3pqr4
```

Output:

```
{
    "LoggingConfiguration": {
        "EnableSIPLogs": true
    }
}
```

For more information, see Streaming Amazon Chime Voice Connector Media to Kinesis in the Amazon Chime Administration Guide.

get-voice-connector-origination

The following code example shows how to use get-voice-connector-origination.

AWS CLI

To retrieve origination settings

The following get-voice-connector-origination example retrieves the origination host, port, protocol, priority, and weight for the specified Amazon Chime Voice Connector.
aws chime get-voice-connector-origination \
   --voice-connector-id abcdef1ghij2klmno3pqr4

Output:

{
   "Origination": {
      "Routes": [
         {
            "Host": "10.24.34.0",
            "Port": 1234,
            "Protocol": "TCP",
            "Priority": 1,
            "Weight": 5
         }
      ],
      "Disabled": false
   }
}

For more information, see `Working with Amazon Chime Voice Connectors` in the `Amazon Chime Administration Guide`

- For API details, see `GetVoiceConnectorOrigination` in `AWS CLI Command Reference`.

get-voice-connector-proxy

The following code example shows how to use `get-voice-connector-proxy`.

AWS CLI

**To get proxy configuration details**

The following `get-voice-connector-proxy` example gets the proxy configuration details for your Amazon Chime Voice Connector.

aws chime get-voice-connector-proxy \
   --voice-connector-id abcdef1ghij2klmno3pqr4

Output:
For more information, see Proxy Phone Sessions in the Amazon Chime Developer Guide.

- For API details, see GetVoiceConnectorProxy in AWS CLI Command Reference.

get-voice-connector-streaming-configuration

The following code example shows how to use get-voice-connector-streaming-configuration.

AWS CLI

To get streaming configuration details

The following get-voice-connector-streaming-configuration example gets the streaming configuration details for the specified Amazon Chime Voice Connector.

```
aws chime get-voice-connector-streaming-configuration \
   --voice-connector-id abcdef1ghij2klmno3pqr4
```

Output:

```
{
    "StreamingConfiguration": {
        "DataRetentionInHours": 24,
        "Disabled": false
    }
}
```

For more information, see Streaming Amazon Chime Voice Connector Data to Kinesis in the Amazon Chime Administration Guide.
get-voice-connector-termination

The following code example shows how to use get-voice-connector-termination.

AWS CLI

To retrieve termination settings

The following get-voice-connector-termination example retrieves the termination settings for the specified Amazon Chime Voice Connector.

```
aws chime get-voice-connector-termination \
   --voice-connector-id abcdef1ghij2klmno3pqr4
```

This command produces no output. Output:

```
{
   "Termination": {
      "CpsLimit": 1,
      "DefaultPhoneNumber": "+12065550100",
      "CallingRegions": [
         "US"
      ],
      "CidrAllowedList": [
         "10.24.34.0/23"
      ],
      "Disabled": false
   }
}
```

For more information, see Working with Amazon Chime Voice Connectors in the Amazon Chime Administration Guide.

- For API details, see GetVoiceConnectorTermination in AWS CLI Command Reference.

get-voice-connector-termination-health

The following code example shows how to use get-voice-connector-termination-health.
AWS CLI

**To retrieve termination health details**

The following `get-voice-connector-termination-health` example retrieves the termination health details for the specified Amazon Chime Voice Connector.

```bash
aws chime get-voice-connector-termination-health \
   --voice-connector-id abcdef1ghij2klmno3pqr4
```

Output:

```
{
   "TerminationHealth": {
      "Timestamp": "Fri Aug 23 16:45:55 UTC 2019",
      "Source": "10.24.34.0"
   }
}
```

For more information, see [Working with Amazon Chime Voice Connectors](https://docs.aws.amazon.com/chime/latest/admin-guide/voiceconnectors-working.html) in the *Amazon Chime Administration Guide*.


**invite-users**

The following code example shows how to use `invite-users`.

**AWS CLI**

**To invite users to join Amazon Chime**

The following `invite-users` example sends an email to invite a user to the specified Amazon Chime account.

```bash
aws chime invite-users \
   --account-id a1b2c3d4-5678-90ab-cdef-11111EXAMPLE \
   --user-email-list "alejandror@example.com" "janed@example.com"
```

Output:
For more information, see [Inviting and Suspending Users](https://docs.aws.amazon.com/chime/latest/adminguide/inviting-and-suspending-users.html) in the *Amazon Chime Administration Guide*.

- For API details, see [InviteUsers](https://docs.aws.amazon.com/cli/latest/reference/chime/inviteusers.html) in *AWS CLI Command Reference*.

### list-accounts

The following code example shows how to use `list-accounts`.

**AWS CLI**

**To get a list of accounts**

The following `list-accounts` example retrieves a list of the Amazon Chime accounts in the administrator's AWS account.

```bash/aws chime list-accounts
```

**Output:**

```
{
    "Accounts": [
        {
            "AwsAccountId": "111122223333",
```
"AccountId": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
"Name": "First Chime Account",
"AccountType": "EnterpriseDirectory",
"CreatedTimestamp": "2018-12-20T18:38:02.181Z",
"DefaultLicense": "Pro",
"SupportedLicenses": [
    "Basic",
    "Pro"
],
"SigninDelegateGroups": [
    {
        "GroupName": "myGroup"
    }
],

{"AwsAccountId": "111122223333",
"AccountId": "a1b2c3d4-5678-90ab-cdef-22222EXAMPLE",
"Name": "Second Chime Account",
"AccountType": "Team",
"CreatedTimestamp": "2018-09-04T21:44:22.292Z",
"DefaultLicense": "Pro",
"SupportedLicenses": [
    "Basic",
    "Pro"
],
"SigninDelegateGroups": [
    {
        "GroupName": "myGroup"
    }
],
}
]}

For more information, see Managing Your Amazon Chime Accounts in the Amazon Chime Administration Guide.

- For API details, see ListAccounts in AWS CLI Command Reference.

list-bots

The following code example shows how to use list-bots.
AWS CLI

To retrieve a list of bots

The following list-bots example lists the bots associated with the specified Amazon Chime Enterprise account.

```
aws chime list-bots \
   --account-id 12a3456b-7c89-012d-3456-78901e23fg45
```

Output:

```
{
   "Bot": {
      "BotId": "123abcd4-5ef6-789g-0h12-34j56789012k",
      "UserId": "123abcd4-5ef6-789g-0h12-34j56789012k",
      "DisplayName": "myBot (Bot)",
      "BotType": "ChatBot",
      "Disabled": false,
      "CreatedTimestamp": "2019-09-09T18:05:56.749Z",
      "UpdatedTimestamp": "2019-09-09T18:05:56.749Z",
      "BotEmail": "myBot-chimebot@example.com",
      "SecurityToken": "wJalrXUtnFEMI/K7MDENG/bPxRfiCYEXAMPLEKEY"
   }
}
```

For more information, see [Use Chat Bots with Amazon Chime](#) in the [Amazon Chime Developer Guide](#).

- For API details, see [ListBots](#) in [AWS CLI Command Reference](#).

list-phone-number-orders

The following code example shows how to use list-phone-number-orders.

AWS CLI

To list phone number orders

The following list-phone-number-orders example lists the phone number orders associated with the Amazon Chime administrator's account.
aws chime list-phone-number-orders

Output:

```json
{
    "PhoneNumberOrders": [
        {
            "PhoneNumberOrderId": "abc12345-de67-89f0-123g-h45i678j9012",
            "ProductType": "VoiceConnector",
            "Status": "Partial",
            "OrderedPhoneNumbers": [
                {
                    "E164PhoneNumber": "+12065550100",
                    "Status": "Acquired"
                },
                {
                    "E164PhoneNumber": "+12065550101",
                    "Status": "Acquired"
                },
                {
                    "E164PhoneNumber": "+12065550102",
                    "Status": "Failed"
                }
            ],
            "CreatedTimestamp": "2019-08-09T21:35:21.427Z",
            "UpdatedTimestamp": "2019-08-09T21:35:31.926Z"
        },
        {
            "PhoneNumberOrderId": "cba54321-ed76-09f5-321g-h54i876j2109",
            "ProductType": "BusinessCalling",
            "Status": "Partial",
            "OrderedPhoneNumbers": [
                {
                    "E164PhoneNumber": "+12065550103",
                    "Status": "Acquired"
                },
                {
                    "E164PhoneNumber": "+12065550104",
                    "Status": "Acquired"
                },
                {
                    "E164PhoneNumber": "+12065550105",
                    "Status": "Failed"
                }
            ]
        }
    ]
}
```
For more information, see [Working with Phone Numbers](#) in the *Amazon Chime Administration Guide*.

- For API details, see [ListPhoneNumberOrders](#) in *AWS CLI Command Reference*.

### list-phone-numbers

The following code example shows how to use `list-phone-numbers`.

**AWS CLI**

**To list phone numbers for an Amazon Chime account**

The following `list-phone-numbers` example lists the phone numbers associated with the administrator's Amazon Chime account.

```bash
aws chime list-phone-numbers
```

This command produces no output. Output:

```json
{
  "PhoneNumbers": [
    {
      "PhoneNumberId": "%2B12065550100",
      "E164PhoneNumber": "+12065550100",
      "Type": "Local",
      "ProductType": "VoiceConnector",
      "Status": "Assigned",
      "Capabilities": {
        "InboundCall": true,
        "OutboundCall": true,
        "InboundSMS": true,
        "OutboundSMS": true,
        "InboundMMS": true,
        "OutboundMMS": true
      }
    }
  ]
}
```
For more information, see Working with Phone Numbers in the Amazon Chime Administration Guide.

- For API details, see ListPhoneNumbers in AWS CLI Command Reference.
list-proxy-sessions

The following code example shows how to use list-proxy-sessions.

AWS CLI

**To list proxy sessions**

The following list-proxy-sessions example lists the proxy sessions for your Amazon Chime Voice Connector.

```
aws chime list-proxy-sessions \
   --voice-connector-id abcdef1ghij2klmno3pqr4
```

Output:

```
{
   "ProxySession": {
      "VoiceConnectorId": "abcdef1ghij2klmno3pqr4",
      "ProxySessionId": "123a4bc5-67d8-901e-2f3g-h4ghjk567891",
      "Status": "Open",
      "ExpiryMinutes": 60,
      "Capabilities": [
         "SMS",
         "Voice"
      ],
      "CreatedTimestamp": "2020-04-15T16:10:10.288Z",
      "UpdatedTimestamp": "2020-04-15T16:10:10.288Z",
      "Participants": [
         {
            "PhoneNumber": "+12065550100",
            "ProxyPhoneNumber": "+19135550199"
         },
         {
            "PhoneNumber": "+14015550101",
            "ProxyPhoneNumber": "+19135550199"
         }
      ]
   }
}
```

For more information, see [Proxy Phone Sessions](https://docs.aws.amazon.com/chime/latest/dg/chime-proxy-phone-sessions.html) in the *Amazon Chime Developer Guide*. 
For API details, see ListProxySessions in AWS CLI Command Reference.

list-room-memberships

The following code example shows how to use list-room-memberships.

AWS CLI

To list room memberships

The following list-room-memberships example displays a list of the membership details for the specified chat room.

```
aws chime list-room-memberships \
   --account-id 12a3456b-7c89-012d-3456-78901e23fg45 \
   --room-id abcd1e2d-3e45-6789-01f2-3g45h671890j
```

Output:

```json
{
   "RoomMemberships": [
   {
      "RoomId": "abcd1e2d-3e45-6789-01f2-3g45h671890j",
      "Member": {
         "MemberId": "2ab2345c-67de-8901-f23g-45h678901j2k",
         "MemberType": "User",
         "Email": "zhangw@example.com",
         "FullName": "Zhang Wei",
         "AccountId": "12a3456b-7c89-012d-3456-78901e23fg45"
      },
      "Role": "Member",
      "InvitedBy": "arn:aws:iam::111122223333:user/alejandro",
      "UpdatedTimestamp": "2019-12-02T22:46:58.532Z"
   },
   {
      "RoomId": "abcd1e2d-3e45-6789-01f2-3g45h671890j",
      "Member": {
         "MemberId": "1ab2345c-67de-8901-f23g-45h678901j2k",
         "MemberType": "User",
         "Email": "janed@example.com",
         "FullName": "Jane Doe",
         "AccountId": "12a3456b-7c89-012d-3456-78901e23fg45"
      }
   }
}
```
For more information, see Creating a Chat Room in the Amazon Chime User Guide.
• For API details, see ListRoomMemberships in AWS CLI Command Reference.

list-rooms

The following code example shows how to use list-rooms.

AWS CLI

To list chat rooms

The following list-rooms example displays a list of chat rooms in the specified account. The list is filtered to only those chat rooms that the specified member belongs to.

aws chime list-rooms \
  --account-id 12a3456b-7c89-012d-3456-78901e23fg45 \
  --member-id 1ab2345c-67de-8901-f23g-45h678901j2k

Output:

{
  "Room": {
    "RoomId": "abcd1e2d-3e45-6789-01f2-3g45h67i890j",
    "Name": "teamRoom",
    "AccountId": "12a3456b-7c89-012d-3456-78901e23fg45",
    "CreatedBy": "arn:aws:iam::111122223333:user/alejandro",
    "CreatedTimestamp": "2019-12-02T22:29:31.549Z",
    "UpdatedTimestamp": "2019-12-02T22:33:19.310Z"
  }
}

For more information, see Creating a Chat Room in the Amazon Chime User Guide.
• For API details, see ListRooms in AWS CLI Command Reference.
### list-users

The following code example shows how to use `list-users`.

#### AWS CLI

**To list the users in an account**

The following `list-users` example lists the users for the specified Amazon Chime account.

```bash
code
aws chime list-users --account-id a1b2c3d4-5678-90ab-cdef-11111EXAMPLE
```

**Output:**

```json
{
   "Users": [ 
      {
         "UserId": "a1b2c3d4-5678-90ab-cdef-22222EXAMPLE",
         "AccountId": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
         "PrimaryEmail": "mariag@example.com",
         "DisplayName": "Maria Garcia",
         "LicenseType": "Pro",
         "UserType": "PrivateUser",
         "UserRegistrationStatus": "Registered",
         "RegisteredOn": "2018-12-20T18:45:25.231Z"
      },
      {
         "UserId": "a1b2c3d4-5678-90ab-cdef-33333EXAMPLE",
         "AccountId": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
         "PrimaryEmail": "richardr@example.com",
         "DisplayName": "Richard Roe",
         "LicenseType": "Pro",
         "UserType": "PrivateUser",
         "UserRegistrationStatus": "Registered",
         "RegisteredOn": "2018-12-20T18:45:45.415Z"
      },
      {
         "UserId": "a1b2c3d4-5678-90ab-cdef-44444EXAMPLE",
```
"AccountId": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
"PrimaryEmail": "saanvis@example.com",
"DisplayName": "Saanvi Sarkar",
"LicenseType": "Basic",
"UserType": "PrivateUser",
"UserRegistrationStatus": "Registered",
"RegisteredOn": "2018-12-20T18:46:57.747Z"
"AlexaForBusinessMetadata": {
    "IsAlexaForBusinessEnabled": false
 },
{
  "UserId": "a1b2c3d4-5678-90ab-cdef-55555EXAMPLE",
  "AccountId": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
  "PrimaryEmail": "wxiulan@example.com",
  "DisplayName": "Wang Xiulan",
  "LicenseType": "Basic",
  "UserType": "PrivateUser",
  "UserRegistrationStatus": "Registered",
  "RegisteredOn": "2018-12-20T18:47:15.390Z"
  "AlexaForBusinessMetadata": {
      "IsAlexaForBusinessEnabled": false
   }
}
]

For more information, see Managing Users in the Amazon Chime Administration Guide.

- For API details, see ListUsers in AWS CLI Command Reference.

list-voice-connector-groups

The following code example shows how to use list-voice-connector-groups.

AWS CLI

To list Amazon Chime Voice Connector groups for an Amazon Chime account

The following list-voice-connector-groups example lists the Amazon Chime Voice Connector groups associated with the administrator's Amazon Chime account.

aws chime list-voice-connector-groups
Output:

```json
{
   "VoiceConnectorGroups": [
   {
      "VoiceConnectorGroupId": "123a456b-c7d8-90e1-fg23-4h567jk18901",
      "Name": "myGroup",
      "VoiceConnectorItems": [],
      "CreatedTimestamp": "2019-09-18T16:38:34.734Z",
      "UpdatedTimestamp": "2019-09-18T16:38:34.734Z"
   }
   ]
}
```

For more information, see [Working with Amazon Chime Voice Connector groups](#) in the *Amazon Chime Administration Guide*.

- For API details, see [ListVoiceConnectorGroups](#) in *AWS CLI Command Reference*.

**list-voice-connector-termination-credentials**

The following code example shows how to use `list-voice-connector-termination-credentials`.

**AWS CLI**

**To retrieve a list of termination credentials**

The following `list-voice-connector-termination-credentials` example retrieves a list of the termination credentials for the specified Amazon Chime Voice Connector.

```bash
aws chime list-voice-connector-termination-credentials \
   --voice-connector-id abcdef1ghij2klmno3pqr4
```

This command produces no output. Output:

```json
{
   "Usernames": [
      "jdoe"
   ]
}
```
For more information, see Working with Amazon Chime Voice Connectors in the Amazon Chime Administration Guide.

- For API details, see ListVoiceConnectorTerminationCredentials in AWS CLI Command Reference.

list-voice-connectors

The following code example shows how to use list-voice-connectors.

AWS CLI

To list Amazon Chime Voice Connectors for an account

The following list-voice-connectors example lists the Amazon Chime Voice Connectors associated with the caller's account.

aws chime list-voice-connectors

Output:

```json
{
    "VoiceConnectors": [
        {
            "VoiceConnectorId": "abcdef1ghij2klmno3pqr4",
            "AwsRegion": "us-east-1",
            "Name": "MyVoiceConnector",
            "OutboundHostName": "abcdef1ghij2klmno3pqr4.voiceconnector.chime.aws",
            "RequireEncryption": true,
            "CreatedTimestamp": "2019-06-04T18:46:56.508Z",
            "UpdatedTimestamp": "2019-09-18T16:33:00.806Z"
        },
        {
            "VoiceConnectorId": "cbadef1ghij2klmno3pqr5",
            "AwsRegion": "us-west-2",
            "Name": "newVoiceConnector",
            "OutboundHostName": "cbadef1ghij2klmno3pqr5.voiceconnector.chime.aws",
            "RequireEncryption": true,
            "CreatedTimestamp": "2019-09-18T20:34:01.352Z",
            "UpdatedTimestamp": "2019-09-18T20:34:01.352Z"
        }
    ]
}
```
For more information, see Working with Amazon Chime Voice Connectors in the Amazon Chime Administration Guide.

- For API details, see ListVoiceConnectors in AWS CLI Command Reference.

**logout-user**

The following code example shows how to use `logout-user`.

**AWS CLI**

**To log out a user**

The following `logout-user` example logs out the specified user.

```bash
aws chime logout-user \
    --account-id a1b2c3d4-5678-90ab-cdef-11111EXAMPLE \
    --user-id a1b2c3d4-5678-90ab-cdef-22222EXAMPLE
```

This command produces no output.

- For API details, see LogoutUser in AWS CLI Command Reference.

**put-voice-connector-logging-configuration**

The following code example shows how to use `put-voice-connector-logging-configuration`.

**AWS CLI**

**To add a logging configuration for an Amazon Chime Voice Connector**

The following `put-voice-connector-logging-configuration` example turns on the SIP logging configuration for the specified Amazon Chime Voice Connector.

```bash
aws chime put-voice-connector-logging-configuration \
    --voice-connector-id abcdef1ghij2klmno3pqr4 \
    --logging-configuration EnableSIPLogs=true
```
Output:

```json
{
   "LoggingConfiguration": {
      "EnableSIPLogs": true
   }
}
```

For more information, see [Streaming Amazon Chime Voice Connector Media to Kinesis](https://docs.aws.amazon.com/chime/latest/adminGuide/streaming-voice-connector-media-to-kinesis.html) in the *Amazon Chime Administration Guide*.


### put-voice-connector-origination

The following code example shows how to use `put-voice-connector-origination`.

**AWS CLI**

**To set up origination settings**

The following `put-voice-connector-origination` example sets up the origination host, port, protocol, priority, and weight for the specified Amazon Chime Voice Connector.

```bash
aws chime put-voice-connector-origination \
   --voice-connector-id abcdefghijklmno3pqr4 \
   --origination Routes=[["Host":"10.24.34.0",Port=1234,Protocol="TCP",Priority=1,Weight=5]],Disabled=false
```

Output:

```json
{
   "Origination": {
      "Routes": [
         {
            "Host": "10.24.34.0",
            "Port": 1234,
            "Protocol": "TCP",
            "Priority": 1,
            "Weight": 5
         }
      ]
   }
}
```
The following code example shows how to use `put-voice-connector-proxy`.

**AWS CLI**

**To put a proxy configuration**

The following `put-voice-connector-proxy` example sets a proxy configuration to your Amazon Chime Voice Connector.

```
aws chime put-voice-connector-proxy \
   --voice-connector-id abcdef1ghij2klmno3pqr4 \ 
   --default-session-expiry-minutes 60 \ 
   --phone-number-pool-countries "US"
```

Output:

```
{
   "Proxy": {
     "DefaultSessionExpiryMinutes": 60,
     "Disabled": false,
     "PhoneNumberCountries": [ 
       "US"
     ]
   }
}
```

For more information, see **Proxy Phone Sessions** in the *Amazon Chime Developer Guide*.

- For API details, see `PutVoiceConnectorProxy` in *AWS CLI Command Reference*.
put-voice-connector-streaming-configuration

The following code example shows how to use put-voice-connector-streaming-configuration.

AWS CLI

To create a streaming configuration

The following put-voice-connector-streaming-configuration example creates a streaming configuration for the specified Amazon Chime Voice Connector. It enables media streaming from the Amazon Chime Voice Connector to Amazon Kinesis, and sets the data retention period to 24 hours.

```
aws chime put-voice-connector-streaming-configuration \
    --voice-connector-id abcdef1ghij2klmno3pqr4 \
    --streaming-configuration DataRetentionInHours=24,Disabled=false
```

Output:

```
{
    "StreamingConfiguration": {
        "DataRetentionInHours": 24,
        "Disabled": false
    }
}
```

For more information, see Streaming Amazon Chime Voice Connector Data to Kinesis in the Amazon Chime Administration Guide.

- For API details, see PutVoiceConnectorStreamingConfiguration in AWS CLI Command Reference.

put-voice-connector-termination

The following code example shows how to use put-voice-connector-termination.

AWS CLI

To set up termination settings
The following `put-voice-connector-termination` example sets the calling regions and allowed IP host termination settings for the specified Amazon Chime Voice Connector.

```
aws chime put-voice-connector-termination \
  --voice-connector-id abcdef1ghij2klmno3pqr4 \
  --termination CallingRegions="US",CidrAllowedList="10.24.34.0/23",Disabled=false
```

Output:

```
{
  "Termination": {
    "CpsLimit": 0,
    "CallingRegions": [
      "US"
    ],
    "CidrAllowedList": [
      "10.24.34.0/23"
    ],
    "Disabled": false
  }
}
```

For more information, see [Working with Amazon Chime Voice Connectors](https://docs.aws.amazon.com/chime/latest/admin-guide/working-voice-connector.html) in the *Amazon Chime Administration Guide*.

- For API details, see [PutVoiceConnectorTermination](https://docs.aws.amazon.com/cli/latest/reference/chime/put-voice-connector-termination.html) in *AWS CLI Command Reference*.

### `put-voice-connector-termination-credentials`

The following code example shows how to use `put-voice-connector-termination-credentials`.

**AWS CLI**

**To set up termination credentials**

The following `put-voice-connector-termination-credentials` example sets termination credentials for the specified Amazon Chime Voice Connector.

```
aws chime put-voice-connector-termination-credentials \
```
This command produces no output.

For more information, see [Working with Amazon Chime Voice Connectors](https://aws.amazon.com/documentation/chime/how-to/voice-connector/) in the *Amazon Chime Administration Guide*.

- For API details, see [PutVoiceConnectorTerminationCredentials](https://docs.aws.amazon.com/cli/latest/reference/chime/put-voice-connector-termination-credentials.html) in *AWS CLI Command Reference*.

### regenerate-security-token

The following code example shows how to use `regenerate-security-token`.

**AWS CLI**

**To regenerate a security token**

The following `regenerate-security-token` example regenerates the security token for the specified bot.

```bash
aws chime regenerate-security-token \
  --account-id 12a3456b-7c89-012d-3456-78901e23fg45 \
  --bot-id 123abcd4-5ef6-789g-0h12-34j56789012k
```

**Output:**

```json
{
  "Bot": {
    "BotId": "123abcd4-5ef6-789g-0h12-34j56789012k",
    "UserId": "123abcd4-5ef6-789g-0h12-34j56789012k",
    "DisplayName": "myBot (Bot)",
    "BotType": "ChatBot",
    "Disabled": false,
    "CreatedTimestamp": "2019-09-09T18:05:56.749Z",
    "UpdatedTimestamp": "2019-09-09T18:05:56.749Z",
    "BotEmail": "myBot-chimebot@example.com",
    "SecurityToken": "je7MtGbClwBF/2Zp9Ut/h3yCo8nvbEXAMPLEKEY"
  }
}
```
For more information, see Authenticate Chat Bot Requests in the Amazon Chime Developer Guide.

- For API details, see RegenerateSecurityToken in AWS CLI Command Reference.

reset-personal-pin

The following code example shows how to use reset-personal-pin.

AWS CLI

To reset a user's personal meeting PIN

The following reset-personal-pin example resets the specified user's personal meeting PIN.

```
aws chime reset-personal-pin \
   --account-id a1b2c3d4-5678-90ab-cdef-11111EXAMPLE \
   --user-id a1b2c3d4-5678-90ab-cdef-22222EXAMPLE
```

Output:

```
{
   "User": {
      "UserId": "a1b2c3d4-5678-90ab-cdef-22222EXAMPLE",
      "AccountId": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
      "PrimaryEmail": "mateo@example.com",
      "DisplayName": "Mateo Jackson",
      "LicenseType": "Pro",
      "UserType": "PrivateUser",
      "UserRegistrationStatus": "Registered",
      "RegisteredOn": "2018-12-20T18:45:25.231Z",
      "AlexaForBusinessMetadata": {
         "IsAlexaForBusinessEnabled": False,
         "AlexaForBusinessRoomArn": "null"
      },
      "PersonalPIN": "XXXXXXXXXX"
   }
}
```

For more information, see Changing Personal Meeting PINs in the Amazon Chime Administration Guide.
For API details, see `ResetPersonalPin` in AWS CLI Command Reference.

**restore-phone-number**

The following code example shows how to use `restore-phone-number`.

**AWS CLI**

**To restore a phone number**

The following `restore-phone-number` example restores the specified phone number from the deletion queue.

```
aws chime restore-phone-number \
   --phone-number-id "+12065550100"
```

Output:

```
{
   "PhoneNumber": {
      "PhoneNumberId": "%2B12065550100",
      "E164PhoneNumber": "+12065550100",
      "Type": "Local",
      "ProductType": "BusinessCalling",
      "Status": "Unassigned",
      "Capabilities": {
         "InboundCall": true,
         "OutboundCall": true,
         "InboundSMS": true,
         "OutboundSMS": true,
         "InboundMMS": true,
         "OutboundMMS": true
      },
      "Associations": [],
      "CreatedTimestamp": "2019-08-09T21:35:21.445Z",
      "UpdatedTimestamp": "2019-08-12T22:06:36.355Z"
   }
}
```

For more information, see Working with Phone Numbers in the Amazon Chime Administration Guide.
For API details, see **RestorePhoneNumber** in *AWS CLI Command Reference*.

### search-available-phone-numbers

The following code example shows how to use `search-available-phone-numbers`.

**AWS CLI**

**To search available phone numbers**

The following `search-available-phone-numbers` example searches available phone numbers by area code.

```
aws chime search-available-phone-numbers \
   --area-code "206"
```

**Output:**

```
{
   "E164PhoneNumbers": [
      "+12065550100",
      "+12065550101",
      "+12065550102",
      "+12065550103",
      "+12065550104",
      "+12065550105",
      "+12065550106",
      "+12065550107",
      "+12065550108",
      "+12065550109",
   ]
}
```

For more information, see **Working with Phone Numbers** in the *Amazon Chime Administration Guide*.

For API details, see **SearchAvailablePhoneNumbers** in *AWS CLI Command Reference*.

### update-account

The following code example shows how to use `update-account`.
To update an account

The following update-account example updates the specified account name.

```
aws chime update-account \
--account-id a1b2c3d4-5678-90ab-cdef-11111EXAMPLE \
--name MyAccountName
```

Output:

```
{
   "Account": {
      "AwsAccountId": "111122223333",
      "AccountId": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
      "Name": "MyAccountName",
      "AccountType": "Team",
      "CreatedTimestamp": "2018-09-04T21:44:22.292Z",
      "DefaultLicense": "Pro",
      "SupportedLicenses": [
         "Basic",
         "Pro"
      ],
      "SigninDelegateGroups": [
         {
            "GroupName": "myGroup"
         }
      ]
   }
}
```

For more information, see Renaming Your Account in the Amazon Chime Administration Guide.

- For API details, see UpdateAccount in AWS CLI Command Reference.

update-account-settings

The following code example shows how to use update-account-settings.

AWS CLI

To update the settings for your account
The following `update-account-settings` example disables the remote control of shared screens for the specified Amazon Chime account.

```
aws chime update-account-settings \
   --account-id a1b2c3d4-5678-90ab-cdef-11111EXAMPLE \n   --account-settings DisableRemoteControl=true
```

This command produces no output.

- For API details, see [UpdateAccountSettings](#) in *AWS CLI Command Reference*.

**update-bot**

The following code example shows how to use `update-bot`.

**AWS CLI**

**To update a bot**

The following `update-bot` example updates the status of the specified bot to stop it from running.

```
aws chime update-bot \
   --account-id 12a3456b-7c89-012d-3456-78901e23fg45 \n   --bot-id 123abcd4-5ef6-789g-0h12-34j56789012k \n   --disabled
```

**Output:**

```json
{
   "Bot": {
      "BotId": "123abcd4-5ef6-789g-0h12-34j56789012k",
      "UserId": "123abcd4-5ef6-789g-0h12-34j56789012k",
      "DisplayName": "myBot (Bot)",
      "BotType": "ChatBot",
      "Disabled": true,
      "CreatedTimestamp": "2019-09-09T18:05:56.749Z",
      "UpdatedTimestamp": "2019-09-09T18:05:56.749Z",
      "BotEmail": "myBot-chimebot@example.com",
      "SecurityToken": "je7MtGbClwBF/2Zp9Utk/h3yCo8nvbEXAMPLEKEY"
   }
}
For more information, see Update Chat Bots in the Amazon Chime Developer Guide.

- For API details, see UpdateBot in AWS CLI Command Reference.

**update-global-settings**

The following code example shows how to use update-global-settings.

**AWS CLI**

**To update global settings**

The following update-global-settings example updates the S3 bucket used to store call detail records for Amazon Chime Business Calling and Amazon Chime Voice Connectors associated with the administrator's AWS account.

```
aws chime update-global-settings \
    --business-calling CdrBucket="s3bucket" \
    --voice-connector CdrBucket="s3bucket"
```

This command produces no output.

For more information, see Managing Global Settings in the Amazon Chime Administration Guide.

- For API details, see UpdateGlobalSettings in AWS CLI Command Reference.

**update-phone-number**

The following code example shows how to use update-phone-number.

**AWS CLI**

**Example 1: To update the product type for a phone number**

The following update-phone-number example updates the specified phone number's product type.

```
aws chime update-phone-number \
```
Example 2: To update the outbound calling name for a phone number

The following update-phone-number example updates the outbound calling name for the specified phone number.

aws chime update-phone-number --phone-number-id "+12065550100" --calling-name "phonenumber2"

Output:

```json
{
   "PhoneNumber": {
      "PhoneNumberId": "%2B12065550100",
      "E164PhoneNumber": "+12065550100",
      "Type": "Local",
      "ProductType": "BusinessCalling",
      "Status": "Unassigned",
      "Capabilities": {
         "InboundCall": true,
         "OutboundCall": true,
         "InboundSMS": true,
         "OutboundSMS": true,
         "InboundMMS": true,
         "OutboundMMS": true
      },
      "Associations": [],
      "CallingName": "phonenumber1",
      "CreatedTimestamp": "2019-08-09T21:35:21.445Z",
      "UpdatedTimestamp": "2019-08-12T21:44:07.591Z"
   }
}
```
"ProductType": "BusinessCalling",
"Status": "Unassigned",
"Capabilities": {
   "InboundCall": true,
   "OutboundCall": true,
   "InboundSMS": true,
   "OutboundSMS": true,
   "InboundMMS": true,
   "OutboundMMS": true
},
"Associations": [],
"CallingName": "phonenumber2",
"CreatedTimestamp": "2019-08-09T21:35:21.445Z",
"UpdatedTimestamp": "2019-08-12T21:44:07.591Z"
}

For more information, see [Working with Phone Numbers](https://aws.amazon.com/chime/) in the *Amazon Chime Administration Guide*.

- For API details, see [UpdatePhoneNumber](https://docs.aws.amazon.com/cli/latest/reference/chime/update-phone-number.html) in *AWS CLI Command Reference*.

**update-phone-number-settings**

The following code example shows how to use `update-phone-number-settings`.

**AWS CLI**

**To update an outbound calling name**

The following `update-phone-number-settings` example updates the default outbound calling name for the administrator’s AWS account.

```
aws chime update-phone-number-settings \
   --calling-name "myName"
```

This command produces no output.

For more information, see [Working with Phone Numbers](https://aws.amazon.com/chime/) in the *Amazon Chime Administration Guide*.

- For API details, see [UpdatePhoneNumberSettings](https://docs.aws.amazon.com/cli/latest/reference/chime/update-phone-number-settings.html) in *AWS CLI Command Reference*.
update-proxy-session

The following code example shows how to use `update-proxy-session`.

**AWS CLI**

**To update a proxy session**

The following `update-proxy-session` example updates the proxy session capabilities.

```bash
aws chime update-proxy-session \
    --voice-connector-id abcdef1ghij2klmno3pqr4 \
    --proxy-session-id 123a4bc5-67d8-901e-2f3g-h4ghjk56789l \
    --capabilities "Voice"
```

**Output:**

```json
{
    "ProxySession": {
        "VoiceConnectorId": "abcdef1ghij2klmno3pqr4",
        "ProxySessionId": "123a4bc5-67d8-901e-2f3g-h4ghjk56789l",
        "Status": "Open",
        "ExpiryMinutes": 60,
        "Capabilities": [
            "Voice"
        ],
        "CreatedTimestamp": "2020-04-15T16:10:10.288Z",
        "UpdatedTimestamp": "2020-04-15T16:10:10.288Z",
        "Participants": [
            {
                "PhoneNumber": "+12065550100",
                "ProxyPhoneNumber": "+19135550199"
            },
            {
                "PhoneNumber": "+14015550101",
                "ProxyPhoneNumber": "+19135550199"
            }
        ]
    }
}
```

For more information, see [Proxy Phone Sessions](https://docs.aws.amazon.com/chime/latest/dg/proxy-voice-connector.html) in the *Amazon Chime Developer Guide*. 
• For API details, see UpdateProxySession in AWS CLI Command Reference.

update-room

The following code example shows how to use update-room.

AWS CLI

To update a chat room

The following update-room example modifies the name of the specified chat room.

```bash
aws chime update-room \
    --account-id 12a3456b-7c89-012d-3456-78901e23fg45 \
    --room-id abcd1e2d-3e45-6789-01f2-3g45h67i890j \
    --name teamRoom
```

Output:

```json
{
    "Room": {
        "RoomId": "abcd1e2d-3e45-6789-01f2-3g45h67i890j",
        "Name": "teamRoom",
        "AccountId": "12a3456b-7c89-012d-3456-78901e23fg45",
        "CreatedBy": "arn:aws:iam::111122223333:user/alejandro",
        "CreatedTimestamp": "2019-12-02T22:29:31.549Z",
        "UpdatedTimestamp": "2019-12-02T22:33:19.310Z"
    }
}
```

For more information, see Creating a Chat Room in the Amazon Chime User Guide.

• For API details, see UpdateRoom in AWS CLI Command Reference.

update-room-membership

The following code example shows how to use update-room-membership.

AWS CLI

To update a room membership
The following update-room-membership example modifies the role of the specified chat room member to Administrator.

```
aws chime update-room-membership \
  --account-id 12a3456b-7c89-012d-3456-78901e23fg45 \ 
  --room-id abcd1e2d-3e45-6789-01f2-3g45h67i890j \ 
  --member-id 1ab2345c-67de-8901-f23g-45h678901j2k \ 
  --role Administrator
```

Output:

```
{
  "RoomMembership": {
    "RoomId": "abcd1e2d-3e45-6789-01f2-3g45h67i890j",
    "Member": {
      "MemberId": "1ab2345c-67de-8901-f23g-45h678901j2k",
      "MemberType": "User",
      "Email": "sofiamartinez@example.com",
      "FullName": "Sofia Martinez",
      "AccountId": "12a3456b-7c89-012d-3456-78901e23fg45"
    },
    "Role": "Administrator",
    "InvitedBy": "arn:aws:iam::111122223333:user/admin",
    "UpdatedTimestamp": "2019-12-02T22:40:22.931Z"
  }
}
```

For more information, see [Creating a Chat Room](https://docs.aws.amazon.com/chime/latest/userguide/) in the *Amazon Chime User Guide*.

- For API details, see [UpdateRoomMembership](https://docs.aws.amazon.com/cli/latest/reference/chime/update-room-membership.html) in *AWS CLI Command Reference*.

### update-user

The following code example shows how to use update-user.

**AWS CLI**

**To update user details**

This example updates the specified details for the specified user.

**Command:**
aws chime update-user \
    --account-id a1b2c3d4-5678-90ab-cdef-11111EXAMPLE \
    --user-id a1b2c3d4-5678-90ab-cdef-22222EXAMPLE \
    --license-type "Basic"

Output:

```json
{
    "User": {
        "UserId": "a1b2c3d4-5678-90ab-cdef-22222EXAMPLE"
    }
}
```

- For API details, see [UpdateUser](#) in *AWS CLI Command Reference*.

**update-user-settings**

The following code example shows how to use `update-user-settings`.

**AWS CLI**

To update user settings

The following `update-user-settings` example enables the specified user to make inbound and outbound calls and send and receive SMS messages.

```bash
aws chime update-user-settings \
    --account-id 12a3456b-7c89-012d-3456-78901e23fg45 \
    --user-id 1ab2345c-67de-8901-f23g-45h678901j2k \
    --user-settings "Telephony={InboundCalling=true,OutboundCalling=true,SMS=true}"
```

This command produces no output.

For more information, see [Managing User Phone Numbers](#) in the *Amazon Chime Administration Guide*.

- For API details, see [UpdateUserSettings](#) in *AWS CLI Command Reference*.

**update-voice-connector**

The following code example shows how to use `update-voice-connector`.
AWS CLI

**To update the details for an Amazon Chime Voice Connector**

The following `update-voice-connector` example updates the name of the specified Amazon Chime Voice Connector.

```
aws chime update-voice-connector \
  --voice-connector-id abcdef1ghij2klmno3pqr4 \
  --name newName \
  --require-encryption
```

Output:

```
{
   "VoiceConnector": {
      "VoiceConnectorId": "abcdef1ghij2klmno3pqr4",
      "AwsRegion": "us-west-2",
      "Name": "newName",
      "OutboundHostName": "abcdef1ghij2klmno3pqr4.voiceconnector.chime.aws",
      "RequireEncryption": true,
      "CreatedTimestamp": "2019-09-18T20:34:01.352Z",
      "UpdatedTimestamp": "2019-09-18T20:40:52.895Z"
   }
}
```

For more information, see [Working with Amazon Chime Voice Connectors](https://docs.aws.amazon.com/AmazonChime/latest/adminguide/voice-connector.html) in the *Amazon Chime Administration Guide*.

- For API details, see [UpdateVoiceConnector](https://docs.aws.amazon.com/cli/latest/reference/chime/update-voice-connector.html) in *AWS CLI Command Reference*.

**update-voice-connector-group**

The following code example shows how to use `update-voice-connector-group`.

AWS CLI

**To update the details for an Amazon Chime Voice Connector group**

The following `update-voice-connector-group` example updates the details of the specified Amazon Chime Voice Connector group.
aws chime update-voice-connector-group \
  --voice-connector-group-id 123a456b-c7d8-90e1-fg23-4h567jkl8901 \
  --name "newGroupName" \
  --voice-connector-items VoiceConnectorId=abcdef1ghij2klmno3pqr4,Priority=1

Output:

```
{
  "VoiceConnectorGroup": {
    "VoiceConnectorGroupId": "123a456b-c7d8-90e1-fg23-4h567jkl8901",
    "Name": "newGroupName",
    "VoiceConnectorItems": [
      {
        "VoiceConnectorId": "abcdef1ghij2klmno3pqr4",
        "Priority": 1
      }
    ],
    "CreatedTimestamp": "2019-09-18T16:38:34.734Z",
    "UpdatedTimestamp": "2019-10-28T19:00:57.081Z"
  }
}
```

For more information, see Working with Amazon Chime Voice Connector Groups in the Amazon Chime Administration Guide.

- For API details, see UpdateVoiceConnectorGroup in AWS CLI Command Reference.

**Cloud Control API examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Cloud Control API.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.
**Actions**

**create-resource**

The following code example shows how to use `create-resource`.

**AWS CLI**

To create a resource

The following `create-resource` example creates an AWS::Kinesis::Stream resource, named ResourceExample, with a retention period of 168 hours and a shard count of three.

```bash
aws cloudcontrol create-resource \
  --type-name AWS::Kinesis::Stream \
  --desired-state "{"Name": "ResourceExample","RetentionPeriodHours":168, \
  "ShardCount":3}"
```

Output:

```json
{
   "ProgressEvent": {
      "EventTime": 1632506656.706,
      "TypeName": "AWS::Kinesis::Stream",
      "OperationStatus": "IN_PROGRESS",
      "Operation": "CREATE",
      "Identifier": "ResourceExample",
      "RequestToken": "20999d87-e304-4725-ad84-832dcbfd7fc5"
   }
}
```

For more information, see [Creating a resource](#) in the [Cloud Control API User Guide](#).

- For API details, see [CreateResource](#) in [AWS CLI Command Reference](#).

**delete-resource**

The following code example shows how to use `delete-resource`. 
AWS CLI

To delete a resource

The following delete-resource example deletes a AWS::Kinesis::Stream resource with the identifier ResourceExample from your AWS account.

```
aws cloudcontrol delete-resource \\
   --type-name AWS::Kinesis::Stream \\
   --identifier ResourceExample
```

Output:

```
{
   "ProgressEvent": {
      "TypeName": "AWS::Kinesis::Stream",
      "Identifier": "ResourceExample",
      "RequestToken": "e48f26ff-d0f9-4ab8-a878-120db1edf111",
      "Operation": "DELETE",
      "OperationStatus": "IN_PROGRESS",
      "EventTime": 1632950300.14
   }
}
```

For more information, see Deleting a resource in the Cloud Control API User Guide.

- For API details, see DeleteResource in AWS CLI Command Reference.

get-resource

The following code example shows how to use get-resource.

AWS CLI

To get the current state of a resource

The following get-resource example returns the current state of the AWS::Kinesis::Stream resource named ResourceExample.

```
aws cloudcontrol get-resource \\
   --type-name AWS::Kinesis::Stream \\
```

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Output:

```
{
    "TypeName": "AWS::Kinesis::Stream",
    "ResourceDescription": {
        "Identifier": "ResourceExample",
        "Properties": {
            "RetentionPeriodHours": 168,
            "Name": "ResourceExample",
            "ShardCount": 3
        }
    }
}
```

For more information, see [Reading a resource's current state](#) in the *Cloud Control API User Guide*.

- For API details, see [GetResource](#) in *AWS CLI Command Reference*.

### get-resource-request-status

The following code example shows how to use `get-resource-request-status`.

#### AWS CLI

**To get the status information of a resource request**

The following `get-resource-request-status` example returns status information about the specified resource request.

```
aws cloudcontrol get-resource-request-status \\
  --request-token "e1a6b86e-46bd-41ac-bfba-001234567890"
```

Output:

```
{
    "ProgressEvent": {
        "TypeName": "AWS::Kinesis::Stream",
        "Identifier": "Demo",
        "RequestToken": "e1a6b86e-46bd-41ac-bfba-001234567890",
        "Operation": "CREATE",
        "OperationStatus": "FAILED",
```
For more information, see Managing resource operation requests in the Cloud Control API User Guide.

- For API details, see GetResourceRequestStatus in AWS CLI Command Reference.

list-resource-requests

The following code example shows how to use list-resource-requests.

AWS CLI

To list the active resource operation requests

The following list-resource-requests example lists the resource requests for CREATE and UPDATE operations that have failed in your AWS account.

```
aws cloudcontrol list-resource-requests \
  --resource-request-status-filter Operations=CREATE,OperationStatuses=FAILED
```

Output:

```
{
  "ResourceRequestStatusSummaries": [
    {
      "TypeName": "AWS::Kinesis::Stream",
      "Identifier": "Demo",
      "RequestToken": "e1a6b86e-46bd-41ac-bfba-633abcdfdbd7",
      "Operation": "CREATE",
      "OperationStatus": "FAILED",
      "EventTime": 1632950268.481,
      "StatusMessage": "Resource of type 'AWS::Kinesis::Stream' with identifier 'Demo' already exists.",
      "ErrorCode": "AlreadyExists"
    }
  ]
}
```
For more information, see Managing resource operation requests in the Cloud Control API User Guide.

- For API details, see ListResourceRequests in AWS CLI Command Reference.

**list-resources**

The following code example shows how to use list-resources.

**AWS CLI**

**To list the resources of a given type**

The following list-resources example lists the AWS::Kinesis::Stream resources provisioned in your AWS account.

```bash
aws cloudcontrol list-resources \
--type-name AWS::Kinesis::Stream
```

Output:

```json
{
   "TypeName": "AWS::Kinesis::Stream",
   "ResourceDescriptions": [
      {
         "Identifier": "MyKinesisStream",
         "Properties": "{"Name":"MyKinesisStream"}"
      },
      {
         "Identifier": "AnotherStream",
         "Properties": "{"Name":"AnotherStream"}"
      }
   ]
}
```

For more information, see Discovering resources in the Cloud Control API User Guide.

- For API details, see ListResources in AWS CLI Command Reference.
**update-resource**

The following code example shows how to use `update-resource`.

**AWS CLI**

To update the properties of an existing resource

The following `update-resource` example updates the retention policy of an `AWS::Logs::LogGroup` resource named `ExampleLogGroup` to 90 days.

```sh
aws cloudcontrol update-resource \
   --type-name AWS::Logs::LogGroup \
   --identifier ExampleLogGroup \
   --patch-document "{{"op":"replace","path":"/RetentionInDays","value ":90}}"
```

Output:

```json
{
   "ProgressEvent": {
      "EventTime": "2021-08-09T18:17:15.219Z",
      "TypeName": "AWS::Logs::LogGroup",
      "OperationStatus": "IN_PROGRESS",
      "Operation": "UPDATE",
      "Identifier": "ExampleLogGroup",
      "RequestToken": "5f40c577-3534-4b20-9599-0b0123456789"
   }
}
```

For more information, see [Updating a resource](https://docs.aws.amazon.com/cloudcontrol/latest/API/API_UpdateResource.html) in the *Cloud Control API User Guide*.

- For API details, see [UpdateResource](https://docs.aws.amazon.com/cli/latest/reference/cloudcontrol/update-resource.html) in *AWS CLI Command Reference*.

**AWS Cloud Map examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS Cloud Map.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.
Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics

- Actions

Actions

create-private-dns-namespace

The following code example shows how to use create-private-dns-namespace.

AWS CLI

To create a private DNS namespace

The following create-private-dns-namespace example creates a private DNS namespace.

```bash
aws servicediscovery create-private-dns-namespace \
    --name example.com \
    --vpc vpc-1c56417b
```

Output:

```json
{
    "OperationId": "gv4g5meo7ndmeh4fqskygvyk23d2fijwa-k9302yzd"
}
```

To confirm that the operation succeeded, you can run get-operation. For more information, see get-operation.

For more information, see Creating namespaces in the AWS Cloud Map Developer Guide.

- For API details, see CreatePrivateDnsNamespace in AWS CLI Command Reference.

create-service

The following code example shows how to use create-service.
AWS CLI

To create a service

The following create-service example creates a service.

```bash
aws servicediscovery create-service \
   --name myservice \
   --namespace-id ns-ylexjili4cdxy3xm \
   --dns-config "NamespaceId=ns-ylexjili4cdxy3xm,RoutingPolicy=MULTIVALUE,DnsRecords=\[
   \{Type=A,TTL=60\}\]"
```

Output:

```json
{
   "Service": {
      "Id": "srv-p5zdwlg5uvvzjita",
      "Name": "myservice",
      "NamespaceId": "ns-ylexjili4cdxy3xm",
      "DnsConfig": {
         "NamespaceId": "ns-ylexjili4cdxy3xm",
         "RoutingPolicy": "MULTIVALUE",
         "DnsRecords": [
            {
               "Type": "A",
               "TTL": 60
            }
         ]
      },
      "CreateDate": 1587081768.334,
      "CreatorRequestId": "567c1193-6b00-4308-ad57-ad38a8822d25"
   }
}
```

For more information, see [Creating services](https://docs.aws.amazon.com/AmazonCloudMap/latest/DeveloperGuide/creating-service-records.html) in the AWS Cloud Map Developer Guide.

- For API details, see [CreateService](https://docs.aws.amazon.com/cli/latest/reference/servicediscovery/create-service.html) in AWS CLI Command Reference.

delete-namespace

The following code example shows how to use delete-namespace.
AWS CLI

To delete a namespace

The following delete-namespace example deletes a namespace.

```
aws servicediscovery delete-namespace \
   --id ns-ylexjili4cdxy3xm
```

Output:

```
{
   "OperationId": "gv4g5meo7ndmeh4fqskygwk23d2fijwa-k98y6drk"
}
```

To confirm that the operation succeeded, you can run get-operation. For more information, see [get-operation](#).

For more information, see [Deleting namespaces](#) in the *AWS Cloud Map Developer Guide*.

- For API details, see **DeleteNamespace** in *AWS CLI Command Reference*.

**delete-service**

The following code example shows how to use delete-service.

AWS CLI

To delete a service

The following delete-service example deletes a service.

```
aws servicediscovery delete-service \
   --id srv-p5zdwlg5uvzjita
```

This command produces no output.

For more information, see [Deleting services](#) in the *AWS Cloud Map Developer Guide*.

- For API details, see **DeleteService** in *AWS CLI Command Reference*.  

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deregister-instance

The following code example shows how to use deregister-instance.

AWS CLI

To deregister a service instance

The following deregister-instance example deregisters a service instance.

```bash
aws servicediscovery deregister-instance \
   --service-id srv-p5zdwlq5uvvzjita \
   --instance-id myservice-53
```

Output:

```
{
   "OperationId": "4yejorelbucjzpr6tlmrgshswpngf4-k98znaiq"
}
```

To confirm that the operation succeeded, you can run get-operation. For more information, see [get-operation](#).

For more information, see [Deregistering service instances](#) in the *AWS Cloud Map Developer Guide*.

- For API details, see [DeregisterInstance](#) in *AWS CLI Command Reference*.

discover-instances

The following code example shows how to use discover-instances.

AWS CLI

To discover registered instances

The following discover-instances example discovers registered instances.

```bash
aws servicediscovery discover-instances \
   --namespace-name example.com \
   --service-name myservice
```
Output:

```json
{
    "Instances": [
        {
            "InstanceId": "myservice-53",
            "NamespaceName": "example.com",
            "ServiceName": "myservice",
            "HealthStatus": "UNKNOWN",
            "Attributes": {
                "AWS_INSTANCE_IPV4": "172.2.1.3",
                "AWS_INSTANCE_PORT": "808"
            }
        }
    ]
}
```

- For API details, see [DiscoverInstances](#) in *AWS CLI Command Reference*.

**get-operation**

The following code example shows how to use `get-operation`.

**AWS CLI**

To get the result of an operation

The following `get-operation` example gets the result of an operation.

```
aws servicediscovery get-operation \
--operation-id gv4g5meo7ndmeh4fqskygkvk23d2fijwa-k9302yzd
```

Output:

```json
{
    "Operation": {
        "Id": "gv4g5meo7ndmeh4fqskygkvk23d2fijwa-k9302yzd",
        "Type": "CREATE_NAMESPACE",
```
"Status": "SUCCESS",
"CreateDate": 1587055860.121,
"UpdateDate": 1587055900.469,
"Targets": {  
    "NAMESPACE": "ns-ylexjili4cdxy3xm"
}
]
}

• For API details, see GetOperation in AWS CLI Command Reference.

list-instances

The following code example shows how to use list-instances.

AWS CLI

To list service instances

The following list-instances example lists service instances.

/aws servicediscovery list-instances \
   --service-id srv-qzpwvt2tfqegapy

Output:

{
    "Instances": [ 
        
            "Id": "i-06bdabbae60f65a4e",
            "Attributes": { 
                "AWS_INSTANCE_IPV4": "172.2.1.3",
                "AWS_INSTANCE_PORT": "808"
            }
        
    ]

}

For more information, see Viewing a list of service instances in the AWS Cloud Map Developer Guide.

• For API details, see ListInstances in AWS CLI Command Reference.
list-namespaces

The following code example shows how to use list-namespaces.

AWS CLI

To list namespaces

The following list-namespaces example lists namespaces.

```bash
aws servicediscovery list-namespaces
```

Output:

```json
{
   "Namespaces": [
      {
         "Arn": "arn:aws:servicediscovery:us-west-2:123456789012:namespace/ns-a3ccy2e7e3a7rile",
         "CreateDate": 1585354387.357,
         "Id": "ns-a3ccy2e7e3a7rile",
         "Name": "local",
         "Properties": {
            "DnsProperties": {
               "HostedZoneId": "Z06752353VBUDTC32S84S"
            },
            "HttpProperties": {
               "HttpName": "local"
            }
         },
         "Type": "DNS_PRIVATE"
      },
      {
         "CreateDate": 1586468974.698,
         "Description": "My second namespace",
         "Id": "ns-pocfyjtrsmwvcxx",
         "Name": "My-second-namespace",
         "Properties": {
            "DnsProperties": {},
            "HttpProperties": {
               "HttpName": "My-second-namespace"
            }
         },
         "Type": "DNS_PRIVATE"
      }
   ]
}
```
For more information, see [Viewing a list of namespaces](https://docs.aws.amazon.com/AmazonCloudMap/latest/APIReference/API_ListNamespaces.html) in the *AWS Cloud Map Developer Guide*.

- For API details, see `ListNamespaces` in *AWS CLI Command Reference*.

### list-services

The following code example shows how to use `list-services`.

#### AWS CLI

**To list services**

The following `list-services` example lists services.

```bash
aws servicediscovery list-services
```

**Output:**

```json
{}
```
"Services": [
  {
    "Id": "srv-p5zdwlg5uvvzjita",
    "Arn": "arn:aws:servicediscovery:us-west-2:123456789012:service/srv-
p5zdwlg5uvvzjita",
    "Name": "myservice",
    "DnsConfig": {
      "RoutingPolicy": "MULTIVALUE",
      "DnsRecords": [
        {
          "Type": "A",
          "TTL": 60
        }
      ],
      "CreateDate": 1587081768.334
    }
  }
]

For more information, see Viewing a list of services in the AWS Cloud Map Developer Guide.

- For API details, see ListServices in AWS CLI Command Reference.

register-instance

The following code example shows how to use register-instance.

AWS CLI

**To register a service instance**

The following register-instance example registers a service instance.

```bash
aws servicediscovery register-instance \
  --service-id srv-p5zdwlg5uvvzjita \
  --instance-id myservice-53 \
  --attributes=AWS_INSTANCE_IPV4=172.2.1.3,AWS_INSTANCE_PORT=808
```

Output:

```json
{
  "OperationId": "4yejorelbukcjpnr6tlmrghsjwpngf4-k95yg2u7"
}
```
To confirm that the operation succeeded, you can run `get-operation`. For more information, see `get-operation`.

For more information, see Registering instances in the AWS Cloud Map Developer Guide.

- For API details, see RegisterInstance in AWS CLI Command Reference.

AWS Cloud9 examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS Cloud9.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics
- Actions

Actions

create-environment-ec2

The following code example shows how to use create-environment-ec2.

AWS CLI

To create an AWS Cloud9 EC2 development environment

This example creates an AWS Cloud9 development environment with the specified settings, launches an Amazon Elastic Compute Cloud (Amazon EC2) instance, and then connects from the instance to the environment.
Command:

```
aws cloud9 create-environment-ec2 --name my-demo-env --description "My demonstration development environment." --instance-type t2.micro --subnet-id subnet-1fab8aEX --automatic-stop-time-minutes 60 --owner-arn arn:aws:iam::123456789012:user/MyDemoUser
```

Output:

```
{
  "environmentId": "8a34f51ce1e04a08882f1e811bd706EX"
}
```

- For API details, see [CreateEnvironmentEc2](#) in AWS CLI Command Reference.

**create-environment-membership**

The following code example shows how to use create-environment-membership.

**AWS CLI**

**To add an environment member to an AWS Cloud9 development environment**

This example adds the specified environment member to the specified AWS Cloud9 development environment.

Command:

```
aws cloud9 create-environment-membership --environment-id 8a34f51ce1e04a08882f1e811bd706EX --user-arn arn:aws:iam::123456789012:user/AnotherDemoUser --permissions read-write
```

Output:

```
{
  "membership": {
    "environmentId": "8a34f51ce1e04a08882f1e811bd706EX",
    "userId": "AIDAJ3L0ROUMOXTSUGEX",
    "userArn": "arn:aws:iam::123456789012:user/AnotherDemoUser",
    "permissions": "read-write"
  }
}
```
delete-environment

The following code example shows how to use delete-environment.

AWS CLI

**To delete an AWS Cloud9 development environment**

This example deletes the specified AWS Cloud9 development environment. If an Amazon EC2 instance is connected to the environment, also terminates the instance.

Command:

```
aws cloud9 delete-environment --environment-id 8a34f51ce1e04a08882f1e811bd706EX
```

Output:

```
None.
```

For API details, see [DeleteEnvironment](#) in *AWS CLI Command Reference*.

delete-environment-membership

The following code example shows how to use delete-environment-membership.

AWS CLI

**To delete an environment member from an AWS Cloud9 development environment**

This example deletes the specified environment member from the specified AWS Cloud9 development environment.

Command:

```
aws cloud9 delete-environment-membership --environment-id 8a34f51ce1e04a08882f1e811bd706EX --user-arn arn:aws:iam::123456789012:user/AnotherDemoUser
```
For API details, see `DeleteEnvironmentMembership` in *AWS CLI Command Reference*.

### describe-environment-memberships

The following code example shows how to use `describe-environment-memberships`.

**AWS CLI**

To gets information about environment members for an AWS Cloud9 development environment

This example gets information about environment members for the specified AWS Cloud9 development environment.

**Command:**

```
aws cloud9 describe-environment-memberships --environment-id 8a34f51ce1e04a08882f1e811bd706EX
```

**Output:**

```
{
    "memberships": [
        {
            "environmentId": "8a34f51ce1e04a08882f1e811bd706EX",
            "userId": "AIDAJ3LOROMOUXTBSU6EX",
            "userArn": "arn:aws:iam::123456789012:user/AnotherDemoUser",
            "permissions": "read-write"
        },
        {
            "environmentId": "8a34f51ce1e04a08882f1e811bd706EX",
            "userId": "AIDAJNUEDQAQWFELJDLEX",
            "userArn": "arn:aws:iam::123456789012:user/MyDemoUser",
            "permissions": "owner"
        }
    ]
}
```
To get information about the owner of an AWS Cloud9 development environment

This example gets information about the owner of the specified AWS Cloud9 development environment.

Command:

```
aws cloud9 describe-environment-memberships --environment-id 8a34f51ce1e04a08882f1e811bd706EX --permissions owner
```

Output:

```
{
   "memberships": [
       {
           "environmentId": "8a34f51ce1e04a08882f1e811bd706EX",
           "userId": "AIDAJNUEDQAQWFELJDLEX",
           "userArn": "arn:aws:iam::123456789012:user/MyDemoUser",
           "permissions": "owner"
       }
   ]
}
```

To get information about an environment member for multiple AWS Cloud9 development environments

This example gets information about the specified environment member for multiple AWS Cloud9 development environments.

Command:

```
aws cloud9 describe-environment-memberships --user-arn arn:aws:iam::123456789012:user/MyDemoUser
```

Output:

```
{
}
```
For API details, see DescribeEnvironmentMemberships in AWS CLI Command Reference.

describe-environment-status

The following code example shows how to use describe-environment-status.

AWS CLI

To get status information for an AWS Cloud9 development environment

This example gets status information for the specified AWS Cloud9 development environment.

Command:

```bash
aws cloud9 describe-environment-status --environment-id 685f892f431b45c2b28cb69eadc058EX
```

Output:

```json
{
   "status": "ready",
   "message": "Environment is ready to use"
}
```
describe-environments

The following code example shows how to use describe-environments.

AWS CLI

To get information about AWS Cloud9 development environments

This example gets information about the specified AWS Cloud9 development environments.

Command:

```
aws cloud9 describe-environments --environment-ids 685f892f431b45c2b28cb69eadcdb0EX 349c86d4579e4e7298d500ff57a6b2EX
```

Output:

```
{
  "environments": [
    {
      "id": "685f892f431b45c2b28cb69eadcdb0EX",
      "name": "my-demo-ec2-env",
      "description": "Created from CodeStar.",
      "type": "ec2",
      "arn": "arn:aws:cloud9:us-east-1:123456789012:environment:685f892f431b45c2b28cb69eadcdb0EX",
      "ownerArn": "arn:aws:iam::123456789012:user/MyDemoUser",
      "lifecycle": {
        "status": "CREATED"
      }
    },
    {
      "id": "349c86d4579e4e7298d500ff57a6b2EX",
      "name": "my-demo-ssh-env",
      "description": "",
      "type": "ssh",
      "arn": "arn:aws:cloud9:us-east-1:123456789012:environment:349c86d4579e4e7298d500ff57a6b2EX",
      "ownerArn": "arn:aws:iam::123456789012:user/MyDemoUser",
      "lifecycle": {
        "status": "CREATED"
      }
    }
  ]
}
```
list-environments

The following code example shows how to use list-environments.

AWS CLI

To get a list of available AWS Cloud9 development environment identifiers

This example gets a list of available AWS Cloud9 development environment identifiers.

Command:

```
aws cloud9 list-environments
```

Output:

```
{
  "environmentIds": [
    "685f892f431b45c2b28cb69eadc0EX",
    "1980b80e5f584920801c0908666f0EX"
  ]
}
```

• For API details, see DescribeEnvironments in AWS CLI Command Reference.

update-environment

The following code example shows how to use update-environment.

AWS CLI

To change the settings of an existing AWS Cloud9 development environment
This example changes the specified settings of the specified existing AWS Cloud9 development environment.

**Command:**

```
aws cloud9 update-environment --environment-id 8a34f51ce1e04a08882f1e811bd706EX
--name my-changed-demo-env --description "My changed demonstration development environment."
```

**Output:**

```
None.
```

- For API details, see [UpdateEnvironment](https://docs.aws.amazon.com/cli/latest/reference/cloud9/update-environment.html) in *AWS CLI Command Reference*.

### update-environment-membership

The following code example shows how to use `update-environment-membership`.

**AWS CLI**

**To change the settings of an existing environment member for an AWS Cloud9 development environment**

This example changes the settings of the specified existing environment member for the specified AWS Cloud9 development environment.

**Command:**

```
aws cloud9 update-environment-membership --environment-id
8a34f51ce1e04a08882f1e811bd706EX --user-arn arn:aws:iam::123456789012:user/
AnotherDemoUser --permissions read-only
```

**Output:**

```
{
  "membership": {
    "environmentId": "8a34f51ce1e04a08882f1e811bd706EX",
    "userId": "AIDAJ3LOROMOUXTBSU6EX",
    "userArn": "arn:aws:iam::123456789012:user/AnotherDemoUser",
    "permissions": "read-only"
  }
```
For API details, see UpdateEnvironmentMembership in AWS CLI Command Reference.

AWS CloudFormation examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS CloudFormation.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics

- Actions

**Actions**

*activate-type*

The following code example shows how to use activate-type.

**AWS CLI**

*To activate a type*

The following activate-type example activates a public third-party extension, making it available for use in stack templates.

```bash
aws cloudformation activate-type \
  --region us-west-2 \
  --type RESOURCE \
  --type-name Example::Test::1234567890abcdef0 \
```
--type-name-alias Example::Test::Alias

Output:

```
{
}
```

For more information, see Using the AWS CloudFormation registry in the AWS CloudFormation User Guide.

- For API details, see ActivateType in AWS CLI Command Reference.

**batch-describe-type-configurations**

The following code example shows how to use batch-describe-type-configurations.

**AWS CLI**

**To batch describe a type configuration**

The following batch-describe-type-configurations example configures the data for the type.

```
aws cloudformation batch-describe-type-configurations \
   --region us-west-2 \
   --type-configuration-identifiers TypeArn="arn:aws:cloudformation:us-west-2:123456789012:type/resource/Example-Test-Type,TypeConfigurationAlias=MyConfiguration"
```

Output:

```
{
   "Errors": [],
   "UnprocessedTypeConfigurations": [],
   "TypeConfigurations": [
      {
         "Alias": "MyConfiguration",
      }
   ]
}
```
For more information, see [Using the AWS CloudFormation registry](https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/) in the *AWS CloudFormation User Guide*.

- For API details, see [BatchDescribeTypeConfigurations](https://docs.aws.amazon.com/cli/latest/reference/cloudformation/batch-describe-type-configurations.html) in *AWS CLI Command Reference*.

### cancel-update-stack

The following code example shows how to use `cancel-update-stack`.

**AWS CLI**

**To cancel a stack update that is in progress**

The following `cancel-update-stack` command cancels a stack update on the `myteststack` stack:

```bash
aws cloudformation cancel-update-stack --stack-name myteststack
```

- For API details, see [CancelUpdateStack](https://docs.aws.amazon.com/cli/latest/reference/cloudformation/cancel-update-stack.html) in *AWS CLI Command Reference*.

### continue-update-rollback

The following code example shows how to use `continue-update-rollback`.

**AWS CLI**

**To retry an update rollback**

The following `continue-update-rollback` example resumes a rollback operation from a previously failed stack update.

```bash
aws cloudformation continue-update-rollback \
```
--stack-name my-stack

This command produces no output.

- For API details, see `ContinueUpdateRollback` in *AWS CLI Command Reference*.

**create-change-set**

The following code example shows how to use `create-change-set`.

**AWS CLI**

**To create a change set**

The following `create-change-set` example creates a change set with the `CAPABILITY_IAM` capability. The file `template.yaml` is an AWS CloudFormation template in the current folder that defines a stack that includes IAM resources.

```bash
aws cloudformation create-change-set \
    --stack-name my-application \
    --change-set-name my-change-set \
    --template-body file://template.yaml \
    --capabilities CAPABILITY_IAM
```

**Output:**

```json
{
    "StackId": "arn:aws:cloudformation:us-west-2:123456789012:stack/my-application/d0a825a0-e4cd-xmpl-b9fb-061c69e99204"
}
```

- For API details, see `CreateChangeSet` in *AWS CLI Command Reference*.

**create-stack**

The following code example shows how to use `create-stack`.

**AWS CLI**

**To create an AWS CloudFormation stack**
The following `create-stacks` command creates a stack with the name `myteststack` using the `sampletemplate.json` template:

```bash
aws cloudformation create-stack --stack-name myteststack --template-body file://sampletemplate.json --parameters ParameterKey=KeyPairName,ParameterValue=TestKey ParameterKey=SubnetIDs,ParameterValue=SubnetID1,SubnetID2
```

Output:

```json
{
    "StackId": "arn:aws:cloudformation:us-east-1:123456789012:stack/myteststack/466df9e0-0dff-08e3-8e2f-5088487c4896"
}
```

For more information, see Stacks in the AWS CloudFormation User Guide.

- For API details, see [CreateStack](#) in AWS CLI Command Reference.

### `create-stack-instances`

The following code example shows how to use `create-stack-instances`.

**AWS CLI**

**To create stack instances**

The following `create-stack-instances` example creates instances of a stack set in two accounts and in four regions. The fault tolerance setting ensures that the update is attempted in all accounts and regions, even if some stacks cannot be created.

```bash
aws cloudformation create-stack-instances \
    --stack-set-name my-stack-set \
    --accounts 123456789012 223456789012 \
    --regions us-east-1 us-east-2 us-west-1 us-west-2 \
    --operation-preferences FailureToleranceCount=7
```

Output:

```json
{
    "OperationId": "d7995c31-83c2-xmpl-a3d4-e9ca2811563f"
}
```
To create a stack set, use the `create-stack-set` command.

- For API details, see [CreateStackInstances](#) in *AWS CLI Command Reference*.

**create-stack-set**

The following code example shows how to use `create-stack-set`.

**AWS CLI**

**To create a stack set**

The following `create-stack-set` example creates a stack set using the specified YAML file `template.yaml` is an AWS CloudFormation template in the current folder that defines a stack.

```bash
aws cloudformation create-stack-set \
  --stack-set-name my-stack-set \
  --template-body file://template.yaml \
  --description "SNS topic"
```

Output:

```json
{
   "StackSetId": "my-stack-set:8d0f160b-d157-xmpl-a8e6-c0ce8e5d8cc1"
}
```

To add stack instances to the stack set, use the `create-stack-instances` command.

- For API details, see [CreateStackSet](#) in *AWS CLI Command Reference*.

**deactivate-type**

The following code example shows how to use `deactivate-type`.

**AWS CLI**

**To deactivate a type**
The following deactivate-type example deactivates a public extension that was previously activated in this account and Region.

```bash
aws cloudformation deactivate-type \
  --region us-west-2 \
  --type MODULE \
  --type-name Example::Test::Type::MODULE
```

This command produces no output.

For more information, see Using the AWS CloudFormation registry in the AWS CloudFormation User Guide.

- For API details, see DeactivateType in AWS CLI Command Reference.

**delete-change-set**

The following code example shows how to use delete-change-set.

**AWS CLI**

To delete a change set

The following delete-change-set example deletes a change set by specifying the change set name and stack name.

```bash
aws cloudformation delete-change-set \
  --stack-name my-stack \
  --change-set-name my-change-set
```

This command produces no output.

The following delete-change-set example deletes a change set by specifying the full ARN of the change set.

```bash
aws cloudformation delete-change-set \
```

This command produces no output.

- For API details, see DeleteChangeSet in AWS CLI Command Reference.
**delete-stack**

The following code example shows how to use delete-stack.

**AWS CLI**

**To delete a stack**

The following delete-stack example deletes the specified stack.

```bash
aws cloudformation delete-stack \
   --stack-name my-stack
```

This command produces no output.

- For API details, see [DeleteStack](#) in *AWS CLI Command Reference*.

**delete-stack-instances**

The following code example shows how to use delete-stack-instances.

**AWS CLI**

**To delete stack instances**

The following delete-stack-instances example deletes instances of a stack set in two accounts in two regions and terminates the stacks.

```bash
aws cloudformation delete-stack-instances \
   --stack-set-name my-stack-set \
   --accounts 123456789012 567890123456 \
   --regions us-east-1 us-west-1 \
   --no-retain-stacks
```

Output:

```json
{
   "OperationId": "ad49f10c-fd1d-413f-a20a-8de6e2fa8f27"
}
```

To delete an empty stack set, use the delete-stack-set command.

- For API details, see [DeleteStackInstances](#) in *AWS CLI Command Reference*. 

---

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delete-stack-set

The following code example shows how to use delete-stack-set.

AWS CLI

To delete a stack set

The following command deletes the specified empty stack set. The stack set must be empty.

```bash
aws cloudformation delete-stack-set \ 
   --stack-set-name my-stack-set
```

This command produces no output.

To delete instances from the stack set, use the delete-stack-instances command.

- For API details, see `DeleteStackSet` in AWS CLI Command Reference.

deploy

The following code example shows how to use deploy.

AWS CLI

Following command deploys template named template.json to a stack named my-new-stack:

```bash
aws cloudformation deploy --template-file /path_to_template/template.json --stack-name my-new-stack --parameter-overrides Key1=Value1 Key2=Value2 --tags Key1=Value1 Key2=Value2
```

- For API details, see `Deploy` in AWS CLI Command Reference.

deregister-type

The following code example shows how to use deregister-type.

AWS CLI

To deregister a type version
The following deregister-type example removes the specified type version from active use in the CloudFormation registry, so that it can no longer be used in CloudFormation operations.

```
aws cloudformation deregister-type \
  --type RESOURCE \
  --type-name My::Logs::LogGroup \
  --version-id 00000002
```

This command produces no output.

For more information, see [Using the CloudFormation Registry](https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/using-cfnresource-type.html) in the AWS CloudFormation Users Guide.

- For API details, see [DeregisterType](https://docs.aws.amazon.com/cli/latest/reference/cloudformation/deregister-type.html) in AWS CLI Command Reference.

**describe-account-limits**

The following code example shows how to use describe-account-limits.

**AWS CLI**

**To get information about your account limits**

The following command retrieves a list of regional limits for the current account.

```
aws cloudformation describe-account-limits
```

**Output:**

```json
{
   "AccountLimits": [
      {
         "Name": "StackLimit",
         "Value": 200
      },
      {
         "Name": "StackOutputsLimit",
         "Value": 60
      },
      {
         "Name": "ConcurrentResourcesLimit",
         "Value": 2500
      }
   ]
}
```
describe-change-set

The following code example shows how to use describe-change-set.

**AWS CLI**

**To get information about a change set**

The following describe-change-set example displays the details of the change set specified by change set name and stack name.

```
aws cloudformation describe-change-set \
   --change-set-name my-change-set \
   --stack-name my-stack
```

The following describe-change-set example displays the details of the change set specified by the full ARN of the change set:

```
aws cloudformation describe-change-set \
```

**Output:**

```
{
   "Changes": [
      {
         "Type": "Resource",
        "ResourceChange": {
            "Action": "Modify",
            "LogicalResourceId": "function",
            "PhysicalResourceId": "my-function-SEZV4XMPL4S5",
            "ResourceType": "AWS::Lambda::Function",
            "Replacement": "False",
            "Scope": ["Properties"
         ],
```

- For API details, see [DescribeAccountLimits](#) in **AWS CLI Command Reference**.
"Details": [
  {
    "Target": {
      "Attribute": "Properties",
      "Name": "Timeout",
      "RequiresRecreation": "Never"
    },
    "Evaluation": "Static",
    "ChangeSource": "DirectModification"
  }
]

"ChangeSetName": "my-change-set",
"StackId": "arn:aws:cloudformation:us-west-2:123456789012:stack/my-stack/d0a825a0-e4cd-xmpl-b9fb-061c69e99204",
"StackName": "my-stack",
"Description": null,
"Parameters": null,
"CreationTime": "2019-10-02T05:20:56.651Z",
"ExecutionStatus": "AVAILABLE",
"Status": "CREATE_COMPLETE",
"StatusReason": null,
"NotificationARNs": [],
"RollbackConfiguration": {},
"Capabilities": [
  "CAPABILITY_IAM"
],
"Tags": null
}

- For API details, see [DescribeChangeSet](https://docs.aws.amazon.com/cli/latest/reference/cloudformation/describe-c...-CLI-Command-Reference).

**describe-publisher**

The following code example shows how to use `describe-publisher`.

**AWS CLI**

To describe a publisher
The following `describe-publisher` example configures the information for a publisher.

```bash
aws cloudformation describe-publisher \ 
  --region us-west-2 \ 
  --publisher-id 000q6TuovXsEMmgKowxDZLlwqr2QUsh
```

Output:

```
{
    "PublisherId": "000q6TuovXsEMmgKowxDZLlwqr2QUshd2e75c8c",
    "PublisherStatus": "VERIFIED",
    "IdentityProvider": "AWS_Marketplace",
    "PublisherProfile": "https://aws.amazon.com/marketplace/seller-profile?id=2c5dc1f0-17cd-4259-8e46-822a83gdtegd"
}
```

For more information, see [Using the AWS CloudFormation registry](https://aws.amazon.com/documentation/cf/using-registries/) in the *AWS CloudFormation User Guide*.

- For API details, see [DescribePublisher](https://docs.aws.amazon.com/cli/latest/reference/cloudformation/describe-publisher.html) in *AWS CLI Command Reference*.

### describe-stack-drift-detection-status

The following code example shows how to use `describe-stack-drift-detection-status`.

**AWS CLI**

**To check a drift detection operation's status**

The following `describe-stack-drift-detection-status` example displays the status of a drift detection operation. Get the by ID running the `detect-stack-drift` command.

```bash
aws cloudformation describe-stack-drift-detection-status \ 
  --stack-drift-detection-id 1a229160-e4d9-xmpl-ab67-0a4f93df83d4
```

Output:

```
{
    "StackId": "arn:aws:cloudformation:us-west-2:123456789012:stack/my-stack/d0a825a0-e4cd-xmpl-b9fb-061c69e99204",
}
```
"StackDriftDetectionId": "1a229160-e4d9-xmpl-ab67-0a4f93df83d4",
"StackDriftStatus": "DRIFTED",
"DetectionStatus": "DETECTION_COMPLETE",
"DriftedStackResourceCount": 1,
"Timestamp": "2019-10-02T05:54:30.902Z"
}

• For API details, see DescribeStackDriftDetectionStatus in AWS CLI Command Reference.

describe-stack-events

The following code example shows how to use describe-stack-events.

AWS CLI

To describe stack events

The following describe-stack-events example displays the 2 most recent events for the specified stack.

```
aws cloudformation describe-stack-events \
  --stack-name my-stack \
  --max-items 2
```

```json
{
  "StackEvents": [
    {
      "StackId": "arn:aws:cloudformation:us-west-2:123456789012:stack/my-stack/d0a825a0-e4cd-xmpl-b9fb-061c69e99204",
      "EventId": "4e1516d0-e4d6-xmpl-b94f-0a51958a168c",
      "StackName": "my-stack",
      "LogicalResourceId": "my-stack",
      "ResourceType": "AWS::CloudFormation::Stack",
      "Timestamp": "2019-10-02T05:34:29.556Z",
      "ResourceStatus": "UPDATE_COMPLETE"
    },
    {
      "StackId": "arn:aws:cloudformation:us-west-2:123456789012:stack/my-stack/d0a825a0-e4cd-xmpl-b9fb-061c69e99204",
      "EventId": "4dd3c810-e4d6-xmpl-bade-0aaf8b31ab7a",
      "StackName": "my-stack",
```
"LogicalResourceId": "my-stack",
"ResourceType": "AWS::CloudFormation::Stack",
"Timestamp": "2019-10-02T05:34:29.127Z",
"ResourceStatus": "UPDATE_COMPLETE_CLEANUP_IN_PROGRESS"
}
],
"NextToken": "eyJOZXh0VG9XMPlOiBudWxsLCAiYm90b190cnVuY2F0ZW9hbW1bnQ1IyfQ=="
}

- For API details, see **DescribeStackEvents** in *AWS CLI Command Reference*.

### describe-stack-instance

The following code example shows how to use `describe-stack-instance`.

**AWS CLI**

**To describe a stack instance**

The following command describes an instance of the specified stack set in the specified account and Region. The stack set is in the current region and account, and the instance is in the `us-west-2` region in account `123456789012`:

```
aws cloudformation describe-stack-instance \
   --stack-set-name my-stack-set \
   --stack-instance-account 123456789012 \
   --stack-instance-region us-west-2
```

**Output:**

```
{
   "StackInstance": {
      "StackSetId": "enable-config:296a3360-xmpl-40af-be78-9341e95bf743",
      "Region": "us-west-2",
      "Account": "123456789012",
      "StackId": "arn:aws:cloudformation:us-west-2:123456789012:stack/StackSet-enable-config-e6cac20f-xmpl-46e9-8314-53e0d4591532/4287f9a0-e615-xmpl-894a-12b31d3117be",
      "ParameterOverrides": [],
      "Status": "OUTDATED",
```

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"StatusReason": "ResourceLogicalId:ConfigBucket,
ResourceType:AWS::S3::Bucket, ResourceStatusReason:You have attempted to create
more buckets than allowed (Service: Amazon S3; Status Code: 400; Error Code:
TooManyBuckets; Request ID: F7F21CXMPL580224; S3 Extended Request ID: egd/
Fdt89BXMPLyiqbMNljVk55Yqqvi3NYW2nKLUVWhUGEhNfCmZdyj967lhriaG/dWMobSO40o=)."
}
}

• For API details, see DescribeStackInstance in AWS CLI Command Reference.
describe-stack-resource
The following code example shows how to use describe-stack-resource.
AWS CLI
To get information about a stack resource
The following describe-stack-resource example displays details for the resource named
MyFunction in the speciﬁed stack.
aws cloudformation describe-stack-resource \
--stack-name MyStack \
--logical-resource-id MyFunction

Output:
{
"StackResourceDetail": {
"StackName": "MyStack",
"StackId": "arn:aws:cloudformation:us-east-2:123456789012:stack/MyStack/
d0a825a0-e4cd-xmpl-b9fb-061c69e99204",
"LogicalResourceId": "MyFunction",
"PhysicalResourceId": "my-function-SEZV4XMPL4S5",
"ResourceType": "AWS::Lambda::Function",
"LastUpdatedTimestamp": "2019-10-02T05:34:27.989Z",
"ResourceStatus": "UPDATE_COMPLETE",
"Metadata": "{}",
"DriftInformation": {
"StackResourceDriftStatus": "IN_SYNC"
}
}
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For API details, see `DescribeStackResource` in *AWS CLI Command Reference*.

**describe-stack-resource-drifts**

The following code example shows how to use `describe-stack-resource-drifts`.

**AWS CLI**

To get information about resources that drifted from the stack definition

The following command displays information about drifted resources for the specified stack. To initiate drift detection, use the `detect-stack-drift` command:

```
aws cloudformation describe-stack-resource-drifts 
--stack-name my-stack
```

The output shows an AWS Lambda function that was modified out-of-band:

```
{
   "StackResourceDrifts": [
   {
       "StackId": "arn:aws:cloudformation:us-west-2:123456789012:stack/my-stack/d0a825a0-e4cd-xmpl-b9fb-061c69e99204",
       "LogicalResourceId": "function",
       "PhysicalResourceId": "my-function-SEZV4XMPL4S5",
       "ResourceType": "AWS::Lambda::Function",
       "ExpectedProperties": "{"Description":"Write a file to S3.",
       "Environment":{{"Variables":{"bucket":"my-stack-bucket-1vc62xmplgguf
       "}},"Handler":"index.handler","MemorySize":128,"Role":
       "arn:aws:iams:123456789012:role/my-functionRole-HIZXMPLEOM9E","Runtime":
       "nodejs10.x","Tags":{{"Key":"lambda:createdBy","Value":"SAM"},"Timeout
       ":900,"TracingConfig":{"Mode":"Active"}},
       "ActualProperties": "{"Description":"Write a file to S3.",
       "Environment":{{"Variables":{"bucket":"my-stack-bucket-1vc62xmplgguf
       "}},"Handler":"index.handler","MemorySize":256,"Role":
       "arn:aws:iams:123456789012:role/my-functionRole-HIZXMPLEOM9E","Runtime":
       "nodejs10.x","Tags":{{"Key":"lambda:createdBy","Value":"SAM"},"Timeout
       ":22,"TracingConfig":{"Mode":"Active"}}},
       "PropertyDifferences": [
   
```
For API details, see `DescribeStackResourceDrifts` in *AWS CLI Command Reference*.

describe-stack-resources

The following code example shows how to use `describe-stack-resources`.

**AWS CLI**

To get information about a stack resource

The following `describe-stack-resources` example displays details for the resources in the specified stack.

```bash
aws cloudformation describe-stack-resources \  --stack-name my-stack
```

Output:

```json
{
  "StackResources": [
    {
      "StackName": "my-stack",
      "StackId": "arn:aws:cloudformation:us-west-2:123456789012:stack/my-stack/d0a825a0-e4cd-xmpl-b9fb-061c69e99204",
```
For API details, see DescribeStackResources in AWS CLI Command Reference.

describe-stack-set

The following code example shows how to use describe-stack-set.
AWS CLI

### To get information about a stack set

The following `describe-stack-set` example displays details about the specified stack set.

```bash
aws cloudformation describe-stack-set
  --stack-set-name my-stack-set
```

**Output:**

```json
{
  "StackSet": {
    "StackSetName": "my-stack-set",
    "StackSetId": "my-stack-set:296a3360-xmpl-40af-be78-9341e95bf743",
    "Description": "Create an Amazon SNS topic",
    "Status": "ACTIVE",
    "TemplateBody": "AWSTemplateFormatVersion: '2010-09-09'
    Description: An AWS SNS topic
    Resources:
      topic:
        Type: AWS::SNS::Topic",
    "Parameters": [],
    "Capabilities": [],
    "Tags": [],
    "AdministrationRoleARN": "arn:aws:iam::123456789012:role/AWSCloudFormationStackSetAdministrationRole",
    "ExecutionRoleName": "AWSCloudFormationStackSetExecutionRole"
  }
}
```

- For API details, see [DescribeStackSet](#) in [AWS CLI Command Reference](#).

### describe-stack-set-operation

The following code example shows how to use `describe-stack-set-operation`.

AWS CLI

### To get information about a stack set operation

The following `describe-stack-set-operation` example displays details for an update operation on the specified stack set.
aws cloudformation describe-stack-set-operation
   --stack-set-name enable-config
   --operation-id 35d45ebc-ed88-xmpl-ab59-0197a1fc83a0

Output:

```
{
   "StackSetOperation": {
      "OperationId": "35d45ebc-ed88-xmpl-ab59-0197a1fc83a0",
      "StackSetId": "enable-config:296a3360-xmpl-40af-be78-9341e95bf743",
      "Action": "UPDATE",
      "Status": "SUCCEEDED",
      "OperationPreferences": {
         "RegionOrder": ["us-east-1",
                         "us-west-2",
                         "eu-west-1",
                         "us-west-1"],
         "FailureToleranceCount": 7,
         "MaxConcurrentCount": 2
      },
      "AdministrationRoleARN": "arn:aws:iam::123456789012:role/
AWSCloudFormationStackSetAdministrationRole",
      "ExecutionRoleName": "AWSCloudFormationStackSetExecutionRole",
      "CreationTimestamp": "2019-10-03T16:28:44.377Z",
      "EndTimestamp": "2019-10-03T16:42:08.607Z"
   }
}
```

- For API details, see [DescribeStackSetOperation](https://docs.aws.amazon.com/cli/latest/reference/cloudformation/describe-stack-set-operation.html) in *AWS CLI Command Reference*.

**describe-stacks**

The following code example shows how to use describe-stacks.

**AWS CLI**

To describe AWS CloudFormation stacks

The following describe-stacks command shows summary information for the myteststack stack:
aws cloudformation describe-stacks --stack-name myteststack

Output:

```json
{
    "Stacks": [
        {
            "StackId": "arn:aws:cloudformation:us-east-1:123456789012:stack/myteststack/466df9e0-0dff-08e3-8e2f-5088487c4896",
            "Description": "AWS CloudFormation Sample Template S3_Bucket: Sample template showing how to create a publicly accessible S3 bucket. **WARNING** This template creates an S3 bucket. You will be billed for the AWS resources used if you create a stack from this template.",
            "Tags": [],
            "Outputs": [
                {
                    "Description": "Name of S3 bucket to hold website content",
                    "OutputKey": "BucketName",
                    "OutputValue": "myteststack-s3bucket-jssofi1zie2w"
                }
            ],
            "StackStatusReason": null,
            "CreationTime": "2013-08-23T01:02:15.422Z",
            "Capabilities": [],
            "StackName": "myteststack",
            "StackStatus": "CREATE_COMPLETE",
            "DisableRollback": false
        }
    ]
}
```

For more information, see Stacks in the AWS CloudFormation User Guide.

- For API details, see DescribeStacks in AWS CLI Command Reference.

**describe-type**

The following code example shows how to use describe-type.

**AWS CLI**

To display type information
The following `describe-type` example displays information for the specified type.

```
aws cloudformation describe-type
    --type-name My::Logs::LogGroup
    --type RESOURCE
```

Output:

```
{
    "Description": "Customized resource derived from AWS::Logs::LogGroup",
    "TimeCreated": "2019-12-03T23:29:33.321Z",
    "Visibility": "PRIVATE",
    "TypeName": "My::Logs::LogGroup",
    "LastUpdated": "2019-12-03T23:29:33.321Z",
    "DeprecatedStatus": "LIVE",
    "ProvisioningType": "FULLY_MUTABLE",
    "Type": "RESOURCE",
    "Schema": "[details omitted]"
}
```

For more information, see [Using the CloudFormation Registry](https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/) in the *AWS CloudFormation User Guide*.

- For API details, see [DescribeType](https://docs.aws.amazon.com/cli/latest/reference/cloudformation/describe-type.html) in *AWS CLI Command Reference*.

---

### describe-type-registration

The following code example shows how to use `describe-type-registration`.

**AWS CLI**

**To display type registration information**

The following `describe-type-registration` example displays information about the specified type registration, including the type's current status, type, and version.

```
aws cloudformation describe-type-registration
```

---

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--registration-token a1b2c3d4-5678-90ab-cdef-EXAMPLE11111

Output:

```
{
    "ProgressStatus": "COMPLETE",
    "Description": "Deployment is currently in DEPLOY_STAGE of status COMPLETED; ",
}
```

For more information, see [Using the CloudFormation Registry](#) in the *AWS CloudFormation Users Guide*.

- For API details, see [DescribeTypeRegistration](#) in *AWS CLI Command Reference*.

### detect-stack-drift

The following code example shows how to use `detect-stack-drift`.

**AWS CLI**

To detect drifted resources

The following `detect-stack-drift` example initiates drift detection for the specified stack.

```
aws cloudformation detect-stack-drift \\
  --stack-name my-stack
```

Output:

```
{
    "StackDriftDetectionId": "1a229160-e4d9-xmpl-ab67-0a4f93df83d4"
}
```

You can then use this ID with the `describe-stack-resource-drifts` command to describe drifted resources.

- For API details, see [DetectStackDrift](#) in *AWS CLI Command Reference*. 

---

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**detect-stack-resource-drift**

The following code example shows how to use `detect-stack-resource-drift`.

**AWS CLI**

**To detect drift for a resource**

The following `detect-stack-resource-drift` example checks a resource named `MyFunction` in a stack named `MyStack` for drift:

```bash
aws cloudformation detect-stack-resource-drift \
   --stack-name MyStack \
   --logical-resource-id MyFunction
```

The output shows an AWS Lambda function that was modified out-of-band:

```json
{
   "StackResourceDrift": {
      "StackId": "arn:aws:cloudformation:us-west-2:123456789012:stack/MyStack/d0a825a0-e4cd-xmpl-b9fb-061c69e99204",
      "LogicalResourceId": "MyFunction",
      "PhysicalResourceId": "my-function-SEZV4XMPL4S5",
      "ResourceType": "AWS::Lambda::Function",
      "ExpectedProperties": "{"Description":"Write a file to S3.\n,"\n        "Environment":{"Variables":{"bucket":"my-stack-bucket-1vc62xmplgguf \n"},"Handler":"index.handler","MemorySize":128,"Role":\n        "arn:aws:iam::123456789012:role/my-functionRole-HIZXMPLEOM9E","Runtime":\n        "nodejs10.x","Tags":[{"Key":"lambda:createdBy","Value":"SAM"}],"Timeout \n":900,"TracingConfig":{"Mode":"Active"}}",
      "ActualProperties": "{"Description":"Write a file to S3.\n,"\n        "Environment":{"Variables":{"bucket":"my-stack-bucket-1vc62xmplgguf \n"},"Handler":\n        "index.handler","MemorySize":256,"Role":\n        "arn:aws:iam::123456789012:role/my-functionRole-HIZXMPLEOM9E","Runtime":\n        "nodejs10.x","Tags":[{"Key":"\n        "lambda:createdBy","Value":"SAM"}],"Timeout":22,"TracingConfig":{"Mode":\n        "Active"}}",
      "PropertyDifferences": [
        {"PropertyPath": "/MemorySize",
         "ExpectedValue": "128",
         "ActualValue": "256",
         "DifferenceType": "NOT_EQUAL"}
      ]
   }
}
```
For API details, see **DetectStackResourceDrift** in *AWS CLI Command Reference*.

### detect-stack-set-drift

The following code example shows how to use detect-stack-set-drift.

**AWS CLI**

**To detect drift on a stack set and all associated stack instances**

The following detect-stack-set-drift example initiates drift detection operations on the specified stack set, including all the stack instances associated with that stack set, and returns an operation ID that can be used to track the status of the drift operation.

```
aws cloudformation detect-stack-set-drift \
    --stack-set-name stack-set-drift-example
```

Output:

```
{
    "OperationId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111"
}
```


- For API details, see **DetectStackSetDrift** in *AWS CLI Command Reference*. 

---

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**estimate-template-cost**

The following code example shows how to use `estimate-template-cost`.

**AWS CLI**

**To estimate template cost**

The following `estimate-template-cost` example generates a cost estimate for a template named `template.yaml` in the current folder.

```bash
aws cloudformation estimate-template-cost \
  --template-body file://template.yaml
```

Output:

```json
{
  "Url": "http://calculator.s3.amazonaws.com/calc5.html?\n  key=cloudformation/7870825a-xmpl-4def-92e7-c4f8dd360cca"
}
```

- For API details, see [EstimateTemplateCost](https://docs.aws.amazon.com/cli/latest/reference/cloudformation/estimate-template-cost.html) in *AWS CLI Command Reference*.

**execute-change-set**

The following code example shows how to use `execute-change-set`.

**AWS CLI**

**To execute a change set**

The following `execute-change-set` example executes a change set specified by change set name and stack name.

```bash
aws cloudformation execute-change-set \
  --change-set-name my-change-set \
  --stack-name my-stack
```

The following `execute-change-set` example executes a change set specified by the full ARN of the change set.
For API details, see [ExecuteChangeSet](#) in **AWS CLI Command Reference**.

### get-stack-policy

The following code example shows how to use `get-stack-policy`.

**AWS CLI**

**To view a stack policy**

The following `get-stack-policy` example displays the stack policy for the specified stack. To attach a policy to a stack, use the `set-stack-policy` command.

```bash
aws cloudformation get-stack-policy
  --stack-name my-stack
```

**Output:**

```json
{
  "StackPolicyBody": "{
    "Statement": [
      {
        "Effect": "Allow",
        "Action": "Update:*",
        "Principal": "*",
        "Resource": "*"
      },
      {
        "Effect": "Deny",
        "Action": "Update:*",
        "Principal": "*",
        "Resource": "LogicalResourceId/bucket"
      }
    ]
  }
}
```

For API details, see [GetStackPolicy](#) in **AWS CLI Command Reference**.

### get-template

The following code example shows how to use `get-template`.

**AWS CLI**

**To view the template body for an AWS CloudFormation stack**

The following `get-template` command shows the template for the `myteststack` stack:
aws cloudformation get-template --stack-name myteststack

Output:

```json
{
   "TemplateBody": {
      "AWSTemplateFormatVersion": "2010-09-09",
      "Outputs": {
         "BucketName": {
            "Description": "Name of S3 bucket to hold website content",
            "Value": {
               "Ref": "S3Bucket"
            }
         }
      },
      "Description": "AWS CloudFormation Sample Template S3_Bucket: Sample template showing how to create a publicly accessible S3 bucket. **WARNING** This template creates an S3 bucket. You will be billed for the AWS resources used if you create a stack from this template.",
      "Resources": {
         "S3Bucket": {
            "Type": "AWS::S3::Bucket",
            "Properties": {
               "AccessControl": "PublicRead"
            }
         }
      }
   }
}
```

- For API details, see [GetTemplate](https://awscli.amazonaws.com/v2/documentation/api/current/reference指挥/get-template.html) in *AWS CLI Command Reference*.

**get-template-summary**

The following code example shows how to use get-template-summary.

**AWS CLI**

**To display a template summary**

The following command displays summary information about the resources and metadata for the specified template file.
aws cloudformation get-template-summary \
--template-body file://template.yaml

Output:

{
    "Parameters": [],
    "Description": "A VPC and subnets.",
    "ResourceTypes": [
        "AWS::EC2::VPC",
        "AWS::EC2::Subnet",
        "AWS::EC2::Subnet",
        "AWS::EC2::RouteTable",
        "AWS::EC2::VPCEndpoint",
        "AWS::EC2::SubnetRouteTableAssociation",
        "AWS::EC2::SubnetRouteTableAssociation",
        "AWS::EC2::VPCEndpoint"
    ],
    "Version": "2010-09-09"
}

• For API details, see GetTemplateSummary in AWS CLI Command Reference.

list-change-sets

The following code example shows how to use list-change-sets.

AWS CLI

To list change sets

The following list-change-sets example displays a list of the pending change sets for the specified stack.

aws cloudformation list-change-sets \
--stack-name my-stack

Output:

{
    "Summaries": [
For API details, see ListChangeSets in AWS CLI Command Reference.

list-exports

The following code example shows how to use list-exports.

AWS CLI

To list exports

The following list-exports example displays a list of the exports from stacks in the current region.

```bash
aws cloudformation list-exports
```

Output:

```json
{
   "Exports": [
   {
      "ExportingStackId": "arn:aws:cloudformation:us-west-2:123456789012:stack/private-vpc/99764070-b56c-xmpl-bee8-062a88d1d800",
      "Name": "private-vpc-subnet-a",
      "Value": "subnet-07b410xmplddcfa03"
   },
   {
      "ExportingStackId": "arn:aws:cloudformation:us-west-2:123456789012:stack/private-vpc/99764070-b56c-xmpl-bee8-062a88d1d800",
      "Name": "private-vpc-subnet-b"
   }
   ]
}
```
"Name": "private-vpc-subnet-b",
  "Value": "subnet-075ed3xmplbd2fb1"
},
  {
    "ExportingStackId": "arn:aws:cloudformation:us-west-2:123456789012:stack/private-vpc/99764070-b56c-xmpl-bee8-062a88d1d800",
    "Name": "private-vpc-vpcid",
    "Value": "vpc-011d7xmpl100e9841"
  }
}

- For API details, see ListExports in AWS CLI Command Reference.

list-imports

The following code example shows how to use list-imports.

AWS CLI

To list imports

The following list-imports example lists the stacks that import the specified export. To get the list of available exports, use the list-exports command.

```bash
aws cloudformation list-imports \
  --export-name private-vpc-vpcid
```

Output:

```json
{
  "Imports": [
    "my-database-stack"
  ]
}
```

- For API details, see ListImports in AWS CLI Command Reference.

list-stack-instances

The following code example shows how to use list-stack-instances.
AWS CLI

To list instances for a stack

The following list-stack-instances example lists the instances created from the specified stack set.

```
aws cloudformation list-stack-instances \
    --stack-set-name enable-config
```

The example output includes details about a stack that failed to update due to an error:

```
{
    "Summaries": [
        {
            "StackSetId": "enable-config:296a3360-xmpl-40af-be78-9341e95bf743",
            "Region": "us-west-2",
            "Account": "123456789012",
            "StackId": "arn:aws:cloudformation:ap-northeast-1:123456789012:stack/StackSet-enable-config-35a6ac50-d9f8-4084-86e4-7da34d5de4c4/a1631cd0-e5fb-xmpl-b474-0aa20f14f06e",
            "Status": "CURRENT"
        },
        {
            "StackSetId": "enable-config:296a3360-xmpl-40af-be78-9341e95bf743",
            "Region": "us-west-2",
            "Account": "123456789012",
            "StackId": "arn:aws:cloudformation:us-west-2:123456789012:stack/StackSet-enable-config-e6cac20f-xmpl-46e9-8314-53e0d4591532/eab53680-e5fa-xmpl-ba14-0a522351f81e",
            "Status": "OUTDATED",
            "StatusReason": "ResourceLogicalId:ConfigDeliveryChannel, ResourceType:AWS::Config::DeliveryChannel, ResourceStatusReason:Failed to put delivery channel 'StackSet-enable-config-e6cac20f-xmpl-46e9-8314-53e0d4591532-ConfigDeliveryChannel-10JWJ7XD59WR0' because the maximum number of delivery channels: 1 is reached. (Service: AmazonConfig; Status Code: 400; Error Code: MaxNumberOfDeliveryChannelsExceededException; Request ID: d14b34a0-ef7c-xmpl-acf8-8a864370ae56)."
        }
    ]
}
```

• For API details, see ListStackInstances in AWS CLI Command Reference.
list-stack-resources

The following code example shows how to use `list-stack-resources`.

**AWS CLI**

**To list resources in a stack**

The following command displays the list of resources in the specified stack.

```
aws cloudformation list-stack-resources \
   --stack-name my-stack
```

Output:

```json
{
   "StackResourceSummaries": [
      {
         "LogicalResourceId": "bucket",
         "PhysicalResourceId": "my-stack-bucket-1vc62xmplgguf",
         "ResourceType": "AWS::S3::Bucket",
         "LastUpdatedTimestamp": "2019-10-02T04:34:11.345Z",
         "ResourceStatus": "CREATE_COMPLETE",
         "DriftInformation": {
            "StackResourceDriftStatus": "IN_SYNC"
         }
      },
      {
         "LogicalResourceId": "function",
         "PhysicalResourceId": "my-function-SEZV4XMPL4S5",
         "ResourceType": "AWS::Lambda::Function",
         "LastUpdatedTimestamp": "2019-10-02T05:34:27.989Z",
         "ResourceStatus": "UPDATE_COMPLETE",
         "DriftInformation": {
            "StackResourceDriftStatus": "IN_SYNC"
         }
      },
      {
         "LogicalResourceId": "functionRole",
         "PhysicalResourceId": "my-functionRole-HIZXMPLEOM9E",
         "ResourceType": "AWS::IAM::Role",
         "LastUpdatedTimestamp": "2019-10-02T04:34:06.350Z",
         "ResourceStatus": "CREATE_COMPLETE"
      }
   ]
}
```
For API details, see `ListStackResources` in *AWS CLI Command Reference*.

**list-stack-set-operation-results**

The following code example shows how to use `list-stack-set-operation-results`.

### AWS CLI

#### To list stack set operation results

The following command displays the results of an update operation on instances in the specified stack set.

```bash
aws cloudformation list-stack-set-operation-results \
  --stack-set-name enable-config \
  --operation-id 35d45ebc-ed88-xmpl-ab59-0197a1fc83a0
```

**Output:**

```
{
  "Summaries": [
    {
      "Account": "223456789012",
      "Region": "us-west-2",
      "Status": "SUCCEEDED",
      "AccountGateResult": {
        "Status": "SKIPPED",
        "StatusReason": "Function not found: arn:aws:lambda:eu-west-1:223456789012:function:AWSCloudFormationStackSetAccountGate"
      }
    },
    {
      "Account": "223456789012",
      "Region": "ap-south-1",
      "Status": "CANCELLED",
```
"StatusReason": "Cancelled since failure tolerance has exceeded"
]
]

**Note:** The **SKIPPED** status for AccountGateResult is expected for successful operations unless you create an account gate function.

- For API details, see [ListStackSetOperationResults](#) in *AWS CLI Command Reference*.

### list-stack-set-operations

The following code example shows how to use `list-stack-set-operations`.

**AWS CLI**

#### To list stack set operations

The following `list-stack-set-operations` example displays the list of the most recent operations on the specified stack set.

```bash
aws cloudformation list-stack-set-operations \
  --stack-set-name my-stack-set
```

**Output:**

```json
{
  "Summaries": [
  {
    "OperationId": "35d45ebc-ed88-xmpl-ab59-0197a1fc83a0",
    "Action": "UPDATE",
    "Status": "SUCCEEDED",
    "CreationTimestamp": "2019-10-03T16:28:44.377Z",
    "EndTimestamp": "2019-10-03T16:42:08.607Z"
  },
  {
    "OperationId": "891aa98f-7118-xmpl-00b2-00954d1dd0d6",
    "Action": "UPDATE",
    "Status": "FAILED",
    "CreationTimestamp": "2019-10-03T15:43:53.916Z",
    "EndTimestamp": "2019-10-03T15:45:58.925Z"
  }
}
```
list-stack-sets

The following code example shows how to use list-stack-sets.

AWS CLI

To list stack sets

The following list-stack-sets example displays the list of stack sets in the current region and account.

```
aws cloudformation list-stack-sets
```

Output:

```json
{
   "Summaries": [
      {
         "StackSetName": "enable-config",
         "StackSetId": "enable-config:296a3360-xmpl-40af-be78-9341e95bf743",
         "Description": "Enable AWS Config",
         "Status": "ACTIVE"
      }
   ]
}
```

For API details, see ListStackSets in AWS CLI Command Reference.

list-stacks

The following code example shows how to use list-stacks.

AWS CLI

To list AWS CloudFormation stacks

```
The following `list-stacks` command shows a summary of all stacks that have a status of `CREATE_COMPLETE`:

```
aws cloudformation list-stacks --stack-status-filter CREATE_COMPLETE
```

Output:

```
[
  {
    "StackId": "arn:aws:cloudformation:us-east-1:123456789012:stack/myteststack/466df9e0-0dff-08e3-8e2f-5088487c4896",
    "TemplateDescription": "AWS CloudFormation Sample Template S3_Bucket: Sample template showing how to create a publicly accessible S3 bucket. **WARNING** This template creates an S3 bucket. You will be billed for the AWS resources used if you create a stack from this template."]
```

• For API details, see `ListStacks` in AWS CLI Command Reference.

**list-type-registrations**

The following code example shows how to use `list-type-registrations`.

**AWS CLI**

**To list the completed registrations of a type**

The following `list-type-registrations` example displays a list of the completed type registrations for the specified type.

```
aws cloudformation list-type-registrations \
  --type RESOURCE \
  --type-name My::Logs::LogGroup \
  --registration-status-filter COMPLETE
```

Output:
For more information, see [Using the CloudFormation Registry](#) in the *AWS CloudFormation Users Guide*.

- For API details, see [ListTypeRegistrations](#) in *AWS CLI Command Reference*.

### list-type-versions

The following code example shows how to use `list-type-versions`.

**AWS CLI**

**To list an extension's version**

The following `list-type-versions` example returns summary information about the versions of an extension.

```bash
aws cloudformation list-type-versions \\
--endpoint https://example.com \\
--region us-west-2 \\
--type RESOURCE \\
--type-name My::Resource::Example \\
--publisher-id 123456789012
```

This command produces no output.

For more information, see [Using the AWS CloudFormation registry](#) in the *AWS CloudFormation User Guide*.

- For API details, see [ListTypeVersions](#) in *AWS CLI Command Reference*.

### list-types

The following code example shows how to use `list-types`. 
AWS CLI

To list the private resource types in an account

The following list-types example displays a list of the private resource types currently registered in the current AWS account.

```bash
aws cloudformation list-types
```

Output:

```json
{
   "TypeSummaries": [
      {
         "Description": "WordPress blog resource for internal use",
         "LastUpdated": "2019-12-04T18:28:15.059Z",
         "TypeName": "My::WordPress::BlogExample",
         "DefaultVersionId": "00000005",
         "Type": "RESOURCE"
      },
      {
         "Description": "Customized resource derived from AWS::Logs::LogGroup",
         "LastUpdated": "2019-12-04T18:28:15.059Z",
         "TypeName": "My::Logs::LogGroup",
         "DefaultVersionId": "00000003",
         "Type": "RESOURCE"
      }
   ]
}
```

For more information, see [Using the CloudFormation Registry](https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/) in the *AWS CloudFormation Users Guide*.

- For API details, see [ListTypes](https://docs.aws.amazon.com/cli/latest/reference/cloudformation/list-types.html) in *AWS CLI Command Reference*.

**package**

The following code example shows how to use package.
AWS CLI

Following command exports a template named template.json by uploading local artifacts to S3 bucket bucket-name and writes the exported template to packaged-template.json:

```bash
aws cloudformation package --template-file /path_to_template/template.json --s3-bucket bucket-name --output-template-file packaged-template.json --use-json
```

- For API details, see Package in AWS CLI Command Reference.

publish-type

The following code example shows how to use publish-type.

AWS CLI

**To publish an extension**

The following publish-type example publishes the specified extension to the CloudFormation registry as a public extension in this Region.

```bash
aws cloudformation publish-type \
   --region us-west-2 \
   --type RESOURCE \
   --type-name Example::Test::1234567890abcdef0
```

Output:

```json
{
   "PublicTypeArn":"arn:aws:cloudformation:us-west-2::type/resource/000q6TfUovXsEMmgKowxDZLlwqr2QUskd2e75c8c/Example-Test-1234567890abcdef0/1.0.0"
}
```

For more information, see Using the AWS CloudFormation registry in the AWS CloudFormation User Guide.

- For API details, see PublishType in AWS CLI Command Reference.
register-publisher

The following code example shows how to use `register-publisher`.

**AWS CLI**

**To register a publisher**

The following `register-publisher` example registers a publisher and accepts the terms and condition parameter.

```
aws cloudformation register-publisher \
   --region us-west-2 \
   --accept-terms-and-conditions
```

Output:

```
{
   "PublisherId": "000q6TfUovXsEMmgKowxDZL1wqr2QUshd2e75c8c"
}
```

For more information, see [Using the AWS CloudFormation registry](https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide) in the *AWS CloudFormation User Guide*.

- For API details, see [RegisterPublisher](https://docs.aws.amazon.com/cli/latest/reference/cloudformation/register-publisher.html) in *AWS CLI Command Reference*.

register-type

The following code example shows how to use `register-type`.

**AWS CLI**

**To register a resource type**

The following `register-type` example registers the specified resource type as a private resource type in the user's account.

```
aws cloudformation register-type \
   --type-name My::Organization::ResourceName \
   --schema-handler-package s3://bucket_name/my-organization-resource_name.zip \
   --type RESOURCE
```
Output:

```
{
    "RegistrationToken": "f5525280-104e-4d35-bef5-8f1f1example"
}
```

For more information, see Registering Resource Providers in the CloudFormation Command Line Interface User Guide for Type Development.

- For API details, see RegisterType in AWS CLI Command Reference.

**set-stack-policy**

The following code example shows how to use set-stack-policy.

**AWS CLI**

**To apply a stack policy**

The following set-stack-policy example disables updates for the specified resource in the specified stack. stack-policy.json is a JSON document that defines the operations allowed on resources in the stack.

```
aws cloudformation set-stack-policy \
    --stack-name my-stack \
    --stack-policy-body file://stack-policy.json
```

Output:

```
{
    "Statement": [
        {
            "Effect": "Allow",
            "Action": "Update:*",
            "Principal": "*",
            "Resource": "*
        },
        {
            "Effect": "Deny",
            "Action": "Update:*",
            "Principal": "*",
        }
    ]
}
```
For API details, see SetStackPolicy in AWS CLI Command Reference.

set-type-configuration

The following code example shows how to use set-type-configuration.

AWS CLI

To configure data

The following set-type-configuration example specifies the configuration data for a registered CloudFormation extension, in the given account and Region.

```
aws cloudformation set-type-configuration 
    --region us-west-2 
    --type RESOURCE 
    --type-name Example::Test::Type 
    --configuration-alias default 
    --configuration "{"CredentialKey": "testUserCredential"}"
```

Output:

```
{
}
```

For more information, see Using the AWS CloudFormation registry in the AWS CloudFormation User Guide.

For API details, see SetTypeConfiguration in AWS CLI Command Reference.

set-type-default-version

The following code example shows how to use set-type-default-version.

```
"Resource" : "LogicalResourceId/bucket"
```
AWS CLI

To set a type's default version

The following set-type-default-version example sets the specified type version to be used as the default for this type.

```
aws cloudformation set-type-default-version \
  --type RESOURCE \n  --type-name My::Logs::LogGroup \n  --version-id 00000003
```

This command produces no output.

For more information, see Using the CloudFormation Registry in the AWS CloudFormation Users Guide.

• For API details, see SetTypeDefaultVersion in AWS CLI Command Reference.

signal-resource

The following code example shows how to use signal-resource.

AWS CLI

To signal a resource

The following signal-resource example signals success to fulfill the wait condition named MyWaitCondition in the stack named my-stack.

```
aws cloudformation signal-resource \
  --stack-name my-stack \n  --logical-resource-id MyWaitCondition \n  --unique-id 1234 \n  --status SUCCESS
```

This command produces no output.

• For API details, see SignalResource in AWS CLI Command Reference.

stop-stack-set-operation

The following code example shows how to use stop-stack-set-operation.
AWS CLI

To stop a stack set operation

The following stop-stack-set-operation example stops an in-progress update operation on the specified stack set.

```bash
aws cloudformation stop-stack-set-operation \
  --stack-set-name my-stack-set \
  --operation-id 1261cd27-490b-xmpl-ab42-793a896c69e6
```

This command produces no output.

- For API details, see [StopStackSetOperation](https://docs.aws.amazon.com/cli/latest/reference/cloudformation/stop-stack-set-operation.html) in *AWS CLI Command Reference*.

**test-type**

The following code example shows how to use test-type.

AWS CLI

To test an extension

The following test-type example tests a registered extension to make sure it meets all necessary requirements for being published in the CloudFormation registry.

```bash
aws cloudformation test-type \
```

Output:

```json
{
}
```

For more information, see [Using the AWS CloudFormation registry](https://docs.aws.amazon.com/cloudformation/latest/userguide/using-registry.html) in the *AWS CloudFormation User Guide*.

- For API details, see [TestType](https://docs.aws.amazon.com/cli/latest/reference/cloudformation/test-type.html) in *AWS CLI Command Reference*. 

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update-stack

The following code example shows how to use update-stack.

AWS CLI

To update AWS CloudFormation stacks

The following update-stack command updates the template and input parameters for the mystack stack:

```bash
aws cloudformation update-stack --stack-name mystack --template-url https://s3.amazonaws.com/sample/updated.template --parameters ParameterKey=KeyPairName,ParameterValue=SampleKeyPair ParameterKey=SubnetIDs,ParameterValue=SampleSubnetID1,SampleSubnetID2
```

The following update-stack command updates just the SubnetIDs parameter value for the mystack stack. If you don't specify a parameter value, the default value that is specified in the template is used:

```bash
aws cloudformation update-stack --stack-name mystack --template-url https://s3.amazonaws.com/sample/updated.template --parameters ParameterKey=KeyPairName,UsePreviousValue=true ParameterKey=SubnetIDs,ParameterValue=SampleSubnetID1,UpdatedSampleSubnetID2
```

The following update-stack command adds two stack notification topics to the mystack stack:

```bash
```

For more information, see AWS CloudFormation stack updates in the AWS CloudFormation User Guide.

- For API details, see UpdateStack in AWS CLI Command Reference.

update-stack-instances

The following code example shows how to use update-stack-instances.
AWS CLI

**To update stack instances**

The following `update-stack-instances` example retries an update on stack instances in two accounts in two regions with the most recent settings. The specified fault tolerance setting ensures that the update is attempted in all accounts and regions, even if some stacks cannot be updated.

```bash
aws cloudformation update-stack-instances \
  --stack-set-name my-stack-set \
  --accounts 123456789012 567890123456 \
  --regions us-east-1 us-west-2 \
  --operation-preferences FailureToleranceCount=3
```

Output:

```json
{
  "OperationId": "103ebdf2-21ea-xmpl-8892-de5e30733132"
}
```

• For API details, see [UpdateStackInstances](https://docs.aws.amazon.com/cli/latest/reference/cloudformation/update-stack-instances.html) in [AWS CLI Command Reference](https).

**update-stack-set**

The following code example shows how to use `update-stack-set`.

**AWS CLI**

**To update a stack set**

The following `update-stack-set` example adds a tag with the key name `Owner` and a value of `IT` to the stack instances in the specified stack set.

```bash
aws cloudformation update-stack-set \
  --stack-set-name my-stack-set \
  --use-previous-template \
  --tags Key=Owner,Value=IT
```

Output:
• For API details, see UpdateStackSet in AWS CLI Command Reference.

**update-termination-protection**

The following code example shows how to use update-termination-protection.

**AWS CLI**

**To enable termination protection**

The following update-termination-protection example enables termination protection on the specified stack.

```
aws cloudformation update-termination-protection \
    --stack-name my-stack \
    --enable-termination-protection
```

Output:

```
{
    "StackId": "arn:aws:cloudformation:us-west-2:123456789012:stack/my-stack/d0a825a0-e4cd-xmpl-b9fb-061c69e99204"
}
```

• For API details, see UpdateTerminationProtection in AWS CLI Command Reference.

**validate-template**

The following code example shows how to use validate-template.

**AWS CLI**

**To validate an AWS CloudFormation template**

The following validate-template command validates the sampletemplate.json template:
aws cloudformation validate-template --template-body file://sampletemplate.json

Output:

```
{
   "Description": "AWS CloudFormation Sample Template S3_Bucket: Sample template showing how to create a publicly accessible S3 bucket. **WARNING** This template creates an S3 bucket. You will be billed for the AWS resources used if you create a stack from this template.",
   "Parameters": [],
   "Capabilities": []
}
```

For more information, see Working with AWS CloudFormation Templates in the AWS CloudFormation User Guide.

- For API details, see ValidateTemplate in AWS CLI Command Reference.

### CloudFront examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with CloudFront.

**Actions** are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

**Scenarios** are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- **Actions**

**Actions**

**Create a distribution**

The following code example shows how to create a CloudFront distribution.
To create a CloudFront distribution

The following example creates a distribution for an S3 bucket named awsexamplebucket, and also specifies index.html as the default root object, using command line arguments:

```
aws cloudfront create-distribution \\
    --origin-domain-name awsexamplebucket.s3.amazonaws.com \\
    --default-root-object index.html
```

Instead of using command line arguments, you can provide the distribution configuration in a JSON file, as shown in the following example:

```
aws cloudfront create-distribution \\
    --distribution-config file://dist-config.json
```

The file `dist-config.json` is a JSON document in the current folder that contains the following:

```
{
    "CallerReference": "cli-example",
    "Aliases": {
        "Quantity": 0
    },
    "DefaultRootObject": "index.html",
    "Origins": {
        "Quantity": 1,
        "Items": [
            {
                "Id": "awsexamplebucket.s3.amazonaws.com-cli-example",
                "DomainName": "awsexamplebucket.s3.amazonaws.com",
                "OriginPath": 
            },
            "S3OriginConfig": {
                "OriginAccessIdentity": ""
            }
        ]
    }
}
```
"OriginGroups": {
    "Quantity": 0
},
"DefaultCacheBehavior": {
    "TargetOriginId": "awsexamplebucket.s3.amazonaws.com-cli-example",
    "ForwardedValues": {
        "QueryString": false,
        "Cookies": {
            "Forward": "none"
        },
        "Headers": {
            "Quantity": 0
        },
        "QueryStringCacheKeys": {
            "Quantity": 0
        }
    },
    "TrustedSigners": {
        "Enabled": false,
        "Quantity": 0
    },
    "ViewerProtocolPolicy": "allow-all",
    "MinTTL": 0,
    "AllowedMethods": {
        "Quantity": 2,
        "Items": [
            "HEAD",
            "GET"
        ],
        "CachedMethods": {
            "Quantity": 2,
            "Items": [
                "HEAD",
                "GET"
            ]
        }
    },
    "SmoothStreaming": false,
    "DefaultTTL": 86400,
    "MaxTTL": 31536000,
    "Compress": false,
    "LambdaFunctionAssociations": {
        "Quantity": 0
    }
}
Whether you provide the distribution information with a command line argument or a JSON file, the output is the same:

```json
{
    "Location": "https://cloudfront.amazonaws.com/2019-03-26/distribution/EMLARXS9EXAMPLE",
    "ETag": "E9LHASXEXAMPLE",
    "Distribution": {
        "Id": "EMLARXS9EXAMPLE",
        "ARN": "arn:aws:cloudfront::123456789012:distribution/EMLARXS9EXAMPLE",
        ...
    }
}
```
"Status": "InProgress",
"LastModifiedTime": "2019-11-22T00:55:15.705Z",
"InProgressInvalidationBatches": 0,
"DomainName": "d111111abcdef8.cloudfront.net",
"ActiveTrustedSigners": {
  "Enabled": false,
  "Quantity": 0
},
"DistributionConfig": {
  "CallerReference": "cli-example",
  "Aliases": {
    "Quantity": 0
  },
  "DefaultRootObject": "index.html",
  "Origins": {
    "Quantity": 1,
    "Items": [
      {
        "Id": "awsexamplebucket.s3.amazonaws.com-cli-example",
        "DomainName": "awsexamplebucket.s3.amazonaws.com",
        "OriginPath": 
        "CustomHeaders": {
          "Quantity": 0
        },
        "S3OriginConfig": {
          "OriginAccessIdentity": ""
        }
      }
    ]
  },
  "OriginGroups": {
    "Quantity": 0
  },
  "DefaultCacheBehavior": {
    "TargetOriginId": "awsexamplebucket.s3.amazonaws.com-cli-example",
    "ForwardedValues": {
      "QueryString": false,
      "Cookies": {
        "Forward": "none"
      },
      "Headers": {
        "Quantity": 0
      }
    },
    "QueryStringCacheKeys": {
      "Quantity": 0
    }
  }
}
"Quantity": 0
},
"TrustedSigners": {
  "Enabled": false,
  "Quantity": 0
},
"ViewerProtocolPolicy": "allow-all",
"MinTTL": 0,
"AllowedMethods": {
  "Quantity": 2,
  "Items": [
    "HEAD",
    "GET"
  ],
  "CachedMethods": {
    "Quantity": 2,
    "Items": [
      "HEAD",
      "GET"
    ]
  }
},
"SmoothStreaming": false,
"DefaultTTL": 86400,
"MaxTTL": 31536000,
"Compress": false,
"LambdaFunctionAssociations": {
  "Quantity": 0
},
"FieldLevelEncryptionId": ""
},
"CacheBehaviors": {
  "Quantity": 0
},
"CustomErrorResponses": {
  "Quantity": 0
},
"Comment": "",
"Logging": {
  "Enabled": false,
  "IncludeCookies": false,
  "Bucket": "",
  "Prefix": ""
For API details, see [CreateDistribution](https://docs.aws.amazon.com/cli/latest/reference/cloudfront/create-distribution) in *AWS CLI Command Reference*.

## Delete a distribution

The following code example shows how to delete a CloudFront distribution.

### AWS CLI

#### To delete a CloudFront distribution

The following example deletes the CloudFront distribution with the ID EDFDVBD6EXAMPLE. Before you can delete a distribution, you must disable it. To disable a distribution, use the update-distribution command. For more information, see the update-distribution examples.

When a distribution is disabled, you can delete it. To delete a distribution, you must use the `--if-match` option to provide the distribution’s ETag. To get the ETag, use the get-distribution or get-distribution-config command.

```bash
aws cloudfront delete-distribution
   --id EDFDVBD6EXAMPLE
   --if-match E2QWRUHEXAMPLE
```
When successful, this command has no output.

- For API details, see the following topics in *AWS CLI Command Reference*.
  - [DeleteDistribution](#)
  - [UpdateDistribution](#)

**Get distribution configuration**

The following code example shows how to get Amazon CloudFront distribution configuration.

**AWS CLI**

**To get a CloudFront distribution configuration**

The following example gets metadata about the CloudFront distribution with the ID EDFDVBD6EXAMPLE, including its ETag. The distribution ID is returned in the create-distribution and list-distributions commands.

```
aws cloudfront get-distribution-config --id EDFDVBD6EXAMPLE
```

**Output:**

```json
{
    "ETag": "E2QWRUHEXAMPLE",
    "DistributionConfig": {
        "CallerReference": "cli-example",
        "Aliases": {
            "Quantity": 0
        },
        "DefaultRootObject": "index.html",
        "Origins": {
            "Quantity": 1,
            "Items": [
                {
                    "Id": "awsexamplebucket.s3.amazonaws.com-cli-example",
                    "DomainName": "awsexamplebucket.s3.amazonaws.com",
                    "OriginPath": ":",
                    "CustomHeaders": {
                        "Quantity": 0
                    },
                    "S3OriginConfig": {
                        "OriginAccessIdentity": ""
                    }
                }
            ]
        }
    }
}
```
"OriginGroups": {
  "Quantity": 0
},
"DefaultCacheBehavior": {
  "TargetOriginId": "awsexamplebucket.s3.amazonaws.com-cli-example",
  "ForwardedValues": {
    "QueryString": false,
    "Cookies": {
      "Forward": "none"
    },
    "Headers": {
      "Quantity": 0
    },
    "QueryStringCacheKeys": {
      "Quantity": 0
    }
  },
  "TrustedSigners": {
    "Enabled": false,
    "Quantity": 0
  },
  "ViewerProtocolPolicy": "allow-all",
  "MinTTL": 0,
  "AllowedMethods": {
    "Quantity": 2,
    "Items": [
      "HEAD",
      "GET"
    ],
    "CachedMethods": {
      "Quantity": 2,
      "Items": [
        "HEAD",
        "GET"
      ]
    }
  },
  "SmoothStreaming": false,
  "DefaultTTL": 86400,
  "MaxTTL": 31536000,


```json
"Compress": false,
"LambdaFunctionAssociations": {
  "Quantity": 0
},
"FieldLevelEncryptionId": ""
},
"CacheBehaviors": {
  "Quantity": 0
},
"CustomErrorResponses": {
  "Quantity": 0
},
"Comment": "",
"Logging": {
  "Enabled": false,
  "IncludeCookies": false,
  "Bucket": "",
  "Prefix": ""
},
"PriceClass": "PriceClass_All",
"Enabled": true,
"ViewerCertificate": {
  "CloudFrontDefaultCertificate": true,
  "MinimumProtocolVersion": "TLSv1",
  "CertificateSource": "cloudfront"
},
"Restrictions": {
  "GeoRestriction": {
    "RestrictionType": "none",
    "Quantity": 0
  }
},
"WebACLId": "",
"HttpVersion": "http2",
"IsIPV6Enabled": true
}
```

- For API details, see [GetDistributionConfig](#) in *AWS CLI Command Reference*.

## List distributions

The following code example shows how to list Amazon CloudFront distributions.
AWS CLI

To list CloudFront distributions

The following example gets a list of the CloudFront distributions in your AWS account:

```bash
aws cloudfront list-distributions
```

Output:

```json
{
   "DistributionList": {
      "Items": [
      {
         "Id": "EMLARXS9EXAMPLE",
         "ARN": "arn:aws:cloudfront::123456789012:distribution/EMLARXS9EXAMPLE",
         "Status": "InProgress",
         "LastModifiedTime": "2019-11-22T00:55:15.705Z",
         "InProgressInvalidationBatches": 0,
         "DomainName": "d111111abcdef8.cloudfront.net",
         "ActiveTrustedSigners": {
            "Enabled": false,
            "Quantity": 0
         },
         "DistributionConfig": {
            "CallerReference": "cli-example",
            "Aliases": {
               "Quantity": 0
            },
            "DefaultRootObject": "index.html",
            "Origins": {
               "Quantity": 1,
               "Items": [
               {
                  "Id": "awsexamplebucket.s3.amazonaws.com-cli-example",
                  "DomainName": "awsexamplebucket.s3.amazonaws.com",
                  "OriginPath": "",
                  "CustomHeaders": {
                     "Quantity": 0
                  },
                  "S3OriginConfig": {
                     "
```
"OriginAccessIdentity": ""

"OriginGroups": {
    "Quantity": 0
},

"DefaultCacheBehavior": {
    "TargetOriginId": "awsexamplebucket.s3.amazonaws.com-cli-example",
    "ForwardedValues": {
        "QueryString": false,
        "Cookies": {
            "Forward": "none"
        },
        "Headers": {
            "Quantity": 0
        },
        "QueryStringCacheKeys": {
            "Quantity": 0
        }
    },
    "TrustedSigners": {
        "Enabled": false,
        "Quantity": 0
    },
    "ViewerProtocolPolicy": "allow-all",
    "MinTTL": 0,
    "AllowedMethods": {
        "Quantity": 2,
        "Items": [
            "HEAD",
            "GET"
        ],
        "CachedMethods": {
            "Quantity": 2,
            "Items": [
                "HEAD",
                "GET"
            ]
        }
    }
},

"SmoothStreaming": false,
"DefaultTTL": 86400,
"MaxTTL": 31536000,
"Compress": false,
"LambdaFunctionAssociations": {
  "Quantity": 0
},
"FieldLevelEncryptionId": ""
},
"CacheBehaviors": {
  "Quantity": 0
},
"CustomErrorResponses": {
  "Quantity": 0
},
"Comment": "",
"Logging": {
  "Enabled": false,
  "IncludeCookies": false,
  "Bucket": "",
  "Prefix": ""
},
"PriceClass": "PriceClass_All",
"Enabled": true,
"ViewerCertificate": {
  "CloudFrontDefaultCertificate": true,
  "MinimumProtocolVersion": "TLSv1",
  "CertificateSource": "cloudfront"
},
"Restrictions": {
  "GeoRestriction": {
    "RestrictionType": "none",
    "Quantity": 0
  }
},
"WebACLId": "",
"HttpVersion": "http2",
"IsIPV6Enabled": true
},
{
  "Id": "EDFDVBD6EXAMPLE",
  "ARN": "arn:aws:cloudfront::123456789012:distribution/EDFDVBD6EXAMPLE",
  "Status": "InProgress",
}
"LastModifiedTime": "2019-12-04T23:35:41.433Z",
"InProgressInvalidationBatches": 0,
"DomainName": "d930174dauwrn8.cloudfront.net",
"ActiveTrustedSigners": {
  "Enabled": false,
  "Quantity": 0
},
"DistributionConfig": {
  "CallerReference": "cli-example",
  "Aliases": {
    "Quantity": 0
  },
  "DefaultRootObject": "index.html",
  "Origins": {
    "Quantity": 1,
    "Items": [
      {
        "Id": "awsexamplebucket1.s3.amazonaws.com-cli-example",
        "DomainName": "awsexamplebucket1.s3.amazonaws.com",
        "OriginPath": 
        "CustomHeaders": {
          "Quantity": 0
        },
        "S3OriginConfig": {
          "OriginAccessIdentity": ""
        }
      }
    ]
  },
  "OriginGroups": {
    "Quantity": 0
  },
  "DefaultCacheBehavior": {
    "TargetOriginId": "awsexamplebucket1.s3.amazonaws.com-cli-example",
    "ForwardedValues": {
      "QueryString": false,
      "Cookies": {
        "Forward": "none"
      },
      "Headers": {
        "Quantity": 0
      }
    }
  }
}
"QueryStringCacheKeys": {  
  "Quantity": 0  
}

,"TrustedSigners": {  
  "Enabled": false,
  "Quantity": 0  
}

,"ViewerProtocolPolicy": "allow-all",
"MinTTL": 0,
"AllowedMethods": {  
  "Quantity": 2,
  "Items": [  
    "HEAD",
    "GET"  
  ]
},
"CachedMethods": {  
  "Quantity": 2,
  "Items": [  
    "HEAD",
    "GET"  
  ]
}

,"SmoothStreaming": false,
"DefaultTTL": 86400,
"MaxTTL": 31536000,
"Compress": false,
"LambdaFunctionAssociations": {  
  "Quantity": 0  
}

,"FieldLevelEncryptionId": ""

,"CacheBehaviors": {  
  "Quantity": 0  
}

,"CustomErrorResponses": {  
  "Quantity": 0  
}

,"Comment": "",
"Logging": {  
  "Enabled": false,
  "IncludeCookies": false,
  "Bucket": ""}
"Prefix": "",
"PriceClass": "PriceClass_All",
"Enabled": true,
"ViewerCertificate": {
  "CloudFrontDefaultCertificate": true,
  "MinimumProtocolVersion": "TLSv1",
  "CertificateSource": "cloudfront"
},
"Restrictions": {
  "GeoRestriction": {
    "RestrictionType": "none",
    "Quantity": 0
  }
},
"WebACLId": "",
"HttpVersion": "http2",
"IsIPV6Enabled": true
},
{
  "Id": "E1X5IZQEXAMPLE",
  "ARN": "arn:aws:cloudfront::123456789012:distribution/E1X5IZQEXAMPLE",
  "Status": "Deployed",
  "LastModifiedTime": "2019-11-06T21:31:48.864Z",
  "DomainName": "d2e04y12345678.cloudfront.net",
  "Aliases": {
    "Quantity": 0
  },
  "Origins": {
    "Quantity": 1,
    "Items": [
      {
        "Id": "awsexamplebucket2",
        "DomainName": "awsexamplebucket2.s3.us-west-2.amazonaws.com",
        "OriginPath": "",
        "CustomHeaders": {
          "Quantity": 0
        },
        "S3OriginConfig": {
          "OriginAccessIdentity": ""
        }
      }
    ]
  }
}
"OriginGroups": {
    "Quantity": 0
},
"DefaultCacheBehavior": {
    "TargetOriginId": "awsexamplebucket2",
    "ForwardedValues": {
        "QueryString": false,
        "Cookies": {
            "Forward": "none"
        },
        "Headers": {
            "Quantity": 0
        },
        "QueryStringCacheKeys": {
            "Quantity": 0
        }
    },
    "TrustedSigners": {
        "Enabled": false,
        "Quantity": 0
    },
    "ViewerProtocolPolicy": "allow-all",
    "MinTTL": 0,
    "AllowedMethods": {
        "Quantity": 2,
        "Items": [
            "HEAD",
            "GET"
        ],
        "CachedMethods": {
            "Quantity": 2,
            "Items": [
                "HEAD",
                "GET"
            ]
        }
    },
    "SmoothStreaming": false,
    "DefaultTTL": 86400,
    "MaxTTL": 31536000,
    "Compress": false,
Update a distribution

The following code example shows how to update an Amazon CloudFront distribution.

AWS CLI

To update a CloudFront distribution's default root object

• For API details, see ListDistributions in AWS CLI Command Reference.
The following example updates the default root object to `index.html` for the CloudFront distribution with the ID `EDFDVBD6EXAMPLE`:

```bash
aws cloudfront update-distribution --id EDFDVBD6EXAMPLE \ --default-root-object index.html
```

Output:

```json
{
  "ETag": "E2QWRRUXEXAMPLE",
  "Distribution": {
    "Id": "EDFDVBD6EXAMPLE",
    "ARN": "arn:aws:cloudfront::123456789012:distribution/EDFDVBD6EXAMPLE",
    "Status": "InProgress",
    "LastModifiedTime": "2019-12-06T18:55:39.870Z",
    "InProgressInvalidationBatches": 0,
    "DomainName": "d111111abedef8.cloudfront.net",
    "ActiveTrustedSigners": {
      "Enabled": false,
      "Quantity": 0
    },
    "DistributionConfig": {
      "CallerReference": "6b10378d-49be-4c4b-a642-419ccaf8f3b5",
      "Aliases": {
        "Quantity": 0
      },
      "DefaultRootObject": "index.html",
      "Origins": {
        "Quantity": 1,
        "Items": [
          {
            "Id": "example-website",
            "DomainName": "www.example.com",
            "OriginPath": ":",
            "CustomHeaders": {
              "Quantity": 0
            },
            "CustomOriginConfig": {
              "HTTPPort": 80,
              "HTTPSPort": 443,
              "OriginProtocolPolicy": "match-viewer",
              "OriginSslProtocols": {
                "Quantity": 2,
                "SslProtocols": ["TLSv1.2"]
              }
            }
          }
        ]
      }
    }
  }
}
```
"Items": [
    "SSLv3",
    "TLSv1"
  ],
  "OriginReadTimeout": 30,
  "OriginKeepaliveTimeout": 5
}
]
{"OriginGroups": {
  "Quantity": 0
},
"DefaultCacheBehavior": {
  "TargetOriginId": "example-website",
  "ForwardedValues": {
    "QueryString": false,
    "Cookies": {
      "Forward": "none"
    },
    "Headers": {
      "Quantity": 1,
      "Items": [
        "*
      ]
    },
    "QueryStringCacheKeys": {
      "Quantity": 0
    }
  },
  "TrustedSigners": {
    "Enabled": false,
    "Quantity": 0
  },
  "ViewerProtocolPolicy": "allow-all",
  "MinTTL": 0,
  "AllowedMethods": {
    "Quantity": 2,
    "Items": [
      "HEAD",
      "GET"
    ],
    "CachedMethods": {
"Quantity": 2,
"Items": [
  "HEAD",
  "GET"
]
},
"SmoothStreaming": false,
"DefaultTTL": 86400,
"MaxTTL": 31536000,
"Compress": false,
"LambdaFunctionAssociations": {
  "Quantity": 0
},
"FieldLevelEncryptionId": ""
},
"CacheBehaviors": {
  "Quantity": 0
},
"CustomErrorResponses": {
  "Quantity": 0
},
"Comment": "",
"Logging": {
  "Enabled": false,
  "IncludeCookies": false,
  "Bucket": "",
  "Prefix": ""
},
"PriceClass": "PriceClass_All",
"Enabled": true,
"ViewerCertificate": {
  "CloudFrontDefaultCertificate": true,
  "MinimumProtocolVersion": "TLSv1",
  "CertificateSource": "cloudfront"
},
"Restrictions": {
  "GeoRestriction": {
    "RestrictionType": "none",
    "Quantity": 0
  }
},
"WebACLId": "",
"HttpVersion": "http1.1"
To update a CloudFront distribution

The following example disables the CloudFront distribution with the ID EMLARXS9EXAMPLE by providing the distribution configuration in a JSON file named dist-config-disable.json. To update a distribution, you must use the --if-match option to provide the distribution's ETag. To get the ETag, use the get-distribution or get-distribution-config command.

After you use the following example to disable a distribution, you can use the delete-distribution command to delete it.

```bash
aws cloudfront update-distribution \
  --id EMLARXS9EXAMPLE \
  --if-match E2QWRUHEXAMPLE \
  --distribution-config file://dist-config-disable.json
```

The file dist-config-disable.json is a JSON document in the current folder that contains the following. Note that the Enabled field is set to false:

```json
{
  "CallerReference": "cli-1574382155-496510",
  "Aliases": {
    "Quantity": 0
  },
  "DefaultRootObject": "index.html",
  "Origins": {
    "Quantity": 1,
    "Items": [
      {
        "Id": "awsexamplebucket.s3.amazonaws.com-1574382155-273939",
        "DomainName": "awsexamplebucket.s3.amazonaws.com",
        "OriginPath": "",
        "CustomHeaders": {
          "Quantity": 0
        },
        "S3OriginConfig": {
          "OriginAccessIdentity": ""
        }
      }
    ]
  }
}
```
"OriginGroups": {  
  "Quantity": 0  
},  
"DefaultCacheBehavior": {  
  "TargetOriginId": "awsexamplebucket.s3.amazonaws.com-1574382155-273939",  
  "ForwardedValues": {  
    "QueryString": false,  
    "Cookies": {  
      "Forward": "none"  
    },  
    "Headers": {  
      "Quantity": 0  
    },  
    "QueryStringCacheKeys": {  
      "Quantity": 0  
    }  
  },  
  "TrustedSigners": {  
    "Enabled": false,  
    "Quantity": 0  
  },  
  "ViewerProtocolPolicy": "allow-all",  
  "MinTTL": 0,  
  "AllowedMethods": {  
    "Quantity": 2,  
    "Items": [  
      "HEAD",  
      "GET"  
    ],  
    "CachedMethods": {  
      "Quantity": 2,  
      "Items": [  
        "HEAD",  
        "GET"  
      ]  
    }  
  },  
  "SmoothStreaming": false,  
  "DefaultTTL": 86400,  
  "MaxTTL": 31536000,  
  "Compress": false,
"LambdaFunctionAssociations": {
    "Quantity": 0
},
"FieldLevelEncryptionId": ""
},
"CacheBehaviors": {
    "Quantity": 0
},
"CustomErrorResponses": {
    "Quantity": 0
},
"Comment": "",
"Logging": {
    "Enabled": false,
    "IncludeCookies": false,
    "Bucket": "",
    "Prefix": ""
},
"PriceClass": "PriceClass_All",
"Enabled": false,
"ViewerCertificate": {
    "CloudFrontDefaultCertificate": true,
    "MinimumProtocolVersion": "TLSv1",
    "CertificateSource": "cloudfront"
},
"Restrictions": {
    "GeoRestriction": {
        "RestrictionType": "none",
        "Quantity": 0
    }
},
"WebACLId": "",
"HttpVersion": "http2",
"IsIPV6Enabled": true
}

Output:

{
    "ETag": "E9LHASXEXAMPLE",
    "Distribution": {
        "Id": "EMLARXS9EXAMPLE",
        "ARN": "arn:aws:cloudfront::123456789012:distribution/EMLARXS9EXAMPLE",
    }
}
"Status": "InProgress",
"LastModifiedTime": "2019-12-06T18:32:35.553Z",
"InProgressInvalidationBatches": 0,
"DomainName": "d111111abcdef8.cloudfront.net",
"ActiveTrustedSigners": {
  "Enabled": false,
  "Quantity": 0
},
"DistributionConfig": {
  "CallerReference": "cli-1574382155-496510",
  "Aliases": {
    "Quantity": 0
  },
  "DefaultRootObject": "index.html",
  "Origins": {
    "Quantity": 1,
    "Items": [
      {
        "Id": "awsexamplebucket.s3.amazonaws.com-1574382155-273939",
        "DomainName": "awsexamplebucket.s3.amazonaws.com",
        "OriginPath": "",
        "CustomHeaders": {
          "Quantity": 0
        },
        "S3OriginConfig": {
          "OriginAccessIdentity": ""
        }
      }
    ],
  },
  "OriginGroups": {
    "Quantity": 0
  },
  "DefaultCacheBehavior": {
    "TargetOriginId": "awsexamplebucket.s3.amazonaws.com-1574382155-273939",
    "ForwardedValues": {
      "QueryString": false,
      "Cookies": {
        "Forward": "none"
      },
      "Headers": {
        "Quantity": 0
      }
    }
  }
}
"QueryStringCacheKeys": {
    "Quantity": 0
},
"TrustedSigners": {
    "Enabled": false,
    "Quantity": 0
},
"ViewerProtocolPolicy": "allow-all",
"MinTTL": 0,
"AllowedMethods": {
    "Quantity": 2,
    "Items": [
        "HEAD",
        "GET"
    ],
    "CachedMethods": {
        "Quantity": 2,
        "Items": [
            "HEAD",
            "GET"
        ]
    }
},
"SmoothStreaming": false,
"DefaultTTL": 86400,
"MaxTTL": 31536000,
"Compress": false,
"LambdaFunctionAssociations": {
    "Quantity": 0
},
"FieldLevelEncryptionId": ""
},
"CacheBehaviors": {
    "Quantity": 0
},
"CustomErrorResponses": {
    "Quantity": 0
},
"Comment": "",
"Logging": {
    "Enabled": false,
    "IncludeCookies": false,
    "Bucket": ""
For API details, see `UpdateDistribution` in *AWS CLI Command Reference*.

**Upload a public key**

The following code example shows how to upload a public key.

**AWS CLI**

**To create a CloudFront public key**

The following example creates a CloudFront public key by providing the parameters in a JSON file named `pub-key-config.json`. Before you can use this command, you must have a PEM-encoded public key. For more information, see `Create an RSA Key Pair` in the *Amazon CloudFront Developer Guide*.

```
aws cloudfront create-public-key \
   --public-key-config file://pub-key-config.json
```

The file `pub-key-config.json` is a JSON document in the current folder that contains the following. Note that the public key is encoded in PEM format.
```json
{
   "Location": "https://cloudfront.amazonaws.com/2019-03-26/public-key/KDFB19YGCR002",
   "ETag": "E2QWRUHEXAMPLE",
   "PublicKey": {
      "Id": "KDFB19YGCR002",
      "CreatedTime": "2019-12-05T18:51:43.781Z",
      "PublicKeyConfig": {
         "CallerReference": "cli-example",
         "Name": "ExampleKey",
         "EncodedKey": "-----BEGIN PUBLIC KEY-----
MIIBIjANBgkqhkiG9w0BAQEFAAOCAQ8AMIIBCgKCAQEAxPMbCA2KS01nd7IR+3pw
\nw3dH/7jPGwj8bLUm0re7bX+oeGpZ6QmLaE/1U0WcmZX2u70dYcSIZb1ofZtcn4cJ
\nenHBAz03ohBY/L1tTQGJf52A+omnN6H16VZE1JCK8XSJyfze7MDLCuyHZETdxuvRb
\nA9X343/vMAuQPnhinFJ8Wdy8YBX5Ppy7r95y1UQd9LfyTYBzVZYG2tSesplc0kjM3\n\n oMWxQAaw1NINnSLpINmv5utJy6ZqLVMcWNe4T+STGtWhrPNqJEn45sICcX4\n
 +kGZ2NQ0FyIyT2eiLKO5Xrgb/a36E/aMk4VoDsaenBQg7WLntsb9sr7MIhS6A\n nrwIDAQAB\n-----END PUBLIC KEY-----"
,
         "Comment": "example public key"
      }
   }
}
```

Output:

```
{
   "Location": "https://cloudfront.amazonaws.com/2019-03-26/public-key/KDFB19YGCR002",
   "ETag": "E2QWRUHEXAMPLE",
   "PublicKey": {
      "Id": "KDFB19YGCR002",
      "CreatedTime": "2019-12-05T18:51:43.781Z",
      "PublicKeyConfig": {
         "CallerReference": "cli-example",
         "Name": "ExampleKey",
         "EncodedKey": "-----BEGIN PUBLIC KEY-----
MIIBIjANBgkqhkiG9w0BAQEFAAOCAQ8AMIIBCgKCAQEAxPMbCA2KS01nd7IR+3pw
\nw3dH/7jPGwj8bLUm0re7bX+oeGpZ6QmLaE/1U0WcmZX2u70dYcSIZb1ofZtcn4cJ
\nenHBAz03ohBY/L1tTQGJf52A+omnN6H16VZE1JCK8XSJyfze7MDLCuyHZETdxuvRb
\nA9X343/vMAuQPnhinFJ8Wdy8YBX5Ppy7r95y1UQd9LfyTYBzVZYG2tSesplc0kjM3\n\n oMWxQAaw1NINnSLpINmv5utJy6ZqLVMcWNe4T+STGtWhrPNqJEn45sICcX4\n
 +kGZ2NQ0FyIyT2eiLKO5Xrgb/a36E/aMk4VoDsaenBQg7WLntsb9sr7MIhS6A\n nrwIDAQAB\n-----END PUBLIC KEY-----"
,
         "Comment": "example public key"
      }
   }
}
```

- For API details, see [CreatePublicKey](#) in AWS CLI Command Reference.
create-cloud-front-origin-access-identity

The following code example shows how to use `create-cloud-front-origin-access-identity`.

AWS CLI

To create a CloudFront origin access identity

The following example creates a CloudFront origin access identity (OAI) by providing the OAI configuration as a command line argument:

```bash
aws cloudfront create-cloud-front-origin-access-identity \
   --cloud-front-origin-access-identity-config \
   CallerReference="cli-example",Comment="Example OAI"
```

You can accomplish the same thing by providing the OAI configuration in a JSON file, as shown in the following example:

```bash
aws cloudfront create-cloud-front-origin-access-identity \
   --cloud-front-origin-access-identity-config file://OAI-config.json
```

The file `OAI-config.json` is a JSON document in the current directory that contains the following:

```json
{
   "CallerReference": "cli-example",
   "Comment": "Example OAI"
}
```

Whether you provide the OAI configuration with a command line argument or a JSON file, the output is the same:

```json
{
   "Location": "https://cloudfront.amazonaws.com/2019-03-26/origin-access-identity/cloudfront/E74FTE3AEXAMPLE",
   "ETag": "E2QWRUHEXAMPLE",
   "CloudFrontOriginAccessIdentity": {
      "Id": "E74FTE3AEXAMPLE",
      "S3CanonicalUserId": "cd13868f797c227fbea2830611a26fe0a21ba1b826ab4bed9b7771c9aEXAMPLE",
      "CloudFrontOriginAccessIdentityConfig": {
```
create-distribution-with-tags

The following code example shows how to use create-distribution-with-tags.

AWS CLI

To create a CloudFront distribution with tags

The following example creates a distribution with two tags by providing the distribution configuration and tags in a JSON file named dist-config-with-tags.json:

```bash
aws cloudfront create-distribution-with-tags
  --distribution-config-with-tags file://dist-config-with-tags.json
```

The file dist-config-with-tags.json is a JSON document in the current folder that contains the following. Note the Tags object at the top of the file, which contains two tags:

```json
{
  "Tags": {
    "Items": [
      {
        "Key": "Name",
        "Value": "ExampleDistribution"
      },
      {
        "Key": "Project",
        "Value": "ExampleProject"
      }
    ]
  },
  "DistributionConfig": {
    "CallerReference": "cli-example",
    "Comment": "Example OAI"
  }
}
```

- For API details, see [CreateCloudFrontOriginAccessIdentity](https://docs.aws.amazon.com/cli/latest/reference/cloudfront/create-distribution-with-tags.html) in *AWS CLI Command Reference*. 

**create-distribution-with-tags**

The following code example shows how to use create-distribution-with-tags.

**AWS CLI**

To create a CloudFront distribution with tags

The following example creates a distribution with two tags by providing the distribution configuration and tags in a JSON file named dist-config-with-tags.json:

```bash
aws cloudfront create-distribution-with-tags
  --distribution-config-with-tags file://dist-config-with-tags.json
```

The file dist-config-with-tags.json is a JSON document in the current folder that contains the following. Note the Tags object at the top of the file, which contains two tags:

```json
{
  "Tags": {
    "Items": [
      {
        "Key": "Name",
        "Value": "ExampleDistribution"
      },
      {
        "Key": "Project",
        "Value": "ExampleProject"
      }
    ]
  }
  "DistributionConfig": {
    "CallerReference": "cli-example",
    "Comment": "Example OAI"
  }
}
```
"Aliases": {
   "Quantity": 0
},
"DefaultRootObject": "index.html",
"Origins": {
   "Quantity": 1,
   "Items": [
   {
      "Id": "awsexamplebucket.s3.amazonaws.com-cli-example",
      "DomainName": "awsexamplebucket.s3.amazonaws.com",
      "OriginPath": 
      "CustomHeaders": {
         "Quantity": 0
      },
      "S3OriginConfig": {
         "OriginAccessIdentity": 
      }
   }
   ],
"OriginGroups": {
   "Quantity": 0
},
"DefaultCacheBehavior": {
   "TargetOriginId": "awsexamplebucket.s3.amazonaws.com-cli-example",
   "ForwardedValues": {
      "QueryString": false,
      "Cookies": {
         "Forward": "none"
      },
      "Headers": {
         "Quantity": 0
      },
      "QueryStringCacheKeys": {
         "Quantity": 0
      }
   },
   "TrustedSigners": {
      "Enabled": false,
      "Quantity": 0
   },
   "ViewerProtocolPolicy": "allow-all",
   "MinTTL": 0,
   "AllowedMethods": {

"Quantity": 2,
"Items": [
    "HEAD",
    "GET"
],
"CachedMethods": { 
    "Quantity": 2,
    "Items": [
    "HEAD",
    "GET"
    
    ]
},
"SmoothStreaming": false,
"DefaultTTL": 86400,
"MaxTTL": 31536000,
"Compress": false,
"LambdaFunctionAssociations": { 
    "Quantity": 0
},
"FieldLevelEncryptionId": ""
},
"CacheBehaviors": { 
    "Quantity": 0
},
"CustomErrorResponses": {  
    "Quantity": 0
},
"Comment": "",
"Logging": { 
    "Enabled": false,
    "IncludeCookies": false,
    "Bucket": "",
    "Prefix": ""
},
"PriceClass": "PriceClass_All",
"Enabled": true,
"ViewerCertificate": {  
    "CloudFrontDefaultCertificate": true,
    "MinimumProtocolVersion": "TLSv1",
    "CertificateSource": "cloudfront"
},
"Restrictions": {  
    "GeoRestriction": {

"RestrictionType": "none",
"Quantity": 0
}
},
"WebACLId": "",
"HttpVersion": "http2",
"IsIPV6Enabled": true
}
}

Output:

{
   "Location": "https://cloudfront.amazonaws.com/2019-03-26/distribution/EDFDVBD6EXAMPLE",
   "ETag": "E2QWRUHEXAMPLE",
   "Distribution": {
      "Id": "EDFDVBD6EXAMPLE",
      "ARN": "arn:aws:cloudfront::123456789012:distribution/EDFDVBD6EXAMPLE",
      "Status": "InProgress",
      "LastModifiedTime": "2019-12-04T23:35:41.433Z",
      "InProgressInvalidationBatches": 0,
      "DomainName": "d111111abcdef8.cloudfront.net",
      "ActiveTrustedSigners": {
         "Enabled": false,
         "Quantity": 0
      },
      "DistributionConfig": {
         "CallerReference": "cli-example",
         "Aliases": {
            "Quantity": 0
         },
         "DefaultRootObject": "index.html",
         "Origins": {
            "Quantity": 1,
            "Items": [
               {
                  "Id": "awsexamplebucket.s3.amazonaws.com-cli-example",
                  "DomainName": "awsexamplebucket.s3.amazonaws.com",
                  "OriginPath": "",
                  "CustomHeaders": {
                     "Quantity": 0
                  },
               }
            ]
         }
      }
   }
}
"S3OriginConfig": {
  "OriginAccessIdentity": ""
}
"OriginGroups": {
  "Quantity": 0
},
"DefaultCacheBehavior": {
  "TargetOriginId": "awsexamplebucket.s3.amazonaws.com-cli-example",
  "ForwardedValues": {
    "QueryString": false,
    "Cookies": {
      "Forward": "none"
    },
    "Headers": {
      "Quantity": 0
    },
    "QueryStringCacheKeys": {
      "Quantity": 0
    }
  },
  "TrustedSigners": {
    "Enabled": false,
    "Quantity": 0
  },
  "ViewerProtocolPolicy": "allow-all",
  "MinTTL": 0,
  "AllowedMethods": {
    "Quantity": 2,
    "Items": [
      "HEAD",
      "GET"
    ],
    "CachedMethods": {
      "Quantity": 2,
      "Items": [
        "HEAD",
        "GET"
      ]
    }
  },
  "SmoothStreaming": false,
"DefaultTTL": 86400,
"MaxTTL": 31536000,
"Compress": false,
"LambdaFunctionAssociations": {
  "Quantity": 0
},
"FieldLevelEncryptionId": ""
},
"CacheBehaviors": {
  "Quantity": 0
},
"CustomErrorResponses": {
  "Quantity": 0
},
"Comment": "",
"Logging": {
  "Enabled": false,
  "IncludeCookies": false,
  "Bucket": "",
  "Prefix": ""
},
"PriceClass": "PriceClass_All",
"Enabled": true,
"ViewerCertificate": {
  "CloudFrontDefaultCertificate": true,
  "MinimumProtocolVersion": "TLSv1",
  "CertificateSource": "cloudfront"
},
"Restrictions": {
  "GeoRestriction": {
    "RestrictionType": "none",
    "Quantity": 0
  }
},
"WebACLId": "",
"HttpVersion": "http2",
"IsIPV6Enabled": true
}

- For API details, see [CreateDistributionWithTags](https://awscli.amazonaws.com/v2/documentation/api/latest/reference/cloudfront/create-distribution-with-tags.html) in AWS CLI Command Reference.
create-field-level-encryption-config

The following code example shows how to use create-field-level-encryption-config.

AWS CLI

To create a CloudFront field-level encryption configuration

The following example creates a field-level encryption configuration by providing the configuration parameters in a JSON file named fle-config.json. Before you can create a field-level encryption configuration, you must have a field-level encryption profile. To create a profile, see the create-field-level-encryption-profile command.

For more information about CloudFront field-level encryption, see Using Field-Level Encryption to Help Protect Sensitive Data in the Amazon CloudFront Developer Guide.

```
aws cloudfront create-field-level-encryption-config \
    --field-level-encryption-config file://fle-config.json
```

The file fle-config.json is a JSON document in the current folder that contains the following:

```json
{
    "CallerReference": "cli-example",
    "Comment": "Example FLE configuration",
    "QueryArgProfileConfig": {
        "ForwardWhenQueryArgProfileIsUnknown": true,
        "QueryArgProfiles": {
            "Quantity": 0
        }
    },
    "ContentTypeProfileConfig": {
        "ForwardWhenContentTypeIsUnknown": true,
        "ContentTypeProfiles": {
            "Quantity": 1,
            "Items": [
                {
                    "Format": "URLEncoded",
                    "ProfileId": "P280MFCLSYOCVU",
                    "ContentType": "application/x-www-form-urlencoded"
                }
            ]
        }
    }
}
```
Output:

```json
{
   "Location": "https://cloudfront.amazonaws.com/2019-03-26/field-level-encryption/C3KM2WVD605UAY",
   "ETag": "E2P4Z4VU7TY5SG",
   "FieldLevelEncryption": {
      "Id": "C3KM2WVD605UAY",
      "LastModifiedTime": "2019-12-10T21:30:18.974Z",
      "FieldLevelEncryptionConfig": {
         "CallerReference": "cli-example",
         "Comment": "Example FLE configuration",
         "QueryArgProfileConfig": {
            "ForwardWhenQueryArgProfileIsUnknown": true,
            "QueryArgProfiles": {
               "Quantity": 0,
               "Items": []
            }
         },
         "ContentTypeProfileConfig": {
            "ForwardWhenContentTypeIsUnknown": true,
            "ContentTypeProfiles": {
               "Quantity": 1,
               "Items": [
                  {
                     "Format": "URLEncoded",
                     "ProfileId": "P280MFCLSYOCVU",
                     "ContentType": "application/x-www-form-urlencoded"
                  }
               ]
            }
         }
      }
   }
}
```

- For API details, see `CreateFieldLevelEncryptionConfig` in *AWS CLI Command Reference*. 

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create-field-level-encryption-profile

The following code example shows how to use create-field-level-encryption-profile.

AWS CLI

To create a CloudFront field-level encryption profile

The following example creates a field-level encryption profile by providing the parameters in a JSON file named fle-profile-config.json. Before you can create a field-level encryption profile, you must have a CloudFront public key. To create a CloudFront public key, see the create-public-key command.

For more information about CloudFront field-level encryption, see Using Field-Level Encryption to Help Protect Sensitive Data in the Amazon CloudFront Developer Guide.

```
aws cloudfront create-field-level-encryption-profile \\
--field-level-encryption-profile-config file://fle-profile-config.json
```

The file fle-profile-config.json is a JSON document in the current folder that contains the following:

```
{
  "Name": "ExampleFLEProfile",
  "CallerReference": "cli-example",
  "Comment": "FLE profile for AWS CLI example",
  "EncryptionEntities": {
    "Quantity": 1,
    "Items": [
      {
        "PublicKeyId": "K2KBNC4HVFE3M0",
        "ProviderId": "ExampleFLEProvider",
        "FieldPatterns": {
          "Quantity": 1,
          "Items": [
            "ExampleSensitiveField"
          ]
        }
      }
    ]
  }
}
```
Output:

```json
{
    "Location": "https://cloudfront.amazonaws.com/2019-03-26/field-level-encryption-profile/PPK0UOSIF5WSV",
    "ETag": "E2QWRUHEXAMPLE",
    "FieldLevelEncryptionProfile": {
        "Id": "PPK0UOSIF5WSV",
        "LastModifiedTime": "2019-12-10T01:03:16.537Z",
        "FieldLevelEncryptionProfileConfig": {
            "Name": "ExampleFLEProfile",
            "CallerReference": "cli-example",
            "Comment": "FLE profile for AWS CLI example",
            "EncryptionEntities": {
                "Quantity": 1,
                "Items": [
                    {
                        "PublicKeyId": "K2K8NC4HVFE3M0",
                        "ProviderId": "ExampleFLEProvider",
                        "FieldPatterns": {
                            "Quantity": 1,
                            "Items": [
                                "ExampleSensitiveField"
                            ]
                        }
                    }
                ]
            }
        }
    }
}
```

- For API details, see [CreateFieldLevelEncryptionProfile](https://docs.aws.amazon.com/cli/latest/reference/cloudfront/create-invalidation.html) in *AWS CLI Command Reference*.

**create-invalidation**

The following code example shows how to use `create-invalidation`.

**AWS CLI**

To create an invalidation for a CloudFront distribution
The following `create-invalidation` example creates an invalidation for the specified files in the specified CloudFront distribution:

```bash
aws cloudfront create-invalidation \
    --distribution-id EDFDVBD6EXAMPLE \
    --paths "/example-path/example-file.jpg" "/example-path/example-file2.png"
```

Output:

```
{
    "Location": "https://cloudfront.amazonaws.com/2019-03-26/distribution/EDFDVBD6EXAMPLE/invalidation/I1JLWSDAP8FU89",
    "Invalidation": {
        "Id": "I1JLWSDAP8FU89",
        "Status": "InProgress",
        "CreateTime": "2019-12-05T18:24:51.407Z",
        "InvalidationBatch": {
            "Paths": {
                "Quantity": 2,
                "Items": [
                    "/example-path/example-file2.png",
                    "/example-path/example-file.jpg"
                ]
            },
            "CallerReference": "cli-1575570291-670203"
        }
    }
}
```

In the previous example, the AWS CLI automatically generated a random `CallerReference`. To specify your own `CallerReference`, or to avoid passing the invalidation parameters as command line arguments, you can use a JSON file. The following example creates an invalidation for two files, by providing the invalidation parameters in a JSON file named `inv-batch.json`:

```bash
aws cloudfront create-invalidation \
    --distribution-id EDFDVBD6EXAMPLE \
    --invalidation-batch file://inv-batch.json
```

Contents of `inv-batch.json`:
For API details, see `CreateInvalidation` in AWS CLI Command Reference.

**delete-cloud-front-origin-access-identity**

The following code example shows how to use `delete-cloud-front-origin-access-identity`.

```json
{
    "Paths": {
        "Quantity": 2,
        "Items": [
            "/example-path/example-file.jpg",
            "/example-path/example-file2.png"
        ]
    },
    "CallerReference": "cli-example"
}

Output:

```json
{
    "Location": "https://cloudfront.amazonaws.com/2019-03-26/distribution/EDFDVBDGEXAMPLE/invalidation/I2J0I21PCUYOIK",
    "Invalidation": {
        "Id": "I2J0I21PCUYOIK",
        "Status": "InProgress",
        "CreateTime": "2019-12-05T18:40:49.413Z",
        "InvalidationBatch": {
            "Paths": {
                "Quantity": 2,
                "Items": [
                    "/example-path/example-file.jpg",
                    "/example-path/example-file2.png"
                ]
            },
            "CallerReference": "cli-example"
        }
    }
}
```
**AWS CLI**

**To delete a CloudFront origin access identity**

The following example deletes the origin access identity (OAI) with the ID E74FTE3AEXAMPLE. To delete an OAI, you must have the OAI's ID and ETag. The OAI ID is returned in the output of the create-cloud-front-origin-access-identity and list-cloud-front-origin-access-identities commands. To get the ETag, use the get-cloud-front-origin-access-identity or get-cloud-front-origin-access-identity-config command. Use the --if-match option to provide the OAI's ETag.

```bash
aws cloudfront delete-cloud-front-origin-access-identity \
  --id E74FTE3AEXAMPLE \
  --if-match E2QWRUHEXAMPLE
```

When successful, this command has no output.

- For API details, see [DeleteCloudFrontOriginAccessIdentity](https://docs.aws.amazon.com/cli/latest/reference/cloudfront/delete-cloud-front-origin-access-identity.html) in *AWS CLI Command Reference*.

**delete-field-level-encryption-config**

The following code example shows how to use delete-field-level-encryption-config.

**AWS CLI**

**To delete a CloudFront field-level encryption configuration**

The following example deletes the CloudFront field-level encryption configuration with the ID C3KM2WVD605UAY. To delete a field-level encryption configuration, you must have its ID and ETag. The ID is returned in the output of the create-field-level-encryption-config and list-field-level-encryption-configs commands. To get the ETag, use the get-field-level-encryption or get-field-level-encryption-config command. Use the --if-match option to provide the configuration's ETag.

```bash
aws cloudfront delete-field-level-encryption-config \
  --id C3KM2WVD605UAY \
  --if-match E26M4BIAV81ZF6
```

When successful, this command has no output.

- For API details, see [DeleteFieldLevelEncryptionConfig](https://docs.aws.amazon.com/cli/latest/reference/cloudfront/delete-field-level-encryption-config.html) in *AWS CLI Command Reference*.
**delete-field-level-encryption-profile**

The following code example shows how to use delete-field-level-encryption-profile.

**AWS CLI**

**To delete a CloudFront field-level encryption profile**

The following example deletes the CloudFront field-level encryption profile with the ID PPK0U0SIF5WSV. To delete a field-level encryption profile, you must have its ID and ETag. The ID is returned in the output of the create-field-level-encryption-profile and list-field-level-encryption-profiles commands. To get the ETag, use the get-field-level-encryption-profile or get-field-level-encryption-profile-config command. Use the --if-match option to provide the profile's ETag.

```
aws cloudfront delete-field-level-encryption-profile \
   --id PPK0U0SIF5WSV \
   --if-match EJETYF9CL66D
```

When successful, this command has no output.

- For API details, see [DeleteFieldLevelEncryptionProfile](#) in *AWS CLI Command Reference*.

**delete-public-key**

The following code example shows how to use delete-public-key.

**AWS CLI**

**To delete a CloudFront public key**

The following example deletes the CloudFront public key with the ID KDFB19YGCR002. To delete a public key, you must have its ID and ETag. The ID is returned in the output of the create-public-key and list-public-keys commands. To get the ETag, use the get-public-key or get-public-key-config command. Use the --if-match option to provide the public key's ETag.

```
aws cloudfront delete-public-key \
   --id KDFB19YGCR002 \
   --if-match E2QWRUHEXAMPLE
```

When successful, this command has no output.
get-cloud-front-origin-access-identity

The following code example shows how to use get-cloud-front-origin-access-identity.

AWS CLI

To get a CloudFront origin access identity

The following example gets the CloudFront origin access identity (OAI) with the ID E74FTE3AEXAMPLE, including its ETag and the associated S3 canonical ID. The OAI ID is returned in the output of the create-cloud-front-origin-access-identity and list-cloud-front-origin-access-identities commands.

```
aws cloudfront get-cloud-front-origin-access-identity --id E74FTE3AEXAMPLE
```

Output:

```
{
  "ETag": "E2QWRUHEXAMPLE",
  "CloudFrontOriginAccessIdentity": {
    "Id": "E74FTE3AEXAMPLE",
    "S3CanonicalUserId": "cd13868f797c227fbea2830611a26fe0a21ba1b826ab4bed9b7771c9aEXAMPLE",
    "CloudFrontOriginAccessIdentityConfig": {
      "CallerReference": "cli-example",
      "Comment": "Example OAI"
    }
  }
}
```

• For API details, see GetCloudFrontOriginAccessIdentity in AWS CLI Command Reference.

get-cloud-front-origin-access-identity-config

The following code example shows how to use get-cloud-front-origin-access-identity-config.
AWS CLI

To get a CloudFront origin access identity configuration

The following example gets metadata about the CloudFront origin access identity (OAI) with the ID E74FTE3AEXAMPLE, including its ETag. The OAI ID is returned in the output of the create-cloud-front-origin-access-identity and list-cloud-front-origin-access-identities commands.

```
aws cloudfront get-cloud-front-origin-access-identity-config --id E74FTE3AEXAMPLE
```

Output:

```
{
    "ETag": "E2QWRUHEXAMPLE",
    "CloudFrontOriginAccessIdentityConfig": {
        "CallerReference": "cli-example",
        "Comment": "Example OAI"
    }
}
```

- For API details, see GetCloudFrontOriginAccessIdentityConfig in AWS CLI Command Reference.

get-distribution

The following code example shows how to use get-distribution.

AWS CLI

To get a CloudFront distribution

The following example gets the CloudFront distribution with the ID EDFDVBD6EXAMPLE, including its ETag. The distribution ID is returned in the create-distribution and list-distributions commands.

```
aws cloudfront get-distribution --id EDFDVBD6EXAMPLE
```

Output:

```
{
    "ETag": "E2QWRUHEXAMPLE",
    "Distribution": {
```
"Id": "EDFDVBD6EXAMPLE",
"ARN": "arn:aws:cloudfront::123456789012:distribution/EDFDVBD6EXAMPLE",
"Status": "Deployed",
"LastModifiedTime": "2019-12-04T23:35:41.433Z",
"InProgressInvalidationBatches": 0,
"DomainName": "d111111abcdef8.cloudfront.net",
"ActiveTrustedSigners": {
    "Enabled": false,
    "Quantity": 0
},
"DistributionConfig": {
    "CallerReference": "cli-example",
    "Aliases": {
        "Quantity": 0
    },
    "DefaultRootObject": "index.html",
    "Origins": {
        "Quantity": 1,
        "Items": [
            {
                "Id": "awsexamplebucket.s3.amazonaws.com-cli-example",
                "DomainName": "awsexamplebucket.s3.amazonaws.com",
                "OriginPath": "/",
                "CustomHeaders": {
                    "Quantity": 0
                },
                "S3OriginConfig": {
                    "OriginAccessIdentity": ""
                }
            }
        ]
    },
    "OriginGroups": {
        "Quantity": 0
    },
    "DefaultCacheBehavior": {
        "TargetOriginId": "awsexamplebucket.s3.amazonaws.com-cli-example",
        "ForwardedValues": {
            "QueryString": false,
            "Cookies": {
                "Forward": "none"
            },
            "Headers": {
                "Quantity": 0
            }
        }
    }
}
"QueryStringCacheKeys": {
  "Quantity": 0
},
"TrustedSigners": {
  "Enabled": false,
  "Quantity": 0
},
"ViewerProtocolPolicy": "allow-all",
"MinTTL": 0,
"AllowedMethods": {
  "Quantity": 2,
  "Items": [
    "HEAD",
    "GET"
  ],
  "CachedMethods": {
    "Quantity": 2,
    "Items": [
      "HEAD",
      "GET"
    ]
  }
},
"SmoothStreaming": false,
"DefaultTTL": 86400,
"MaxTTL": 31536000,
"Compress": false,
"LambdaFunctionAssociations": {
  "Quantity": 0
},
"FieldLevelEncryptionId": ""
},
"CacheBehaviors": {
  "Quantity": 0
},
"CustomErrorResponses": {
  "Quantity": 0
},
"Comment": 
"Logging": {
  "Enabled": false,
  "IncludeCookies": false,
For API details, see [GetDistribution](https://docs.aws.amazon.com/cli/latest/reference/cloudfront/get-distribution) in *AWS CLI Command Reference*.

### get-field-level-encryption

The following code example shows how to use `get-field-level-encryption`.

#### AWS CLI

**To get a CloudFront field-level encryption configuration**

The following example gets the CloudFront field-level encryption configuration with the ID C3KM2WVD605UAY, including its ETag:

```bash
aws cloudfront get-field-level-encryption --id C3KM2WVD605UAY
```

Output:

```json
{
```
For API details, see GetFieldLevelEncryption in AWS CLI Command Reference.

**get-field-level-encryption-config**

The following code example shows how to use get-field-level-encryption-config.

**AWS CLI**

To get metadata about a CloudFront field-level encryption configuration

The following example gets metadata about the CloudFront field-level encryption configuration with the ID C3KM2WVD605UAY, including its ETag:
aws cloudfront get-field-level-encryption-config --id C3KM2WVD605UAY

Output:

```json
{
    "ETag": "E2P4Z4VU7TY5SG",
    "FieldLevelEncryptionConfig": {
        "CallerReference": "cli-example",
        "Comment": "Example FLE configuration",
        "QueryArgProfileConfig": {
            "ForwardWhenQueryArgProfileIsUnknown": true,
            "QueryArgProfiles": {
                "Quantity": 0,
                "Items": []
            }
        },
        "ContentTypeProfileConfig": {
            "ForwardWhenContentTypeIsUnknown": true,
            "ContentTypeProfiles": {
                "Quantity": 1,
                "Items": [
                    {
                        "Format": "URLEncoded",
                        "ProfileId": "P280MFCLSYOCVU",
                        "ContentType": "application/x-www-form-urlencoded"
                    }
                ]
            }
        }
    }
}
```


get-field-level-encryption-profile

The following code example shows how to use get-field-level-encryption-profile.

AWS CLI

To get a CloudFront field-level encryption profile
The following example gets the CloudFront field-level encryption profile with ID PPK0UOSIF5WSV, including its ETag:

```
aws cloudfront get-field-level-encryption-profile --id PPK0UOSIF5WSV
```

Output:

```
{
    "ETag": "E1QQG65FS2L2GC",
    "FieldLevelEncryptionProfile": {
        "Id": "PPK0UOSIF5WSV",
        "LastModifiedTime": "2019-12-10T01:03:16.537Z",
        "FieldLevelEncryptionProfileConfig": {
            "Name": "ExampleFLEProfile",
            "CallerReference": "cli-example",
            "Comment": "FLE profile for AWS CLI example",
            "EncryptionEntities": {
                "Quantity": 1,
                "Items": [
                    {
                        "PublicKeyId": "K2K8NC4HVFE3M0",
                        "ProviderId": "ExampleFLEProvider",
                        "FieldPatterns": {
                            "Quantity": 1,
                            "Items": [
                                "ExampleSensitiveField"
                            ]
                        }
                    }
                ]
            }
        }
    }
}
```

- For API details, see `GetFieldLevelEncryptionProfile` in *AWS CLI Command Reference*.

**get-field-level-encryption-profile-config**

The following code example shows how to use `get-field-level-encryption-profile-config`.
AWS CLI

To get a CloudFront field-level encryption profile configuration

The following example gets metadata about the CloudFront field-level encryption profile with ID PPK0U0SIF5WSV, including its ETag:

```
aws cloudfront get-field-level-encryption-profile-config --id PPK0U0SIF5WSV
```

Output:

```
{
   "ETag": "E1QQG65FS2L2GC",
   "FieldLevelEncryptionProfileConfig": {
      "Name": "ExampleFLEProfile",
      "CallerReference": "cli-example",
      "Comment": "FLE profile for AWS CLI example",
      "EncryptionEntities": {
         "Quantity": 1,
         "Items": [
            {
               "PublicKeyId": "K2K8NC4HVFE3M0",
               "ProviderId": "ExampleFLEProvider",
               "FieldPatterns": {
                  "Quantity": 1,
                  "Items": [
                     "ExampleSensitiveField"
                  ]
               }
            }
         ]
      }
   }
}
```

- For API details, see [GetFieldLevelEncryptionProfileConfig](https://awscli.amazonaws.com/v2/documentation/api/current/reference指挥/get-field-level-encryption-profile-config.html) in *AWS CLI Command Reference*.

get-invalidation

The following code example shows how to use `get-invalidation`.
AWS CLI

To get a CloudFront invalidation

The following example gets the invalidation with the ID I2J0I21PCUYOIK for the CloudFront distribution with the ID EDFDVBD6EXAMPLE:

```
aws cloudfront get-invalidation --id I2J0I21PCUYOIK --distribution-id EDFDVBD6EXAMPLE
```

Output:

```
{
   "Invalidation": {
      "Status": "Completed",
      "InvalidationBatch": {
         "Paths": {
            "Items": [
               "/example-path/example-file.jpg",
               "/example-path/example-file-2.jpg"
            ],
            "Quantity": 2
         },
         "CallerReference": "cli-example"
      },
      "Id": "I2J0I21PCUYOIK",
      "CreateTime": "2019-12-05T18:40:49.413Z"
   }
}
```

- For API details, see `GetInvalidation` in AWS CLI Command Reference.

get-public-key

The following code example shows how to use get-public-key.

AWS CLI

To get a CloudFront public key

The following example gets the CloudFront public key with the ID KDFB19YGCR002, including its ETag. The public key ID is returned in the create-public-key and list-public-keys commands.
aws cloudfront get-public-key --id KDFB19YGCR002

Output:

```
{
    "ETag": "E2QWRUHEXAMPLE",
    "PublicKey": {
        "Id": "KDFB19YGCR002",
        "CreatedTime": "2019-12-05T18:51:43.781Z",
        "PublicKeyConfig": {
            "CallerReference": "cli-example",
            "Name": "ExampleKey",
            "EncodedKey": "-----BEGIN PUBLIC KEY-----
MIIBIjANBgkqhkiG9w0BAQEFAAOCAQ8AMIIBCgKCAQEAxPMbCA2Ks01nd7IR+3pw
\nwd3H/7jPGwj8bLUmore7bX+oeGpZ6QmLae/1U0WcmZX2u70dYcSiZb1ofZtcn4cJ
\nenHBAz03ohBY/L1tQGJfS2Ah0nnN6H16VZE1JCK8XSJyfze7MDLcUyHZETdxuvRb
\nNA9X343/vMAuQPnhinFJ8Wdy8YBXSpPy7r9SyUQd9LFyTBZvZYG2tSesplcOkjM3\n\n2Uu
+oMwxAw1NInnSLPnMVsutJy6ZqlV3McWNWe4T+STGtWhrPNqJEn45sIcC4\n\nkGZ2NQ0FyIYtZ2eiLK0X5Rgb/a36E/aMk4VoDsaenBQgG7WLntsb9sIr7MIhS6A\nrwIDAQAB\n-----END PUBLIC KEY-----
",
            "Comment": "example public key"
        }
    }
}
```

- For API details, see [GetPublicKey](https://docs.aws.amazon.com/cli/latest/reference/cloudfront/get-public-key.html) in *AWS CLI Command Reference*.

**get-public-key-config**

The following code example shows how to use `get-public-key-config`.

**AWS CLI**

To get a CloudFront public key configuration

The following example gets metadata about the CloudFront public key with the ID KDFB19YGCR002, including its ETag. The public key ID is returned in the create-public-key and list-public-keys commands.

```
aws cloudfront get-public-key-config --id KDFB19YGCR002
```
Output:

```json
{
   "ETag": "E2QWRUHEXAMPLE",
   "PublicKeyConfig": {
      "CallerReference": "cli-example",
      "Name": "ExampleKey",
      "EncodedKey": "-----BEGIN PUBLIC KEY-----
MIIBIjANBgkqhkiG9w0BAQEFAAOCQ8AMIIIBCgKCAQEAxPMbCA2ks0nd7IR+3pw
nw5SH/7jPGwq8bLumore7bX+oeGpZ6qmlae/1U0WcmZX2u70dYcs1zB1ofZtcn4cJ
"nennHBAz0ohBY/L1tQGJfS2A+omnN6H16VZE1JCK8XSJyfze7MDLCyuHZETdxuvRb
"nA9x343/vMAuQPnhinFJ8wdy8vBSXPy7r95y1Uqd9LfyTbzVZYG2tSesplc0kJM3
"n2UU
+oMWxQAw1INnSLPninMVsvtJy6Zq1v3McWNWe4T+STGtWhrPNqJEn45sICx4
+kgZ2NQ0FyIyT2eILK0X5Rgb/a36E/aMk4VoDsaenBQqG7WLsntb9s77MIhS6A/nzwIDAQAB
-----END PUBLIC KEY-----
   ",
   "Comment": "example public key"
}
}
```

- For API details, see [GetPublicKeyConfig](#) in [AWS CLI Command Reference](#).

list-cloud-front-origin-access-identities

The following code example shows how to use `list-cloud-front-origin-access-identities`.

AWS CLI

**To list CloudFront origin access identities**

The following example gets a list of the CloudFront origin access identities (OAlS) in your AWS account:

```
aws cloudfront list-cloud-front-origin-access-identities
```

Output:

```json
{
   "CloudFrontOriginAccessIdentityList": {
      "Items": [
      
```
For API details, see `ListCloudFrontOriginAccessIdentities` in *AWS CLI Command Reference*.

**list-field-level-encryption-configs**

The following code example shows how to use `list-field-level-encryption-configs`.

**AWS CLI**

**To list CloudFront field-level encryption configurations**

The following example gets a list of the CloudFront field-level encryption configurations in your AWS account:

```
aws cloudfront list-field-level-encryption-configs
```

Output:

```
{
    "FieldLevelEncryptionList": {
        "MaxItems": 100,
```
For API details, see ListFieldLevelEncryptionConfigs in AWS CLI Command Reference.

list-field-level-encryption-profiles

The following code example shows how to use list-field-level-encryption-profiles.

AWS CLI

To list CloudFront field-level encryption profiles

The following example gets a list of the CloudFront field-level encryption profiles in your AWS account:
aws cloudfront list-field-level-encryption-profiles

Output:

```json
{
    "FieldLevelEncryptionProfileList": {
        "MaxItems": 100,
        "Quantity": 2,
        "Items": [
            {
                "Id": "P280MFCLSYOCVU",
                "LastModifiedTime": "2019-12-05T01:05:39.896Z",
                "Name": "ExampleFLEProfile",
                "EncryptionEntities": {
                    "Quantity": 1,
                    "Items": [
                        {
                            "PublicKeyId": "K2K8NC4HVFE3M0",
                            "ProviderId": "ExampleFLEProvider",
                            "FieldPatterns": {
                                "Quantity": 1,
                                "Items": [
                                    "ExampleSensitiveField"
                                ]
                            }
                        }
                    ]
                },
                "Comment": "FLE profile for AWS CLI example"
            },
            {
                "Id": "PPK0UOSIF5WSV",
                "LastModifiedTime": "2019-12-10T01:03:16.537Z",
                "Name": "ExampleFLEProfile2",
                "EncryptionEntities": {
                    "Quantity": 1,
                    "Items": [
                        {
                            "PublicKeyId": "K2ABC10EXAMPLE",
                            "ProviderId": "ExampleFLEProvider2",
                            "FieldPatterns": {
                                "Quantity": 1,
                                "Items": [
                                    "ExampleSensitiveField"
                                ]
                            }
                        }
                    ]
                }
            }
        ]
    }
}
```
• For API details, see `ListFieldLevelEncryptionProfiles` in *AWS CLI Command Reference*.

**list-invalidations**

The following code example shows how to use `list-invalidations`.

**AWS CLI**

**To list CloudFront invalidations**

The following example gets a list of the invalidations for the CloudFront distribution with the ID EDFDVBD6EXAMPLE:

```bash
aws cloudfront list-invalidations --distribution-id EDFDVBD6EXAMPLE
```

**Output:**

```json
{
    "InvalidationList": {
        "Marker": "",
        "Items": [{
            "Status": "Completed",
            "Id": "YNy2L12BVJ4NJU",
            "CreateTime": "2019-08-31T21:15:52.042Z"
        }
        ],
        "IsTruncated": false,
        "MaxItems": 100,
    }
}
```
For API details, see `ListInvalidations` in *AWS CLI Command Reference*.

**list-public-keys**

The following code example shows how to use `list-public-keys`.

**AWS CLI**

To list CloudFront public keys

The following example gets a list of the CloudFront public keys in your AWS account:

```
aws cloudfront list-public-keys
```

Output:

```json
{
   "PublicKeyList": {
      "MaxItems": 100,
      "Quantity": 2,
      "Items": [
         {
            "Id": "K2K8NC4HVFE3M0",
            "Name": "ExampleKey",
            "CreatedTime": "2019-12-05T01:04:28.818Z",
            "EncodedKey": "-----BEGIN PUBLIC KEY-----
MIIBIjANBgkqhkiG9w0BAQEFAAOCAQ8AMIIBCgKCAQEAxPMbCA2Ks0lnd7IR+3pw
wd3H/7jPGwj8bLUmore7bX+oeGpZ6QmlAe/1U0WcmZX2u70dYcSIzB1ofZtcn4cJ
nenHBAz03ohBY/L1tQGJfS2A+omnN6H16VZElJCK8XSJyfze7MDLCUyHZETdxuvRb
nA9X343/vMAuQPhnInFj38wdy8YBXSPPy7r95ylUqd9LfYTbZVZYG2tSesp1cKjM3\n2Uu
+oMwxAw1NIInSLPInMVsutJy6ZqL3MCwNWe4T+5T6tWhrPnqJEn45sICeC4\n+kG3ZQ0FyIyT2eiLk0X5Rgb/a36E/aMk4VoDsaenBQgG7WLntsb9szi7MIsG6A\nrwIDAQAB\n-----BEGIN PUBLIC KEY-----

\nMIIBIjANBgkqhkiG9w0BAQEFAAOCAQ8AMIIBCgKCAQEAxPMbCA2Ks0lnd7IR+3pw
wd3H/7jPGwj8bLUmore7bX+oeGpZ6QmlAe/1U0WcmZX2u70dYcSIzB1ofZtcn4cJ
nenHBAz03ohBY/L1tQGJfS2A+omnN6H16VZElJCK8XSJyfze7MDLCUyHZETdxuvRb
nA9X343/vMAuQPhnInFj38wdy8YBXSPPy7r95ylUqd9LfYTbZVZYG2tSesp1cKjM3\n2Uu
+oMwxAw1NIInSLPInMVsutJy6ZqL3MCwNWe4T+5T6tWhrPnqJEn45sICeC4\n+kG3ZQ0FyIyT2eiLk0X5Rgb/a36E/aMk4VoDsaenBQgG7WLntsb9szi7MIsG6A\nrwIDAQAB\n-----END

   "Comment": "example public key"
         },
         {
            "Id": "KIS0LWQ2L5HTBU",
            "Name": "ExampleKey2",
```
The following code example shows how to use `list-tags-for-resource`:

**AWS CLI**

**To list tags for a CloudFront distribution**

The following example gets a list of the tags for a CloudFront distribution:

```
aws cloudfront list-tags-for-resource \
  --resource arn:aws:cloudfront::123456789012:distribution/EDFDVBD6EXAMPLE
```

**Output:**

```
{
  "Tags": {
    "Items": [
      {
        "Key": "DateCreated",
        "Value": "2019-12-04"
      },
      {
        "Key": "Name",
        "Value": "Example name"
      }
    ]
  }
}
```
The following code example shows how to use `sign`.

**AWS CLI**

**To sign a CloudFront URL**

The following example signs a CloudFront URL. To sign a URL, you need the key pair ID (called the **Access Key ID** in the AWS Management Console) and the private key of the trusted signer's CloudFront key pair. For more information about signed URLs, see **Serving Private Content with Signed URLs and Signed Cookies** in the *Amazon CloudFront Developer Guide*.

```bash
aws cloudfront sign \
  --url https://d111111abcdef8.cloudfront.net/private-content/private-file.html \
  --key-pair-id APKAEIBAERJR2EXAMPLE \n  --private-key file://cf-signer-priv-key.pem \n  --date-less-than 2020-01-01
```

Output:

```
https://d111111abcdef8.cloudfront.net/private-content/private-file.html?Expires=1577836800&Signature=nEXK7Kby47XKeZQKvc6pwkif6oZc-JWSpOhU7EgImgu6YrDc8mCsbglL5VfUAxyLQuJxFwRQWscz-owc9KpmewCxrXQbPaJZni9X5Nsf4YKurPDQYaRqawKoenH0GFteRf9ELK-Bs3nlljTlgbzIUt7QJNKXcWz8AuUYikzGdJ4-qzx6WnxrFh~fgx4-GG1612kgCpXUB6Jx6K~Y3kpV0dzUPOIQFLHAnjojghxrtVejomZZ2XruqDvNUCCibePGnR3d24UPaLXG4FKOqNEawWDIBGNvjrJxqWf93uMobeMOiVYahb-e0KItiQewGcm0eLZQ__&Key-Pair-Id=APKAEIBAERJR2EXAMPLE
```

For API details, see **Sign** in *AWS CLI Command Reference*. 

---

**Actions and scenarios**
**tag-resource**

The following code example shows how to use `tag-resource`.

**AWS CLI**

**To tag a CloudFront distribution**

The following `tag-resource` example adds two tags to the specified CloudFront distribution.

```bash
aws cloudfront tag-resource \
   --resource arn:aws:cloudfront::123456789012:distribution/EDFDVB6GEXAMPLE \
   --tags 'Items=[{Key=Name,Value="Example name"},{Key=Project,Value="Example project"}]
```

Instead of using command line arguments, you can provide the tags in a JSON file, as shown in the following example:

```bash
aws cloudfront tag-resource \
   --resource arn:aws:cloudfront::123456789012:distribution/EDFDVB6GEXAMPLE \
   --tags file://tags.json
```

**Contents of tags.json:**

```json
{
    "Items": [
        {
            "Key": "Name",
            "Value": "Example name"
        },
        {
            "Key": "Project",
            "Value": "Example project"
        }
    ]
}
```

This command produces no output.

- For API details, see [TagResource](https://docs.aws.amazon.com/cli/latest/reference/cloudfront/tag-resource.html) in *AWS CLI Command Reference*. 
untag-resource

The following code example shows how to use untag-resource.

AWS CLI

To remove tags from a CloudFront distribution

The following example removes two tags from a CloudFront distribution by using command line arguments:

```
aws cloudfront untag-resource \
  --resource arn:aws:cloudfront::123456789012:distribution/EDFDVB6EXAMPLE \
  --tag-keys Items=Name,Project
```

Instead of using command line arguments, you can provide the tag keys in a JSON file, as shown in the following example:

```
aws cloudfront untag-resource \
  --resource arn:aws:cloudfront::123456789012:distribution/EDFDVB6EXAMPLE \
  --tag-keys file://tag-keys.json
```

The file `tag-keys.json` is a JSON document in the current folder that contains the following:

```
{
  "Items": [
    "Name",
    "Project"
  ]
}
```

When successful, this command has no output.

- For API details, see [UntagResource](#) in AWS CLI Command Reference.

update-cloud-front-origin-access-identity

The following code example shows how to use update-cloud-front-origin-access-identity.
AWS CLI

To update a CloudFront origin access identity

The following example updates the origin access identity (OAI) with the ID E74FTE3AEXAMPLE. The only field that you can update is the OAI's Comment.

To update an OAI, you must have the OAI's ID and ETag. The OAI ID is returned in the output of the create-cloud-front-origin-access-identity and list-cloud-front-origin-access-identities commands. To get the ETag, use the get-cloud-front-origin-access-identity or get-cloud-front-origin-access-identity-config command. Use the --if-match option to provide the OAI's ETag.

```bash
aws cloudfront update-cloud-front-origin-access-identity
  --id E74FTE3AEXAMPLE
  --if-match E2QWRUHEXAMPLE
  --cloud-front-origin-access-identity-config
    CallerReference=cli-example,Comment="Example OAI Updated"
```

You can accomplish the same thing by providing the OAI configuration in a JSON file, as shown in the following example:

```bash
aws cloudfront update-cloud-front-origin-access-identity
  --id E74FTE3AEXAMPLE
  --if-match E2QWRUHEXAMPLE
  --cloud-front-origin-access-identity-config file://OAI-config.json
```

The file OAI-config.json is a JSON document in the current directory that contains the following:

```json
{
    "CallerReference": "cli-example",
    "Comment": "Example OAI Updated"
}
```

Whether you provide the OAI configuration with a command line argument or a JSON file, the output is the same:

```json
{
    "ETag": "E9LHASXEXAMPLE",
    "CloudFrontOriginAccessIdentity": {
```
update-field-level-encryption-config

The following code example shows how to use update-field-level-encryption-config.

AWS CLI

To update a CloudFront field-level encryption configuration

The following example updates the Comment field of the field-level encryption configuration with the ID C3KM2WVD605UAY by providing the parameters in a JSON file.

To update a field-level encryption configuration, you must have the configuration's ID and ETag. The ID is returned in the output of the create-field-level-encryption-config and list-field-level-encryption-configs commands. To get the ETag, use the get-field-level-encryption or get-field-level-encryption-config command. Use the --if-match option to provide the configuration's ETag.

```
aws cloudfront update-field-level-encryption-config \
  --id C3KM2WVD605UAY \
  --if-match E2P4Z4VU7TY5SG \
  --field-level-encryption-config file://fle-config.json
```

The file fle-config.json is a JSON document in the current directory that contains the following:

```
{
  "CallerReference": "cli-example",
  "Comment": "Updated example FLE configuration",
  "QueryArgProfileConfig": {
```

• For API details, see UpdateCloudFrontOriginAccessIdentity in AWS CLI Command Reference.
Output:

```json
{
  "ETag": "E26M4BIAV81ZF6",
  "FieldLevelEncryption": {
    "Id": "C3KM2WVD605UAY",
    "LastModifiedTime": "2019-12-10T22:26:26.170Z",
    "FieldLevelEncryptionConfig": {
      "CallerReference": "cli-example",
      "Comment": "Updated example FLE configuration",
      "QueryArgProfileConfig": {
        "ForwardWhenQueryArgProfileIsUnknown": true,
        "QueryArgProfiles": {
          "Quantity": 0,
          "Items": []
        }
      },
      "ContentTypeProfileConfig": {
        "ForwardWhenContentTypeIsUnknown": true,
        "ContentTypeProfiles": {
          "Quantity": 1,
          "Items": [
            {
              "Format": "URLencoded",
              "ProfileId": "P280MFCLSYOCVU",
              "ContentType": "application/x-www-form-urlencoded"
            }
          ]
        }
      }
    }
  }
}
```
For API details, see [UpdateFieldLevelEncryptionConfig](https://docs.aws.amazon.com/cli/latest/reference/cloudfront/update-field-level-encryption-profile.html) in *AWS CLI Command Reference*.

**update-field-level-encryption-profile**

The following code example shows how to use `update-field-level-encryption-profile`.

**AWS CLI**

To update a CloudFront field-level encryption profile

The following example updates the field-level encryption profile with the ID PPK0U0SIF5WSV. This example updates the profile's Name and Comment, and adds a second FieldPatterns item, by providing the parameters in a JSON file.

To update a field-level encryption profile, you must have the profile's ID and ETag. The ID is returned in the output of the `create-field-level-encryption-profile` and `list-field-level-encryption-profiles` commands. To get the ETag, use the `get-field-level-encryption-profile` or `get-field-level-encryption-profile-config` command. Use the `--if-match` option to provide the profile's ETag.

```bash
aws cloudfront update-field-level-encryption-profile \
  --id PPK0U0SIF5WSV \
  --if-match E1QQG65FS2L2GC \
  --field-level-encryption-profile-config file://fle-profile-config.json
```

The file `fle-profile-config.json` is a JSON document in the current directory that contains the following:

```json
{
    "Name": "ExampleFLEProfileUpdated",
```
"CallerReference": "cli-example",
"Comment": "Updated FLE profile for AWS CLI example",
"EncryptionEntities": {
  "Quantity": 1,
  "Items": [
    {
      "PublicKeyId": "K2K8NC4HVFE3M0",
      "ProviderId": "ExampleFLEProvider",
      "FieldPatterns": {
        "Quantity": 2,
        "Items": [
          "ExampleSensitiveField",
          "SecondExampleSensitiveField"
        ]
      }
    }
  ]
}
}

Output:

{
  "ETag": "EJETYFJ9CL66D",
  "FieldLevelEncryptionProfile": {
    "Id": "PPK0USIF5WSV",
    "LastModifiedTime": "2019-12-10T19:05:58.296Z",
    "FieldLevelEncryptionProfileConfig": {
      "Name": "ExampleFLEProfileUpdated",
      "CallerReference": "cli-example",
      "Comment": "Updated FLE profile for AWS CLI example",
      "EncryptionEntities": {
        "Quantity": 1,
        "Items": [
          {
            "PublicKeyId": "K2K8NC4HVFE3M0",
            "ProviderId": "ExampleFLEProvider",
            "FieldPatterns": {
              "Quantity": 2,
              "Items": [
                "ExampleSensitiveField",
                "SecondExampleSensitiveField"
              ]
            }
          }
        ]
      }
    }
  }
}
Amazon CloudSearch examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon CloudSearch.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- **Actions**

**Actions**

**upload-documents**

The following code example shows how to use upload-documents.

**AWS CLI**

The following upload-documents command uploads a batch of JSON documents to an Amazon CloudSearch domain:
aws cloudsearchdomain upload-documents --endpoint-url https://doc-my-domain.us-west-1.cloudsearch.amazonaws.com --content-type application/json --documents document-batch.json

Output:

```json
{
   "status": "success",
   "adds": 5000,
   "deletes": 0
}
```

- For API details, see [UploadDocuments](#) in *AWS CLI Command Reference*.

## CloudTrail examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with CloudTrail.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

### Topics

- [Actions](#)

### Actions

**Create trails**

The following code example shows how to create a AWS CloudTrail trail.
AWS CLI

To create a trail

The following create-trail command creates a multi-region trail named Trail1 and specifies an S3 bucket:

```bash
aws cloudtrail create-trail --name Trail1 --s3-bucket-name my-bucket --is-multi-region-trail
```

Output:

```json
{
   "IncludeGlobalServiceEvents": true,
   "Name": "Trail1",
   "LogFileValidationEnabled": false,
   "IsMultiRegionTrail": true,
   "S3BucketName": "my-bucket"
}
```

- For API details, see `CreateTrail` in *AWS CLI Command Reference*.

Delete trail

The following code example shows how to delete a AWS CloudTrail trail.

AWS CLI

To delete a trail

The following delete-trail command deletes a trail named Trail1:

```bash
aws cloudtrail delete-trail --name Trail1
```

- For API details, see `DeleteTrail` in *AWS CLI Command Reference*.

add-tags

The following code example shows how to use add-tags.
AWS CLI

To add tags to trail

The following add-tags command adds tags for Trail1:

```
aws cloudtrail add-tags --resource-id arn:aws:cloudtrail:us-east-1:123456789012:trail/Trail1 --tags-list Key=name,Value=Alice
Key=location,Value=us
```

- For API details, see AddTags in AWS CLI Command Reference.

create-subscription

The following code example shows how to use create-subscription.

AWS CLI

To create and configure AWS resources for a trail

The following create-subscription command creates a new S3 bucket and SNS topic for Trail1:

```
aws cloudtrail create-subscription --name Trail1 --s3-new-bucket my-bucket --sns-new-topic my-topic
```

Output:

```
Setting up new S3 bucket my-bucket...
Setting up new SNS topic my-topic...
Creating/updating CloudTrail configuration...
CloudTrail configuration:
{
    "trailList": [
        {
            "IncludeGlobalServiceEvents": true,
            "Name": "Trail1",
            "TrailARN": "arn:aws:cloudtrail:us-east-1:123456789012:trail/Trail1",
            "LogFileValidationEnabled": false,
            "IsMultiRegionTrail": false,
            "S3BucketName": "my-bucket",
            "SnsTopicName": "my-topic"
        }
    ]
}
For API details, see [CreateSubscription](#) in *AWS CLI Command Reference*.

**describe-trails**

The following code example shows how to use describe-trails.

**AWS CLI**

To describe a trail

The following `describe-trails` command returns the settings for Trail1 and Trail2:

```bash
aws cloudtrail describe-trails --trail-name-list Trail1 Trail2
```

Output:

```json
{
   "trailList": [
      {
         "IncludeGlobalServiceEvents": true,
         "Name": "Trail1",
         "TrailARN": "arn:aws:cloudtrail:us-east-1:123456789012:trail/Trail1",
         "LogFileValidationEnabled": false,
         "IsMultiRegionTrail": false,
         "S3BucketName": "my-bucket",
         "CloudWatchLogsRoleArn": "arn:aws:iam::123456789012:role/CloudTrail_CloudWatchLogs_Role",
         "SnsTopicName": "my-topic",
         "HomeRegion": "us-east-1"
      }
   ]
}
```
For API details, see `DescribeTrails` in *AWS CLI Command Reference*.

**get-event-selectors**

The following code example shows how to use `get-event-selectors`.

**AWS CLI**

**To view the event selector settings for a trail**

The following `get-event-selectors` command returns the settings for Trail1:

```
aws cloudtrail get-event-selectors --trail-name Trail1
```

Output:

```json
{
   "EventSelectors": [
      {
         "IncludeManagementEvents": true,
         "DataResources": [],
         "ReadWriteType": "All"
      }
   ],
   "TrailARN": "arn:aws:cloudtrail:us-east-1:123456789012:trail/Trail1"
}
```
• For API details, see GetEventSelectors in AWS CLI Command Reference.

get-trail-status

The following code example shows how to use get-trail-status.

AWS CLI

To get the status of a trail

The following get-trail-status command returns the delivery and logging details for Trail1:

```bash/aws cloudtrail get-trail-status --name Trail1
```

Output:

```json
{
   "LatestNotificationTime": 1454022144.869,
   "LatestNotificationAttemptSucceeded": "2016-01-28T23:02:24Z",
   "LatestDeliveryAttemptTime": "2016-01-28T23:02:24Z",
   "LatestDeliveryTime": 1454022144.869,
   "TimeLoggingStarted": "2015-11-06T18:36:38Z",
   "LatestDeliveryAttemptSucceeded": "2016-01-28T23:02:24Z",
   "IsLogging": true,
   "LatestCloudWatchLogsDeliveryTime": 1454022144.918,
   "StartLoggingTime": 1446834998.695,
   "StopLoggingTime": 1446834996.933,
   "LatestNotificationAttemptTime": "2016-01-28T23:02:24Z",
   "TimeLoggingStopped": "2015-11-06T18:36:36Z"
}
```

• For API details, see GetTrailStatus in AWS CLI Command Reference.

list-public-keys

The following code example shows how to use list-public-keys.

AWS CLI

To list all public keys for a trail

```bash
```

The following list-public-keys command returns all public keys whose private keys were used to sign the digest files within the specified time range:

```
aws cloudtrail list-public-keys --start-time 2016-01-01T20:30:00.000Z
```

Output:

```
{
   "PublicKeyList": [
   {
      "ValidityStartTime": 1453076702.0,
      "ValidityEndTime": 1455668702.0,
      "Value": "MIIBCgKCAQEAlSS3cl92HDycriMTj0mo0has8habjrraXw+KzlWF0axSI2tcF
+3iJ9BKQAVSKxGwxxwuu3m0wG3J
+kU1xboEcEPHYoIYMbgfSw7KgnuDKwkJLzsQWhUX0cIb0HASox1v6fNYkrHhGbDCEvXr804c83nvHUEFYThr1PfyPr
+4vG0k+BGH5m9iukAkikEHWmUk6/P7XpfpWQuk4h8g3pXZ0rNXr08lby4d39svj7Uqdhv0XoBisp9t/
EXYuePGEtBdrKD9Dz+VHyUptBqvYr9BnkF88qBnaPNhs44rzwIDAQAB",
      "Fingerprint": "7f3f401420072e50a65a141430817ab3"
   }
   ]
}
```

- For API details, see [ListPublicKeys](https://aws.amazon.com/cli/) in *AWS CLI Command Reference*.

**list-tags**

The following code example shows how to use list-tags.

**AWS CLI**

**To list the tags for a trail**

The following list-tags command lists the tags for Trail1 and Trail2:

```
aws cloudtrail list-tags --resource-id-list arn:aws:cloudtrail:us-east-1:123456789012:trail/Trail1
arn:aws:cloudtrail:us-east-1:123456789012:trail/Trail2
```

Output:

```
{
   "ResourceTagList": [
```

Actions and scenarios
• For API details, see ListTags in AWS CLI Command Reference.

**lookup-events**

The following code example shows how to use lookup-events.

**AWS CLI**

**To look up events for a trail**

The following lookup-events command looks up API activity events by the attribute EventName:

```
aws cloudtrail lookup-events --lookup-attributes
AttributeKey=EventName,AttributeValue=ConsoleLogin
```

Output:
The following code example shows how to use `put-event-selectors`.

**AWS CLI**

To configure event selectors for a trail

To create an event selector, run the "put-event-selectors" command. When an event occurs in your account, CloudTrail evaluates the configuration for your trails. If the event matches any event selector for a trail, the trail processes and logs the event. You can configure up to 5 event selectors for a trail and up to 250 data resources for a trail.

For API details, see [LookupEvents](#) in *AWS CLI Command Reference*.
The following example creates an event selector for a trail named "TrailName" to include read-only and write-only management events, data events for two Amazon S3 bucket/prefix combinations, and data events for a single AWS Lambda function named "hello-world-python-function":

```bash
aws cloudtrail put-event-selectors --trail-name TrailName --event-selectors '[["ReadWriteType": "All","IncludeManagementEvents": true,"DataResources": [["Type":"AWS::S3::Object", "Values": ["arn:aws:s3:::mybucket/prefix","arn:aws:s3:::mybucket2/prefix2"],
{"Type": "AWS::Lambda::Function","Values": ["arn:aws:lambda:us-west-2:999999999999:function:hello-world-python-function"]}]]]

Output:

```json
{
 "EventSelectors": [
  {
   "IncludeManagementEvents": true,
   "DataResources": [
    {
     "Values": [
      "arn:aws:s3:::mybucket/prefix",
      "arn:aws:s3:::mybucket2/prefix2"
     ],
     "Type": "AWS::S3::Object"
    },
    {
     "Values": [
     ],
     "Type": "AWS::Lambda::Function"
    }
   ],
   "ReadWriteType": "All"
  }
 },
 "TrailARN": "arn:aws:cloudtrail:us-east-2:123456789012:trail/TrailName"
}
The following example creates an event selector for a trail named "TrailName2" that includes all events, including read-only and write-only management events, and all data events for all Amazon S3 buckets and AWS Lambda functions in the AWS account:

```
aws cloudtrail put-event-selectors --trail-name TrailName2 --event-selectors
'[["ReadWriteType": "All","IncludeManagementEvents": true,"DataResources":
[["Type":"AWS::S3::Object", "Values": ["arn:aws:s3:::"],
{"Type":
"AWS::Lambda::Function","Values": ["arn:aws:lambda"]}
]]
]
'
```

Output:

```
{
 "EventSelectors": [
  {
   "IncludeManagementEvents": true,
   "DataResources": [
    {
     "Values": [
      "arn:aws:s3:::
     ],
     "Type": "AWS::S3::Object"
    },
    {
     "Values": [
      "arn:aws:lambda"
     ],
      "Type": "AWS::Lambda::Function"
    },
  ],
  "ReadWriteType": "All"
  
  },
  "TrailARN": "arn:aws:cloudtrail:us-east-2:123456789012:trail/TrailName2"
}
```


**remove-tags**

The following code example shows how to use `remove-tags`.
AWS CLI

To remove tags for a trail

The following remove-tags command removes the specified tags for Trail1:

```
aws cloudtrail remove-tags --resource-id arn:aws:cloudtrail:us-east-1:123456789012:trail/Trail1 --tags-list Key=name Key=location
```

• For API details, see RemoveTags in AWS CLI Command Reference.

start-logging

The following code example shows how to use start-logging.

AWS CLI

To start logging for a trail

The following start-logging command turns on logging for Trail1:

```
aws cloudtrail start-logging --name Trail1
```

• For API details, see StartLogging in AWS CLI Command Reference.

stop-logging

The following code example shows how to use stop-logging.

AWS CLI

To stop logging a trail

The following stop-logging command turns off logging for Trail1:

```
aws cloudtrail stop-logging --name Trail1
```

• For API details, see StopLogging in AWS CLI Command Reference.

update-subscription

The following code example shows how to use update-subscription.
AWS CLI

To update the configuration settings for a trail

The following update-subscription command updates the trail to specify a new S3 bucket and SNS topic:

```bash
aws cloudtrail update-subscription --name Trail1 --s3-new-bucket my-bucket-new --sns-new-topic my-topic-new
```

Output:

```
Setting up new S3 bucket my-bucket-new...
Setting up new SNS topic my-topic-new...
Creating/updating CloudTrail configuration...
CloudTrail configuration:
 {
   "trailList": [
     {
       "IncludeGlobalServiceEvents": true,
       "Name": "Trail1",
       "TrailARN": "arn:aws:cloudtrail:us-east-1:123456789012:trail/Trail1",
       "LogFileValidationEnabled": false,
       "IsMultiRegionTrail": false,
       "S3BucketName": "my-bucket-new",
       "SnsTopicName": "my-topic-new",
       "HomeRegion": "us-east-1"
     }
   ],
   "ResponseMetadata": {
     "HTTPStatusCode": 200,
     "RequestId": "31126f8a-c616-11e5-9cc6-2fd637936879"
   }
  }
```

- For API details, see [UpdateSubscription](https://docs.aws.amazon.com/cli/latest/reference/cloudtrail/update-subscription.html) in AWS CLI Command Reference.

**update-trail**

The following code example shows how to use update-trail.
AWS CLI

To update a trail

The following `update-trail` command updates a trail to use an existing bucket for log delivery:

```
aws cloudtrail update-trail --name Trail1 --s3-bucket-name my-bucket
```

Output:

```
{
   "IncludeGlobalServiceEvents": true,
   "Name": "Trail1",
   "LogFileValidationEnabled": false,
   "IsMultiRegionTrail": true,
   "S3BucketName": "my-bucket"
}
```

- For API details, see [UpdateTrail](https://docs.aws.amazon.com/cli/latest/reference/cloudtrail/update-trail.html) in *AWS CLI Command Reference*.

validate-logs

The following code example shows how to use `validate-logs`.

AWS CLI

To validate a log file

The following `validate-logs` command validates the logs for Trail1:

```
aws cloudtrail validate-logs --trail-arn arn:aws:cloudtrail:us-east-1:123456789012:trail/Trail1 --start-time 20160129T19:00:00Z
```

Output:

```
Validating log files for trail arn:aws:cloudtrail:us-east-1:123456789012:trail/Trail1 between 2016-01-29T19:00:00Z and 2016-01-29T22:15:43Z
Results requested for 2016-01-29T19:00:00Z to 2016-01-29T22:15:43Z
Results found for 2016-01-29T19:24:57Z to 2016-01-29T21:24:57Z:
3/3 digest files valid
```
CloudWatch examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with CloudWatch.

**Actions** are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

**Scenarios** are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**
- [Actions](#)

**Actions**

**Create a metric alarm**

The following code example shows how to create or update an Amazon CloudWatch alarm and associate it with the specified metric, metric math expression, anomaly detection model, or Metrics Insights query.

**AWS CLI**

**To send an Amazon Simple Notification Service email message when CPU utilization exceeds 70 percent**

The following example uses the `put-metric-alarm` command to send an Amazon Simple Notification Service email message when CPU utilization exceeds 70 percent:

```
aws cloudwatch put-metric-alarm --alarm-name cpu-mon --alarm-description "Alarm when CPU exceeds 70 percent" --metric-name CPUUtilization --namespace AWS/
```
EC2 --statistic Average --period 300 --threshold 70 --comparison-operator GreaterThanThreshold --dimensions "Name=InstanceId,Value=i-12345678" --evaluation-periods 2 --alarm-actions arn:aws:sns:us-east-1:111122223333:MyTopic --unit Percent

This command returns to the prompt if successful. If an alarm with the same name already exists, it will be overwritten by the new alarm.

**To specify multiple dimensions**

The following example illustrates how to specify multiple dimensions. Each dimension is specified as a Name/Value pair, with a comma between the name and the value. Multiple dimensions are separated by a space:

```bash
aws cloudwatch put-metric-alarm --alarm-name "Default_Test_Alarm3" --alarm-description "The default example alarm" --namespace "CW EXAMPLE METRICS" --metric-name Default_Test --statistic Average --period 60 --evaluation-periods 3 --threshold 50 --comparison-operator GreaterThanOrEqualToThreshold --dimensions Name=key1,Value=value1 Name=key2,Value=value2
```

- For API details, see [PutMetricAlarm](#) in *AWS CLI Command Reference*.

**Delete alarms**

The following code example shows how to delete Amazon CloudWatch alarms.

**AWS CLI**

**To delete an alarm**

The following example uses the `delete-alarms` command to delete the Amazon CloudWatch alarm named "myalarm":

```bash
aws cloudwatch delete-alarms --alarm-names myalarm
```

Output:

```
This command returns to the prompt if successful.
```

- For API details, see [DeleteAlarms](#) in *AWS CLI Command Reference*. 
Describe alarm history

The following code example shows how to describe an Amazon CloudWatch alarm history.

AWS CLI

To retrieve history for an alarm

The following example uses the describe-alarm-history command to retrieve history for the Amazon CloudWatch alarm named "myalarm":

```
aws cloudwatch describe-alarm-history --alarm-name "myalarm" --history-item-type StateUpdate
```

Output:

```json
{
   "AlarmHistoryItems": [
   {
      "Timestamp": "2014-04-09T18:59:06.442Z",
      "HistoryItemType": "StateUpdate",
      "AlarmName": "myalarm",
      "HistoryData": "{"version":"1.0"","oldState":{"stateValue": "ALARM","stateReason": "testing purposes"},"newState":{"stateValue": "OK \"","stateReason": "Threshold Crossed: 2 datapoints were not greater than the threshold (70.0). The most recent datapoints: [38.958, 40.292].","stateReasonData":{"version":"1.0","queryDate":"2014-04-09T18:59:06.419+0000","startDate":"2014-04-09T18:44:00.000+0000","statistic":"Average","period":300,"recentDatapoints":[38.958,40.292],"threshold":70.0}}",
      "HistorySummary": "Alarm updated from ALARM to OK"
   },
   {
      "Timestamp": "2014-04-09T18:59:05.805Z",
      "HistoryItemType": "StateUpdate",
      "AlarmName": "myalarm",
      "HistoryData": "{"version":"1.0"","oldState":{"stateValue": "OK","stateReason": "Threshold Crossed: 2 datapoints were not greater than the threshold (70.0). The most recent datapoints: [38.83999999999996, 39.714].","stateReasonData":{"version":"1.0","queryDate":"2014-03-11T22:45:41.569+0000","startDate":"2014-03-11T22:30:00.000+0000","statistic":"Average","period":300,"recentDatapoints":[38.83999999999996,39.714],"threshold":70.0}}",
      "newState": {"stateValue": "ALARM","stateReason": "testing purposes"}}
   }
}
```
Describe alarms

The following code example shows how to describe Amazon CloudWatch alarms.

AWS CLI

To list information about an alarm

The following example uses the describe-alarms command to provide information about the alarm named "myalarm":

```bash
aws cloudwatch describe-alarms --alarm-names "myalarm"
```

Output:

```json
{
   "MetricAlarms": [
      {
         "EvaluationPeriods": 2,
         "StateUpdatedTimestamp": "2014-04-09T18:59:06.442Z",
         "AlarmConfigurationUpdatedTimestamp": "2012-12-27T00:49:54.032Z",
         "ComparisonOperator": "GreaterThanThreshold",
         "AlarmActions": [
            "arn:aws:sns:us-east-1:123456789012:myHighCpuAlarm"
         ],
         "Namespace": "AWS/EC2",
         "AlarmDescription": "CPU usage exceeds 70 percent",
         "StateReasonData": "{\"version\":"1.0\",\"queryDate\":\"2014-04-09T18:59:06.419+0000\",\"startDate\":\"2014-04-09T18:44:00.000+0000\",\"statistic\":\"Average\",\"period\":300,\"recentDatapoints\":[38.958,40.292],\"threshold\":70.0}"
      }
   ]
}
```

• For API details, see DescribeAlarmHistory in AWS CLI Command Reference.
For API details, see DescribeAlarms in AWS CLI Command Reference.

Describe alarms for a metric

The following code example shows how to describe Amazon CloudWatch alarms for a metric.

AWS CLI

To display information about alarms associated with a metric

The following example uses the describe-alarms-for-metric command to display information about any alarms associated with the Amazon EC2 CPUUtilization metric and the instance with the ID i-0c986c72.

```
aws cloudwatch describe-alarms-for-metric --metric-name CPUUtilization --namespace AWS/EC2 --dimensions Name=InstanceId,Value=i-0c986c72
```

Output:

```json
{
   "MetricAlarms": [
      {
         "EvaluationPeriods": 10,
      }
   ]
}
```
  "StateUpdatedTimestamp": "2013-10-30T03:03:51.479Z",
  "AlarmConfigurationUpdatedTimestamp": "2013-10-30T03:03:50.865Z",
  "ComparisonOperator": "GreaterThanOrEqualToThreshold",
  "AlarmActions": [
    "arn:aws:sns:us-east-1:11112222333:NotifyMe"
  ],
  "Namespace": "AWS/EC2",
  "AlarmDescription": "CPU usage exceeds 70 percent",
  "StateReasonData": "{"version":"1.0","queryDate":"2013-10-30T03:03:51.479+0000","startDate":"2013-10-30T02:08:00.000+0000","statistic":"Average","period":300,"recentDatapoints":[40.698,39.612,42.432,39.796,38.816,42.28,42.854,40.088,40.76000000000005,41.316],"threshold":70.0}",
  "Period": 300,
  "StateValue": "OK",
  "Threshold": 70.0,
  "AlarmName": "myHighCpuAlarm2",
  "Dimensions": [
    {
      "Name": "InstanceId",
      "Value": "i-0c986c72"
    }
  ],
  "Statistic": "Average",
  "StateReason": "Threshold Crossed: 10 datapoints were not greater than or equal to the threshold (70.0). The most recent datapoints: [40.76000000000005, 41.316].",
  "InsufficientDataActions": [],
  "OKActions": [],
  "ActionsEnabled": true,
  "MetricName": "CPUUtilization"
},
{
  "EvaluationPeriods": 2,
  "StateUpdatedTimestamp": "2014-04-09T18:59:06.442Z",
  "AlarmConfigurationUpdatedTimestamp": "2014-04-09T22:26:05.958Z",
  "ComparisonOperator": "GreaterThanThreshold",
  "AlarmActions": [
    "arn:aws:sns:us-east-1:11112222333:HighCPUAlarm"
  ],
"Namespace": "AWS/EC2",
"AlarmDescription": "CPU usage exceeds 70 percent",
"StateReasonData": "{\"version\":\"1.0\",\"queryDate\":\"2014-04-09T18:59:06.419+0000\",\"startDate\":\"2014-04-09T18:44:00.000+0000\",\"statistic\":\"Average\",\"period\":300,\"recentDatapoints\":[38.958,40.292],\"threshold\":70.0},
"Period": 300,
"StateValue": "OK",
"Threshold": 70.0,
"AlarmName": "myHighCpuAlarm",
"Dimensions": [
{
  "Name": "InstanceId",
  "Value": "i-0c986c72"
}
],
"Statistic": "Average",
"StateReason": "Threshold Crossed: 2 datapoints were not greater than the threshold (70.0). The most recent datapoints: [38.958, 40.292].",
"InsufficientDataActions": [],
"OKActions": [],
"ActionsEnabled": false,
"MetricName": "CPUUtilization"
]
]
}

- For API details, see [DescribeAlarmsForMetric](https://docs.aws.amazon.com/cli/latest/reference/cloudwatch/describe-alarms-for-metric.html) in *AWS CLI Command Reference*.

### Disable alarm actions

The following code example shows how to disable Amazon CloudWatch alarm actions.

**AWS CLI**

**To disable actions for an alarm**

The following example uses the `disable-alarm-actions` command to disable all actions for the alarm named `myalarm`:

```bash
aws cloudwatch disable-alarm-actions --alarm-names myalarm
```

This command returns to the prompt if successful.
Enable alarm actions

The following code example shows how to enable Amazon CloudWatch alarm actions.

**AWS CLI**

**To enable all actions for an alarm**

The following example uses the `enable-alarm-actions` command to enable all actions for the alarm named `myalarm`:

```bash
aws cloudwatch enable-alarm-actions --alarm-names myalarm
```

This command returns to the prompt if successful.

**Get metric statistics**

The following code example shows how to get Amazon CloudWatch metric statistics.

**AWS CLI**

**To get the CPU utilization per EC2 instance**

The following example uses the `get-metric-statistics` command to get the CPU utilization for an EC2 instance with the ID `i-abcdef`:

```bash
aws cloudwatch get-metric-statistics --metric-name CPUUtilization --start-time 2014-04-08T23:18:00Z --end-time 2014-04-09T23:18:00Z --period 3600 --namespace AWS/EC2 --statistics Maximum --dimensions Name=InstanceId,Value=i-abcdef
```

**Output:**

```json
{
    "Datapoints": [
        {
            "Timestamp": "2014-04-09T11:18:00Z",
            "Maximum": 44.79,
            "Unit": "Percent"
        }
    ]
}
```
{ "Timestamp": "2014-04-09T20:18:00Z", "Maximum": 47.92, "Unit": "Percent" },
{ "Timestamp": "2014-04-09T19:18:00Z", "Maximum": 50.85, "Unit": "Percent" },
{ "Timestamp": "2014-04-09T09:18:00Z", "Maximum": 47.92, "Unit": "Percent" },
{ "Timestamp": "2014-04-09T03:18:00Z", "Maximum": 76.84, "Unit": "Percent" },
{ "Timestamp": "2014-04-09T21:18:00Z", "Maximum": 48.96, "Unit": "Percent" },
{ "Timestamp": "2014-04-09T14:18:00Z", "Maximum": 47.92, "Unit": "Percent" },
{ "Timestamp": "2014-04-09T08:18:00Z", "Maximum": 47.92, "Unit": "Percent" },
{ "Timestamp": "2014-04-09T16:18:00Z", "Maximum": 45.55, "Unit": "Percent" },
{ "Timestamp": "2014-04-09T06:18:00Z", "Maximum": 47.92,
"Unit": "Percent",
},
{
 "Timestamp": "2014-04-09T13:18:00Z",
 "Maximum": 45.08,
 "Unit": "Percent"
},
{
 "Timestamp": "2014-04-09T05:18:00Z",
 "Maximum": 47.92,
 "Unit": "Percent"
},
{
 "Timestamp": "2014-04-09T18:18:00Z",
 "Maximum": 46.88,
 "Unit": "Percent"
},
{
 "Timestamp": "2014-04-09T17:18:00Z",
 "Maximum": 52.08,
 "Unit": "Percent"
},
{
 "Timestamp": "2014-04-09T07:18:00Z",
 "Maximum": 47.92,
 "Unit": "Percent"
},
{
 "Timestamp": "2014-04-09T02:18:00Z",
 "Maximum": 51.23,
 "Unit": "Percent"
},
{
 "Timestamp": "2014-04-09T12:18:00Z",
 "Maximum": 47.67,
 "Unit": "Percent"
},
{
 "Timestamp": "2014-04-08T23:18:00Z",
 "Maximum": 46.88,
 "Unit": "Percent"
},
{
 "Timestamp": "2014-04-09T10:18:00Z",
}
Specifying multiple dimensions

The following example illustrates how to specify multiple dimensions. Each dimension is specified as a Name/Value pair, with a comma between the name and the value. Multiple dimensions are separated by a space. If a single metric includes multiple dimensions, you must specify a value for every defined dimension.

For more examples using the `get-metric-statistics` command, see Get Statistics for a Metric in the Amazon CloudWatch Developer Guide.

```
aws cloudwatch get-metric-statistics --metric-name Buffers --namespace MyNameSpace --dimensions Name=InstanceID,Value=i-abcdef Name=InstanceType,Value=m1.small --start-time 2016-10-15T04:00:00Z --end-time 2016-10-19T07:00:00Z --statistics Average --period 60
```

- For API details, see [GetMetricStatistics](#) in AWS CLI Command Reference.
List metrics

The following code example shows how to list the metadata for Amazon CloudWatch metrics. To get data for a metric, use the GetMetricData or GetMetricStatistics actions.

AWS CLI

To list the metrics for Amazon SNS

The following list-metrics example displays the metrics for Amazon SNS.

```
aws cloudwatch list-metrics \
   --namespace "AWS/SNS"
```

Output:

```
{
   "Metrics": [
    {
        "Namespace": "AWS/SNS",
        "Dimensions": [
        {
            "Name": "TopicName",
            "Value": "NotifyMe"
        }
    ],
        "MetricName": "PublishSize"
    },
    {
        "Namespace": "AWS/SNS",
        "Dimensions": [
        {
            "Name": "TopicName",
            "Value": "CFO"
        }
    ],
        "MetricName": "PublishSize"
    },
    {
        "Namespace": "AWS/SNS",
        "Dimensions": [
        {
            "Name": "TopicName",
            "Value": "NotifyMe"
        }
    ],
        "MetricName": "PublishSize"
    }
}
```
"Value": "NotifyMe"
],
"MetricName": "NumberOfNotificationsFailed"
},
{
"Namespace": "AWS/SNS",
"Dimensions": [
{
"Name": "TopicName",
"Value": "NotifyMe"
}
],
"MetricName": "NumberOfNotificationsDelivered"
},
{
"Namespace": "AWS/SNS",
"Dimensions": [
{
"Name": "TopicName",
"Value": "NotifyMe"
}
],
"MetricName": "NumberOfMessagesPublished"
},
{
"Namespace": "AWS/SNS",
"Dimensions": [
{
"Name": "TopicName",
"Value": "CFO"
}
],
"MetricName": "NumberOfMessagesPublished"
},
{
"Namespace": "AWS/SNS",
"Dimensions": [
{
"Name": "TopicName",
"Value": "CFO"
}
],
"MetricName": "NumberOfNotificationsDelivered"
Put data into a metric

The following code example shows how to publish metric data points to Amazon CloudWatch.

AWS CLI

To publish a custom metric to Amazon CloudWatch

The following example uses the put-metric-data command to publish a custom metric to Amazon CloudWatch:

```bash
aws cloudwatch put-metric-data --namespace "Usage Metrics" --metric-data file://metric.json
```

The values for the metric itself are stored in the JSON file, `metric.json`.

Here are the contents of that file:

```json
[
  {
    "MetricName": "New Posts",
    "Timestamp": "Wednesday, June 12, 2013 8:28:20 PM",
    "Value": 0.50,
    "Unit": "Count"
  }
]
```
For more information, see Publishing Custom Metrics in the *Amazon CloudWatch Developer Guide*.

**To specify multiple dimensions**

The following example illustrates how to specify multiple dimensions. Each dimension is specified as a Name=Value pair. Multiple dimensions are separated by a comma:

```bash
aws cloudwatch put-metric-data --metric-name Buffers --namespace MyNameSpace --unit Bytes --value 231434333 --dimensions InstanceID=1-23456789,InstanceType=m1.small
```

- For API details, see [PutMetricData](https://docs.aws.amazon.com/cli/latest/reference/cloudwatch/put-metric-data.html) in *AWS CLI Command Reference*.

**set-alarm-state**

The following code example shows how to use `set-alarm-state`.

**AWS CLI**

**To temporarily change the state of an alarm**

The following example uses the `set-alarm-state` command to temporarily change the state of an Amazon CloudWatch alarm named "myalarm" and set it to the ALARM state for testing purposes:

```bash
aws cloudwatch set-alarm-state --alarm-name "myalarm" --state-value ALARM --state-reason "testing purposes"
```

This command returns to the prompt if successful.

- For API details, see [SetAlarmState](https://docs.aws.amazon.com/cli/latest/reference/cloudwatch/set-alarm-state.html) in *AWS CLI Command Reference*.

**CloudWatch Logs examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with CloudWatch Logs.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.
Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- **Actions**

**Actions**

**Create a log group**

The following code example shows how to create a new CloudWatch Logs log group.

**AWS CLI**

The following command creates a log group named `my-logs`:

```
aws logs create-log-group --log-group-name my-logs
```

- For API details, see [CreateLogGroup](#) in *AWS CLI Command Reference*.

**Create a new log stream**

The following code example shows how to create a new CloudWatch Logs log stream.

**AWS CLI**

The following command creates a log stream named `20150601` in the log group `my-logs`:

```
aws logs create-log-stream --log-group-name my-logs --log-stream-name 20150601
```

- For API details, see [CreateLogStream](#) in *AWS CLI Command Reference*.

**Delete a log group**

The following code example shows how to delete an existing CloudWatch Logs log group.
The following command deletes a log group named `my-logs`:

```
aws logs delete-log-group --log-group-name my-logs
```

- For API details, see [DeleteLogGroup](#) in *AWS CLI Command Reference*.

### Describe log groups

The following code example shows how to describe CloudWatch Logs log groups.

**AWS CLI**

The following command describes a log group named `my-logs`:

```
aws logs describe-log-groups --log-group-name-prefix my-logs
```

**Output:**

```
{
    "logGroups": [
        {
            "storedBytes": 0,
            "metricFilterCount": 0,
            "creationTime": 1433189500783,
            "logGroupName": "my-logs",
            "retentionInDays": 5,
        }
    ]
}
```

- For API details, see [DescribeLogGroups](#) in *AWS CLI Command Reference*.

### delete-log-stream

The following code example shows how to use `delete-log-stream`.

**Actions and scenarios**

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AWS CLI

The following command deletes a log stream named 20150531 from a log group named my-logs:

```
aws logs delete-log-stream --log-group-name my-logs --log-stream-name 20150531
```

- For API details, see [DeleteLogStream](https://docs.aws.amazon.com/cli/latest/reference/logs/delete-log-stream.html) in AWS CLI Command Reference.

delete-retention-policy

The following code example shows how to use delete-retention-policy.

AWS CLI

The following command removes the retention policy that has previously been applied to a log group named my-logs:

```
aws logs delete-retention-policy --log-group-name my-logs
```


describe-log-streams

The following code example shows how to use describe-log-streams.

AWS CLI

The following command shows all log streams starting with the prefix 2015 in the log group my-logs:

```
aws logs describe-log-streams --log-group-name my-logs --log-stream-name-prefix 2015
```

**Output:**

```
{
    "logStreams": [
    {
        "creationTime": 1433189871774,
```
   "logStreamName": "20150531",
   "storedBytes": 0
 },
 {
   "creationTime": 1433189873898,
   "logStreamName": "20150601",
   "storedBytes": 0
 }
]
}

• For API details, see DescribeLogStreams in AWS CLI Command Reference.

get-log-events

The following code example shows how to use get-log-events.

AWS CLI

The following command retrieves log events from a log stream named 20150601 in the log group my-logs:

aws logs get-log-events --log-group-name my-logs --log-stream-name 20150601

Output:

{
   "nextForwardToken":
   "f/31961209122447488583055879464742346735121166569214640130",
   "events": [
   {
      "ingestionTime": 1433190494190,
      "timestamp": 1433190184356,
      "message": "Example Event 1"
   },
   {
      "ingestionTime": 1433190516679,
      "timestamp": 1433190184356,
The following code example shows how to use `put-log-events`.

**AWS CLI**

The following command puts log events to a log stream named `20150601` in the log group `my-logs`:

```bash
aws logs put-log-events --log-group-name my-logs --log-stream-name 20150601 --log-events file://events
```

**Output:**

```json
{
   "nextSequenceToken": "495426724868310740095796045676567882148068632824696007346"
}
```

The above example reads a JSON array of events from a file named `events` in the current directory:

```json
[
   {
      "timestamp": 1433190184356,
      "message": "Example Event 1"
   },
   {
      "message": "Example Event 2"
   }
]
```

• For API details, see `GetLogEvents` in *AWS CLI Command Reference*.
Each subsequent call requires the next sequence token provided by the previous call to be specified with the sequence token option:

```bash
aws logs put-log-events --log-group-name my-logs --log-stream-name 20150601 --log-events file://events2 --sequence-token "49542672486831074009579604567656788214806863282469607346"
```

Output:

```json
{
   "nextSequenceToken": "49542672486831074009579604567900991230369019956308219826"
}
```

- For API details, see **PutLogEvents** in *AWS CLI Command Reference*.

**put-retention-policy**

The following code example shows how to use `put-retention-policy`.

**AWS CLI**

The following command adds a 5 day retention policy to a log group named `my-logs`:

```bash
aws logs put-retention-policy --log-group-name my-logs --retention-in-days 5
```

- For API details, see **PutRetentionPolicy** in *AWS CLI Command Reference*.

**CodeArtifact examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with CodeArtifact.
Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics
- Actions

Actions

associate-external-connection

The following code example shows how to use associate-external-connection.

AWS CLI

To add an external connection to a repository

The following associate-external-connection example adds an external connection to npmjs.com to a repository named test-repo.

```
aws codeartifact associate-external-connection \
    --repository test-repo \
    --domain test-domain \
    --external-connection public:npmjs
```

Output:

```
{
    "repository": {
        "name": "test-repo",
        "administratorAccount": "111122223333",
        "domainName": "test-domain",
        "domainOwner": "111122223333",
    }
}
```
For more information, see Add an external connection in the AWS CodeArtifact User Guide.

- For API details, see AssociateExternalConnection in AWS CLI Command Reference.

**copy-package-versions**

The following code example shows how to use `copy-package-versions`.

**AWS CLI**

To copy package versions from one repository to another

The following `copy-package-versions` moves versions 4.0.0 and 5.0.0 of a package named test-package from my-repo to test-repo.

```bash
aws codeartifact copy-package-versions
   --domain test-domain
   --source-repository my-repo
   --destination-repository test-repo
   --format npm
   --package test-package
   --versions '"4.0.0", "5.0.0"'
```

Output:

```json
{
   "format": "npm",
   "package": "test-package",
   "versions": [
      {
         "version": "5.0.0",
      }
   ]
}
```
For more information, see Copy packages between repositories in the AWS CodeArtifact User Guide.

- For API details, see CopyPackageVersions in AWS CLI Command Reference.

create-domain

The following code example shows how to use create-domain.

AWS CLI

To create a domain

The following create-domain example creates a domain named test-domain.

```bash
aws codeartifact create-domain \
  --domain test-domain
```

Output:

```json
{
  "domain": {
    "name": "test-domain",
    "owner": "111122223333",
    "status": "Active",
    "createdAt": "2020-10-20T13:16:48.559000-04:00",
    "encryptionKey": "arn:aws:kms:us-west-2:111122223333:key/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
    "repositoryCount": 0,
    "assetSizeBytes": 0
  }
}
```
For more information, see Create a domain in the AWS CodeArtifact User Guide.
• For API details, see CreateDomain in AWS CLI Command Reference.

create-repository

The following code example shows how to use create-repository.

AWS CLI

To create a repository

The following create-repository example creates a repository named test-repo inside a domain named test-domain.

```bash
aws codeartifact create-repository \
--domain test-domain \ 
--domain-owner 111122223333 \ 
--repository test-repo \ 
--description "This is a test repository."
```

Output:

```
{
   "repository": {
      "name": "test-repo",
      "administratorAccount": "111122223333",
      "domainName": "test-domain",
      "domainOwner": "111122223333",
      "description": "This is a test repository.",
      "upstreams": [],
      "externalConnections": []
   }
}
```

For more information, see Create a domain in the AWS CodeArtifact User Guide.
• For API details, see CreateRepository in AWS CLI Command Reference.
**delete-domain**

The following code example shows how to use delete-domain.

**AWS CLI**

**To delete a domain**

The following delete-domain example deletes a domain named **test-domain**.

```
aws codeartifact delete-domain \
    --domain test-domain
```

**Output:**

```
{
    "domain": {
        "name": "test-domain",
        "owner": "417498243647",
        "status": "Deleted",
        "createdAt": "2020-10-20T13:16:48.559000-04:00",
        "repositoryCount": 0,
        "assetSizeBytes": 0
    }
}
```

For more information, see **Delete a domain** in the *AWS CodeArtifact User Guide*.

- For API details, see **DeleteDomain** in *AWS CLI Command Reference*.

**delete-domain-permissions-policy**

The following code example shows how to use delete-domain-permissions-policy.

**AWS CLI**

**To delete the permissions policy document from a domain**

The following delete-domain-permissions-policy example deletes the permission policy from a domain named test-domain.
aws codeartifact delete-domain-permissions-policy \
--domain test-domain

Output:

{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Sid": "BasicDomainPolicy",
            "Action": [
                "codeartifact:GetDomainPermissionsPolicy",
                "codeartifact:ListRepositoriesInDomain",
                "codeartifact:GetAuthorizationToken",
                "codeartifact:CreateRepository"
            ],
            "Effect": "Allow",
            "Resource": "*",
            "Principal": {
                "AWS": "arn:aws:iam::111122223333:root"
            }
        }
    ]
}

For more information, see Delete a domain policy in the AWS CodeArtifact User Guide.
- For API details, see DeleteDomainPermissionsPolicy in AWS CLI Command Reference.

delete-package-versions

The following code example shows how to use delete-package-versions.

AWS CLI

To delete package versions

The following delete-package-versions example deletes version 4.0.0 of a package named test-package.

aws codeartifact delete-package-versions \
--domain test-domain \

Output:

```json
{
  "successfulVersions": {
    "4.0.0": {
      "revision": "Ciqe5/9yicvkJT13b5/LdLpCyE6fqA7poa9qP+F15P=s=",
      "status": "Deleted"
    }
  },
  "failedVersions": {}
}
```

For more information, see [Delete a package version](#) in the [AWS CodeArtifact User Guide](#).

- For API details, see [DeletePackageVersions](#) in [AWS CLI Command Reference](#).

### delete-repository

The following code example shows how to use `delete-repository`.

**AWS CLI**

**To delete a repository**

The following `delete-repository` example deletes a repository named `test-repo` in a domain named `test-domain`.

```
aws codeartifact delete-repository \
  --domain test-domain \
  --repository test-repo
```

Output:

```json
{
  "repository": {
    "name": "test-repo",
    "administratorAccount": "111122223333",
    "administratorEmail": "test-repo@111122223333.com",
    "domain": "test-domain",
    "status": "Successful",
    "createdBy": "test-user"
  }
}
```
For more information, see Delete a repository in the AWS CodeArtifact User Guide.

- For API details, see DeleteRepository in AWS CLI Command Reference.

delete-repository-permissions-policy

The following code example shows how to use delete-repository-permissions-policy.

AWS CLI

To delete a permissions policy from a repository

The following delete-repository-permissions-policy example deletes the permission policy from a repository named test-repo.

```bash
aws codeartifact delete-repository-permissions-policy \
   --domain test-domain \
   --repository test-repo
```

Output:

```json
{
   "Version": "2012-10-17",
   "Statement": [
      {
         "Effect": "Allow",
         "Principal": {
            "AWS": "arn:aws:iam::111122223333:root"
         },
         "Action": [
            "codeartifact:DescribePackageVersion",
            "codeartifact:DescribeRepository"
         ]
      }
   ]
}
```
For more information, see [Delete a policy](https://docs.aws.amazon.com/codeartifact/latest/userguide/delete-policy.html) in the *AWS CodeArtifact User Guide*.

- For API details, see [DeleteRepositoryPermissionsPolicy](https://docs.aws.amazon.com/cli/latest/reference/codeartifact/delete-repository-permissions-policy.html) in *AWS CLI Command Reference*.

### describe-domain

The following code example shows how to use `describe-domain`.

**AWS CLI**

**To get information about a domain**

The following `describe-domain` example returns a DomainDescription object for a domain named `test-domain`.

```bash
aws codeartifact describe-domain \
  --domain test-domain
```

**Output:**

```json
{
   "domain": {
      "name": "test-domain",
      "owner": "111122223333",
      "status": "Active",
      "createdTime": "2020-10-20T13:16:48.559000-04:00",
      "encryptionKey": "arn:aws:kms:us-west-2:111122223333:key/a1b2c3d4-5678-90ab-cdef-exampl...",
      "repositoryCount": 2,
   }
}
```
describe-repository

The following code example shows how to use describe-repository.

AWS CLI

To get information about a repository

The following describe-repository example returns a RepositoryDescription object for a repository named test-repo.

```
aws codeartifact describe-repository \
    --domain test-domain \
    --repository test-repo
```

Output:

```
{
    "repository": {
        "name": "test-repo",
        "administratorAccount": "111122223333",
        "domainName": "test-domain",
        "domainOwner": "111122223333",
        "description": "This is a test repository.",
        "upstreams": [],
        "externalConnections": []
    }
}
```

For more information, see Create a domain in the AWS CodeArtifact User Guide.

- For API details, see DescribeRepository in AWS CLI Command Reference.
disassociate-external-connection

The following code example shows how to use disassociate-external-connection.

AWS CLI

To remove an external connection from a repository

The following disassociate-external-connection example removes an external connection to npmjs.com from a repository named test-repo.

```bash
aws codeartifact disassociate-external-connection \
    --repository test-repo \
    --domain test-domain \
    --external-connection public:npmjs
```

Output:

```json
{
    "repository": {
        "name": "test-repo",
        "administratorAccount": "111122223333",
        "domainName": "test-domain",
        "domainOwner": "111122223333",
        "upstreams": [],
        "externalConnections": []
    }
}
```

For more information, see [Remove an external connection](https://docs.aws.amazon.com/codeartifact/latest/userguide/rm-external-connection.html) in the *AWS CodeArtifact User Guide*.

- For API details, see [DisassociateExternalConnection](https://docs.aws.amazon.com/cli/latest/reference/codeartifact/disassociate-external-connection.html) in *AWS CLI Command Reference*.

dispose-package-versions

The following code example shows how to use dispose-package-versions.

AWS CLI

To delete a package version's assets and set its status to Disposed

```bash
aws codeartifact dispose-package-versions \
    --repository test-repo \
    --domain test-domain \
    --package-name test-package \
    --package-version 0.1.0
```

Output:

```json
{
    "repository": {
        "name": "test-repo",
        "administratorAccount": "111122223333",
        "domainName": "test-domain",
        "domainOwner": "111122223333",
        "upstreams": [],
        "externalConnections": []
    }
}
```
The following `dispose-package-versions` example deletes the assets of test-package version 4.0.0 and sets its status to Disposed.

```bash
aws codeartifact dispose-package-versions \
  --domain test-domain \
  --repo test-repo \n  --format npm \n  --package test-package \n  --versions 4.0.0
```

Output:

```json
{
    "successfulVersions": {
        "4.0.0": {
            "revision": "Ciqe5/9yicvkJT13b5/LdLpCyE6fqA7poa9qp+F1 lp=",
            "status": "Disposed"
        }
    },
    "failedVersions": {}
}
```

For more information, see [Working with packages in CodeArtifact](aws-codeartifact-guide) in the *AWS CodeArtifact User Guide*.

- For API details, see [DisposePackageVersions](aws-cli-command-reference) in *AWS CLI Command Reference*.

### get-authorization-token

The following code example shows how to use `get-authorization-token`.

**AWS CLI**

**To get an authorization token**

The following `get-authorization-token` example retrieves a CodeArtifact authorization token.

```bash
aws codeartifact get-authorization-token \
  --domain test-domain \
  --query authorizationToken \
  --output text
```
This command will return the authorization token. You can store the output in an environment variable when calling the command.

For more information, see Configure pip without the login command in the AWS CodeArtifact User Guide.

- For API details, see GetAuthorizationToken in AWS CLI Command Reference.

get-domain-permissions-policy

The following code example shows how to use get-domain-permissions-policy.

AWS CLI

To get the permissions policy document for a domain

The following get-domain-permissions-policy example gets the permission policy attached to a domain named test-domain.

```bash
aws codeartifact get-domain-permissions-policy \\
--domain test-domain
```

Output:

```json
{
   "Version": "2012-10-17",
   "Statement": [
   {
      "Sid": "BasicDomainPolicy",
      "Action": [
         "codeartifact:GetDomainPermissionsPolicy",
         "codeartifact:ListRepositoriesInDomain",
         "codeartifact:GetAuthorizationToken",
         "codeartifact:CreateRepository"
      ],
      "Effect": "Allow",
      "Resource": "*",
      "Principal": {
         "AWS": "arn:aws:iam::111122223333:root"
      }
   }
}
```
For more information, see Read a domain policy in the AWS CodeArtifact User Guide.

- For API details, see GetDomainPermissionsPolicy in AWS CLI Command Reference.

get-package-version-asset

The following code example shows how to use get-package-version-asset.

AWS CLI

To get an asset from a package version

The following get-package-version-asset example retrieves the package.tgz asset for version 4.0.0 of an npm package named test-package.

```
aws codeartifact get-package-version-asset \
    --domain test-domain \
    --repository test-repo \
    --format npm \
    --package test-package \
    --package-version 4.0.0 \
    --asset 'package.tgz' \
    outfileName
```

Output:

The output for this command will also store the raw asset in the file provided in place of outfileName.

```
{
    "assetName": "package.tgz",
    "packageVersion": "4.0.0",
    "packageVersionRevision": "Ciqe5/9yicvkJT13b5/LdLpCyE6fqA7poa9qp+F1pS="
}
```

For more information, see List package version assets in the AWS CodeArtifact User Guide.

- For API details, see GetPackageVersionAsset in AWS CLI Command Reference.
get-package-version-readme

The following code example shows how to use `get-package-version-readme`.

**AWS CLI**

**To get a package version’s readme file**

The following `get-package-version-readme` example retrieves the readme file for version 4.0.0 of an npm package named test-package.

```
aws codeartifact get-package-version-readme \
    --domain test-domain \
    --repo test-repo \
    --format npm \
    --package test-package \
    --package-version 4.0.0
```

Output:

```
{
    "format": "npm",
    "package": "test-package",
    "version": "4.0.0",
    "readme": "<div align="center">
        <a href="https://github.com/test-package/testpack"> ... more content ... </a>
    
    "versionRevision": "Ciqe5/9yicvkJT13b5/LdLpCyE6fqA7poa9qp+FilPs="
}
```

For more information, see [View package version readme file](https://docs.aws.amazon.com/codeartifact/latest/userguide/) in the *AWS CodeArtifact User Guide*.


get-repository-endpoint

The following code example shows how to use `get-repository-endpoint`.

**AWS CLI**

**To get a repository’s URL endpoint**

The following `get-repository-endpoint` example returns the npm endpoint for the test-repo repository.
aws codeartifact get-repository-endpoint \
  --domain test-domain \
  --repository test-repo \
  --format npm

Output:

```
{
  "repositoryEndpoint": "https://test-domain-111122223333.d.codeartifact.us-west-2.amazonaws.com/npm/test-repo/
}
```

For more information, see [Connect to a repository](#) in the *AWS CodeArtifact User Guide*.

- For API details, see [GetRepositoryEndpoint](#) in *AWS CLI Command Reference*.

### get-repository-permissions-policy

The following code example shows how to use `get-repository-permissions-policy`.

#### AWS CLI

**To get the permissions policy document for a repository**

The following `get-repository-permissions-policy` example gets the permission policy attached to a repository named test-repo.

```
aws codeartifact get-repository-permissions-policy \
  --domain test-domain \
  --repository test-repo
```

Output:

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Principal": {
        "AWS": "arn:aws:iam::111122223333:root"
      },
      "Action": [
```
"codeartifact:DescribePackageVersion",
"codeartifact:DescribeRepository",
"codeartifact:GetPackageVersionReadme",
"codeartifact:GetRepositoryEndpoint",
"codeartifact:ListPackages",
"codeartifact:ListPackageVersions",
"codeartifact:ListPackageVersionAssets",
"codeartifact:ListPackageVersionDependencies",
"codeartifact:ReadFromRepository"
],
"Resource": "*
}
}
}

For more information, see Read a policy in the AWS CodeArtifact User Guide.

- For API details, see GetRepositoryPermissionsPolicy in AWS CLI Command Reference.

list-domains

The following code example shows how to use list-domains.

AWS CLI

To list domains

The following list-domains example returns a summary of all domains owned by the AWS account that makes the call.

/aws codeartifact list-domains

Output:

{
   "domains": [
   {
      "name": "my-domain",
      "owner": "111122223333",
      "status": "Active",
      "encryptionKey": "arn:aws:kms:us-west-2:111122223333:key/a1b2c3d4-5678-90ab-cdef-EXAMPLE1111"
   },
...}
For more information, see Working with domains in CodeArtifact in the AWS CodeArtifact User Guide.

- For API details, see ListDomains in AWS CLI Command Reference.

**list-package-version-assets**

The following code example shows how to use list-package-version-assets.

**AWS CLI**

To view a package version's assets

The following list-package-version-assets example retrieves the assets for version 4.0.0 of an npm package named test-package.

```
aws codeartifact list-package-version-assets \
  --domain test-domain \
  --repo test-repo \
  --format npm \
  --package test-package \
  --package-version 4.0.0
```

Output:

```
{
  "format": "npm",
  "package": "test-package",
  "version": "4.0.0",
  "versionRevision": "Ciqe5/9yicvkJT13b5/LdLpCyE6fqa7poa9qp+FilPs=",
  "assets": [
    {
      "name": "package.tgz",
    }],
```
For more information, see [List package version assets](https://docs.aws.amazon.com/codeartifact/latest/userguide/cr-list-package-version-dependencies.html) in the *AWS CodeArtifact User Guide*.

- For API details, see [ListPackageVersionAssets](https://docs.aws.amazon.com/cli/latest/reference/codeartifact/list-package-version-assets.html) in *AWS CLI Command Reference*.

**list-package-version-dependencies**

The following code example shows how to use `list-package-version-dependencies`.

**AWS CLI**

To view a package version's dependencies

The following `list-package-version-dependencies` example retrieves the dependencies for version 4.0.0 of an npm package named test-package.

```bash
aws codeartifact list-package-version-dependencies \
  --domain test-domain \
  --repo test-repo \
  --format npm \
  --package test-package \
  --package-version 4.0.0
```

**Output:**

```json
{
  "format": "npm",
  "package": "test-package",
  "version": "4.0.0",
  "versionRevision": "Ciqe5/9yicvkJT13b5/LdLpCyE6fqA7poa9qp+FilPs=",
  "dependencies": [
```
For more information, see View and update package version details and dependencies in the AWS CodeArtifact User Guide.

- For API details, see ListPackageVersionDependencies in AWS CLI Command Reference.

**list-package-versions**

The following code example shows how to use list-package-versions.

**AWS CLI**

To list package versions for a package

The following list-package-versions example returns a list of package versions for a package named kind-of.

```bash
aws codeartifact list-package-versions 
   --package kind-of 
   --domain test-domain 
   --repository test-repo 
   --format npm
```

Output:

```json
{
   "defaultDisplayVersion": "1.0.1",
   "format": "npm",
   "package": "kind-of",
}
```
"versions": [
  {
    "version": "1.0.1",
    "revision": "REVISION-SAMPLE-1-C7F4S5E9B772FC",
    "status": "Published"
  },
  {
    "version": "1.0.0",
    "revision": "REVISION-SAMPLE-2-C752BEEF6D2CFC",
    "status": "Published"
  },
  {
    "version": "0.1.2",
    "revision": "REVISION-SAMPLE-3-654S65A5C5E1FC",
    "status": "Published"
  },
  {
    "version": "0.1.1",
    "revision": "REVISION-SAMPLE-1-C7F4S5E9B772FC"
  },
  {
    "version": "0.1.0",
    "revision": "REVISION-SAMPLE-4-AF669139B772FC",
    "status": "Published"
  }
]

For more information, see List package versions in the AWS CodeArtifact User Guide.

- For API details, see ListPackageVersions in AWS CLI Command Reference.

list-packages

The following code example shows how to use list-packages.

AWS CLI

To list packages in a repository

The following list-packages example list packages in a repository named test-repo in a domain named test-domain.
aws codeartifact list-packages
   --domain test-domain
   --repository test-repo

Output:

```
{
   "packages": [
       {
       "format": "npm",
       "package": "lodash"
       },
       {
       "format": "python",
       "package": "test-package"
       }
   ]
}
```

For more information, see [List package names](https://docs.aws.amazon.com/codeartifact/latest/userguide/list-package-names.html) in the *AWS CodeArtifact User Guide*.

- For API details, see [ListPackages](https://docs.aws.amazon.com/cli/latest/reference/codeartifact/list-packages.html) in *AWS CLI Command Reference*.

### list-repositories

The following code example shows how to use `list-repositories`.

#### AWS CLI

**To list repositories**

The following `list-repositories` example returns a summary of all repositories in domain owned by the AWS account that makes the call.

```bash
aws codeartifact list-repositories
```

Output:

```
{
   "repositories": [
       {

```
For more information, see List repositories in the AWS CodeArtifact User Guide.

- For API details, see ListRepositories in AWS CLI Command Reference.

list-repositories-in-domain

The following code example shows how to use list-repositories-in-domain.

AWS CLI

To list repositories in a domain

The following list-repositories-in-domain example returns a summary of all repositories in the test-domain domain.
aws codeartifact list-repositories-in-domain \
   --domain test-domain

Output:

```json
{
    "repositories": [
        {
            "name": "test-repo",
            "administratorAccount": "111122223333",
            "domainName": "test-domain",
            "domainOwner": "111122223333",
            "description": "This is a test repository."
        },
        {
            "name": "test-repo2",
            "administratorAccount": "111122223333",
            "domainName": "test-domain",
            "domainOwner": "111122223333",
            "description": "This is a test repository."
        }
    ]
}
```

For more information, see [List repositories](https://docs.aws.amazon.com/codeartifact/latest/userguide/list-repositories.html) in the *AWS CodeArtifact User Guide*.

- For API details, see [ListRepositoriesInDomain](https://docs.aws.amazon.com/cli/latest/reference/codeartifact/list-repositories-in-domain.html) in *AWS CLI Command Reference*.

**login**

The following code example shows how to use `login`.

**AWS CLI**

**To configure authentication to your repository with the login command**

The following `login` example configures the npm package manager with a repository named test-repo in a domain named test-domain.
aws codeartifact login \
   --domain test-domain \
   --repository test-repo \
   --tool npm

Output:

Login expires in 12 hours at 2020-11-12 01:53:16-05:00

For more information, see Getting started with the AWS CLI in the AWS CodeArtifact User Guide.
- For API details, see Login in AWS CLI Command Reference.

put-domain-permissions-policy

The following code example shows how to use put-domain-permissions-policy.

AWS CLI

To attach a permissions policy to a domain

The following put-domain-permissions-policy example attaches a permission policy that is defined in the policy.json file to a domain named test-domain.

aws codeartifact put-domain-permissions-policy \
   --domain test-domain \
   --policy-document file://PATH/TO/policy.json

Output:

{
   "policy": {
      "document": "{ ...policy document content...}"
   }
}
For more information, see Set a domain policy in the AWS CodeArtifact User Guide.

- For API details, see PutDomainPermissionsPolicy in AWS CLI Command Reference.

put-repository-permissions-policy

The following code example shows how to use put-repository-permissions-policy.

AWS CLI

To attach a permissions policy to a repository

The following put-repository-permissions-policy example attaches a permission policy that is defined in the policy.json file to a repository named test-repo.

```bash
aws codeartifact put-repository-permissions-policy "
--domain test-domain "
--repository test-repo "
--policy-document file://PATH/TO/policy.json
```

Output:

```json
{
   "policy": {
      "resourceArn": "arn:aws:codeartifact:region-id:11122223333:repository/test-
domain/test-repo",
      "document": "{ ...policy document content...}",
      "revision": "MQlyyTQRASRU3HB58gBtSDHXG7Q3hvxxxxxxxxx="
   }
}
```

For more information, see Set a policy in the AWS CodeArtifact User Guide.

- For API details, see PutRepositoryPermissionsPolicy in AWS CLI Command Reference.

update-package-versions-status

The following code example shows how to use update-package-versions-status.

AWS CLI

To update package version status
The following update-package-versions-status example updates the status of version 4.0.0 of the test-package package to Archived.

```
aws codeartifact update-package-versions-status \
    --domain test-domain \
    --repo test-repo \
    --format npm \
    --package test-package \
    --versions 4.0.0 \
    --target-status Archived
```

Output:

```
{
    "successfulVersions": {
        "4.0.0": {
            "revision": "Ciqe5/9yicvkJT13b5/LdLpCyE6fqA7poa9qp+FilPs=",
            "status": "Archived"
        }
    },
    "failedVersions": {}
}
```

For more information, see Update package version status in the AWS CodeArtifact User Guide.

- For API details, see UpdatePackageVersionsStatus in AWS CLI Command Reference.

update-repository

The following code example shows how to use update-repository.

AWS CLI

**To update a repository**

The following update-repository example updates the description of a repo named test-repo in a domain named test-domain to "this is an updated description".

```
aws codeartifact update-repository \
    --domain test-domain \
    --repository test-repo
```
Output:

```
{
   "repository": {
      "name": "test-repo",
      "administratorAccount": "111122223333",
      "domainName": "test-domain",
      "domainOwner": "111122223333",
      "description": "this is an updated description",
      "upstreams": [],
      "externalConnections": []
   }
}
```

For more information, see View or modify a repository configuration in the AWS CodeArtifact User Guide.

- For API details, see UpdateRepository in AWS CLI Command Reference.

**CodeBuild examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with CodeBuild.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- Actions
Actions

Create a project

The following code example shows how to create an CodeBuild project.

AWS CLI

Example 1: To create an AWS CodeBuild build project

The following `create-project` example creates a CodeBuild build project using source files from an S3 bucket

```bash
aws codebuild create-project \
  --name "my-demo-project" \
  --source "{"type": "S3","location": "codebuild-us-west-2-123456789012-input-bucket/my-source.zip"}" \
  --artifacts "{"type": "S3","location": "codebuild-us-west-2-123456789012-output-bucket"}" \
  --environment "{"type": "LINUX_CONTAINER","image": "aws/codebuild/standard:1.0","computeType": "BUILD_GENERAL1_SMALL"}" \
  --service-role "arn:aws:iam::123456789012:role/service-role/my-codebuild-service-role"
```

Output:

```
{
  "project": {
    "name": "my-cli-demo-project",
    "serviceRole": "arn:aws:iam::123456789012:role/service-role/my-codebuild-service-role",
    "lastModified": 1556839783.274,
    "badge": {
      "badgeEnabled": false
    },
    "queuedTimeoutInMinutes": 480,
    "environment": {
      "image": "aws/codebuild/standard:1.0",
      "computeType": "BUILD_GENERAL1_SMALL",
      "type": "LINUX_CONTAINER",
      "imagePullCredentialsType": "CODEBUILD",
      "privilegedMode": false,
    }
  }
}
```
Example 2: To create an AWS CodeBuild build project using a JSON input file for the parameters

The following create-project example creates a CodeBuild build project by passing all of the required parameters in a JSON input file. Create the input file template by running the command with only the --generate-cli-skeleton parameter.

```bash
aws codebuild create-project --cli-input-json file://create-project.json
```

The input JSON file `create-project.json` contains the following content:

```json
{
    "name": "codebuild-demo-project",
    "source": {
        "type": "S3",
        "location": "codebuild-region-ID-account-ID-input-bucket/MessageUtil.zip"
    },
    "artifacts": {
```
"type": "S3",
"location": "codebuild-region-ID-account-ID-output-bucket"
},
"environment": {
  "type": "LINUX_CONTAINER",
  "image": "aws/codebuild/standard:1.0",
  "computeType": "BUILD_GENERAL1_SMALL"
},
"serviceRole": "serviceIAMRole"

Output:

{
  "project": {
    "name": "codebuild-demo-project",
    "serviceRole": "serviceIAMRole",
    "tags": [],
    "artifacts": {
      "packaging": "NONE",
      "type": "S3",
      "location": "codebuild-region-ID-account-ID-output-bucket",
      "name": "message-util.zip"
    },
    "lastModified": 1472661575.244,
    "timeoutInMinutes": 60,
    "created": 1472661575.244,
    "environment": {
      "computeType": "BUILD_GENERAL1_SMALL",
      "image": "aws/codebuild/standard:1.0",
      "type": "LINUX_CONTAINER",
      "environmentVariables": []
    },
    "source": {
      "type": "S3",
      "location": "codebuild-region-ID-account-ID-input-bucket/MessageUtil.zip"
    },
    "arn": "arn:aws:codebuild:region-ID:account-ID:project/codebuild-demo-project"
  }
}
For more information, see Create a Build Project (AWS CLI) in the AWS CodeBuild User Guide.

- For API details, see CreateProject in AWS CLI Command Reference.

**batch-delete-builds**

The following code example shows how to use batch-delete-builds.

**AWS CLI**

**To delete builds in AWS CodeBuild.**

The following `batch-delete-builds` example deletes builds in CodeBuild with the specified IDs.

```bash
aws codebuild batch-delete-builds --ids my-build-project-one:a1b2c3d4-5678-9012-abcd-11111EXAMPLE my-build-project-two:a1b2c3d4-5678-9012-abcd-22222EXAMPLE
```

Output:

```json
{
    "buildsNotDeleted": [
        {
            "id": "arn:aws:codebuild:us-west-2:123456789012:build/my-build-project-one:a1b2c3d4-5678-9012-abcd-11111EXAMPLE",
            "statusCode": "BUILD_IN_PROGRESS"
        }
    ],
    "buildsDeleted": [
        "arn:aws:codebuild:us-west-2:123456789012:build/my-build-project-two:a1b2c3d4-5678-9012-abcd-22222EXAMPLE"
    ]
}
```

For more information, see Delete Builds (AWS CLI) in the AWS CodeBuild User Guide.

- For API details, see BatchDeleteBuilds in AWS CLI Command Reference.

**batch-get-build-batches**

The following code example shows how to use batch-get-build-batches.
AWS Command Line Interface

To view details of builds in AWS CodeBuild.

The following batch-get-build-batches example gets information about build batches in CodeBuild with the specified IDs.

```
aws codebuild batch-get-build-batches \
   --ids codebuild-demo-project:e9c4f4df-3f43-41d2-ab3a-60fe2EXAMPLE
```

Output:

```
{
   "buildBatches": [
      {
         "id": "codebuild-demo-project:e9c4f4df-3f43-41d2-ab3a-60fe2EXAMPLE",
         "arn": "arn:aws:codebuild:us-west-2:123456789012:build-batch/codebuild-demo-project:e9c4f4df-3f43-41d2-ab3a-60fe2EXAMPLE",
         "startTime": "2020-11-03T21:52:20.775000+00:00",
         "endTime": "2020-11-03T21:56:59.784000+00:00",
         "currentPhase": "SUCCEEDED",
         "buildBatchStatus": "SUCCEEDED",
         "resolvedSourceVersion": "0a6546f68309560d08a310daac92314c4d378f6b",
         "projectName": "codebuild-demo-project",
         "phases": [
            {
               "phaseType": "SUBMITTED",
               "phaseStatus": "SUCCEEDED",
               "startTime": "2020-11-03T21:52:20.775000+00:00",
               "endTime": "2020-11-03T21:52:20.976000+00:00",
               "durationInSeconds": 0
            },
            {
               "phaseType": "DOWNLOAD_BATCHSPEC",
               "phaseStatus": "SUCCEEDED",
               "startTime": "2020-11-03T21:52:20.976000+00:00",
               "endTime": "2020-11-03T21:52:57.401000+00:00",
               "durationInSeconds": 36
            },
            {
               "phaseType": "IN_PROGRESS",
               "phaseStatus": "SUCCEEDED",
               "startTime": "2020-11-03T21:52:57.401000+00:00",
               "durationInSeconds": 0
            }
         ]
      }
   ]
}
```
"endTime": "2020-11-03T21:56:59.751000+00:00",
"durationInSeconds": 242
},
{
  "phaseType": "COMBINE_ARTIFACTS",
  "phaseStatus": "SUCCEEDED",
  "startTime": "2020-11-03T21:56:59.751000+00:00",
  "endTime": "2020-11-03T21:56:59.784000+00:00",
  "durationInSeconds": 0
},
{
  "phaseType": "SUCCEEDED",
  "startTime": "2020-11-03T21:56:59.784000+00:00"
}
],
"source": {
  "type": "GITHUB",
  "location": "https://github.com/my-repo/codebuild-demo-project.git",
  "gitCloneDepth": 1,
  "gitSubmodulesConfig": {
    "fetchSubmodules": false
  },
  "reportBuildStatus": false,
  "insecureSsl": false
},
"secondarySources": [],
"secondarySourceVersions": [],
"artifacts": {
  "location": ""
},
"secondaryArtifacts": [],
"cache": {
  "type": "NO_CACHE"
},
"environment": {
  "type": "LINUX_CONTAINER",
  "image": "aws/codebuild/amazonlinux2-x86_64-standard:3.0",
  "computeType": "BUILD_GENERAL1_SMALL",
  "environmentVariables": [],
  "privilegedMode": false,
  "imagePullCredentialsType": "CODEBUILD"
},
"logConfig": {
  "cloudWatchLogs": {
"status": "ENABLED",
},
"s3Logs": {
  "status": "DISABLED",
  "encryptionDisabled": false
}
},
"buildTimeoutInMinutes": 60,
"queuedTimeoutInMinutes": 480,
"complete": true,
"initiator": "Strohm",
"buildBatchNumber": 6,
"buildBatchConfig": {
  "serviceRole": "arn:aws:iam::123456789012:role/service-role/codebuild-demo-project",
  "restrictions": {
    "maximumBuildsAllowed": 100
  },
  "timeoutInMins": 480
},
"buildGroups": [
{
  "identifier": "DOWNLOAD_SOURCE",
  "ignoreFailure": false,
  "currentBuildSummary": {
    "requestedOn": "2020-11-03T21:52:21.394000+00:00",
    "buildStatus": "SUCCEEDED",
    "primaryArtifact": {
      "type": "no_artifacts",
      "identifier": "DOWNLOAD_SOURCE"
    },
    "secondaryArtifacts": []
  }
},
{
  "identifier": "linux_small",
  "dependsOn": [],
  "ignoreFailure": false,
  "currentBuildSummary": {
    "requestedOn": "2020-11-03T21:52:21.394000+00:00",
    "buildStatus": "SUCCEEDED",
    "primaryArtifact": {
      "type": "no_artifacts",
      "identifier": "DOWNLOAD_SOURCE"
    },
    "secondaryArtifacts": []
  }
}
"requestedOn": "2020-11-03T21:52:57.604000+00:00",
"buildStatus": "SUCCEEDED",
"primaryArtifact": {
    "type": "no_artifacts",
    "identifier": "linux_small"
},
"secondaryArtifacts": []
},
{
    "identifier": "linux_medium",
    "dependsOn": [
        "linux_small"
    ],
    "ignoreFailure": false,
    "currentBuildSummary": {
        "requestedOn": "2020-11-03T21:54:18.474000+00:00",
        "buildStatus": "SUCCEEDED",
        "primaryArtifact": {
            "type": "no_artifacts",
            "identifier": "linux_medium"
        },
        "secondaryArtifacts": []
    }
},
{
    "identifier": "linux_large",
    "dependsOn": [
        "linux_medium"
    ],
    "ignoreFailure": false,
    "currentBuildSummary": {
        "arn": "arn:aws:codebuild:us-west-2:123456789012:build/codebuild-demo-project:60a194cd-0d03-4337-9db1-d41476a17d27",
        "requestedOn": "2020-11-03T21:55:39.203000+00:00",
        "buildStatus": "SUCCEEDED",
        "primaryArtifact": {
            "type": "no_artifacts",
            "identifier": "linux_large"
        },
        "secondaryArtifacts": []
    }
}

- For API details, see BatchGetBuildBatches in AWS CLI Command Reference.

**batch-get-builds**

The following code example shows how to use batch-get-builds.

**AWS CLI**

**To view details of builds in AWS CodeBuild.**

The following batch-get-builds example gets information about builds in CodeBuild with the specified IDs.

```
aws codebuild batch-get-builds --ids codebuild-demo-project:e9c4f4df-3f43-41d2-ab3a-60fe2EXAMPLE codebuild-demo-project:815e755f-bade-4a7e-80f0-efe51EXAMPLE
```

Output:

```
{
    "buildsNotFound": [],
    "builds": [
    {
        "artifacts": {
            "md5sum": "0e95edf915048a0c22efe6d139fff837",
            "location": "arn:aws:s3:::codepipeline-us-west-2-820783811474/CodeBuild-Python-Pip/BuildArtif/6DJsqQa",
            "encryptionDisabled": false,
            "sha256sum": "cfa0df33a090966a737f64ae4fe498969f8dc842a0c9ae540bf93c37ac0d05a2"
        },
        "logs": {
            "cloudWatchLogs": {
                "status": "ENABLED"
            }
        }
    }
}
```


},
  "s3Logs": {
    "status": "DISABLED"
  },
  "streamName": "46472baf-8f6b-43c2-9255-b3b963af2732",
  "groupName": "/aws/codebuild/codebuild-demo-project",
},
  "timeoutInMinutes": 60,
  "environment": {
    "privilegedMode": false,
    "computeType": "BUILD_GENERAL1_MEDIUM",
    "image": "aws/codebuild/windows-base:1.0",
    "environmentVariables": [],
    "type": "WINDOWS_CONTAINER"
  },
  "projectName": "codebuild-demo-project",
  "buildComplete": true,
  "source": {
    "gitCloneDepth": 1,
    "insecureSsl": false,
    "type": "CODEPIPELINE"
  },
  "buildStatus": "SUCCEEDED",
  "secondaryArtifacts": [],
  "phases": [
    {
      "durationInSeconds": 0,
      "startTime": 1548717462.122,
      "phaseType": "SUBMITTED",
      "endTime": 1548717462.484,
      "phaseStatus": "SUCCEEDED"
    },
    {
      "durationInSeconds": 0,
      "startTime": 1548717462.484,
      "phaseType": "QUEUED",
      "endTime": 1548717462.775,
      "phaseStatus": "SUCCEEDED"
    },
    {
      "durationInSeconds": 34,
"endTime": 1548717496.909,
"contexts": [
  {
    "statusCode": "",
    "message": ""
  }
],
"startTime": 1548717462.775,
"phaseType": "PROVISIONING",
"phaseStatus": "SUCCEEDED"
},
{
  "durationInSeconds": 15,
  "endTime": 1548717512.555,
  "contexts": [
    {
      "statusCode": "",
      "message": ""
    }
  ],
  "startTime": 1548717496.909,
  "phaseType": "DOWNLOAD_SOURCE",
  "phaseStatus": "SUCCEEDED"
},
{
  "durationInSeconds": 0,
  "endTime": 1548717512.734,
  "contexts": [
    {
      "statusCode": "",
      "message": ""
    }
  ],
  "startTime": 1548717512.555,
  "phaseType": "INSTALL",
  "phaseStatus": "SUCCEEDED"
},
{
  "durationInSeconds": 0,
  "endTime": 1548717512.924,
  "contexts": [
    {
      "statusCode": "",
      "message": ""
    }
  ],
  "startTime": 1548717512.734,
  "phaseType": "INSTALL",
  "phaseStatus": "SUCCEEDED"}
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},
{
    "durationInSeconds": 2,
    "endTime": 1548717536.846,
    "contexts": [
        {
            "statusCode": "",
            "message": ""
        }
    ],
    "startTime": 1548717534.646,
    "phaseType": "FINALIZING",
    "phaseStatus": "SUCCEEDED"
},
{
    "startTime": 1548717536.846,
    "phaseType": "COMPLETED"
}
],
"startTime": 1548717462.122,
"initiator": "codepipeline/CodeBuild-Pipeline",
"secondarySources": [],
"serviceRole": "arn:aws:iam::123456789012:role/service-role/my-codebuild-service-role",
"currentPhase": "COMPLETED",
"id": "codebuild-demo-project:e9c4f4df-3f43-41d2-ab3a-60fe2EXAMPLE",
"cache": {
    "type": "NO_CACHE"
},
"endTime": 1548717536.846,
"arn": "arn:aws:codebuild:us-west-2:123456789012:build/codebuild-demo-project:e9c4f4df-3f43-41d2-ab3a-60fe2EXAMPLE",
"queuedTimeoutInMinutes": 480,
"resolvedSourceVersion": "f2194c1757bbdcb0f8f229254a4b3c8b27d43e0b"
],
"artifacts": {
    "md5sum": "",
    "overrideArtifactName": false,
    "location": "arn:aws:s3:::my-artifacts/codebuild-demo-project",
    "encryptionDisabled": false,
"sha256sum": "",
"logs": {
  "cloudWatchLogs": {
    "status": "ENABLED"
  },
  "s3Logs": {
    "status": "DISABLED"
  },
  "streamName": "4dea3ca4-20ec-4898-b22a-a9eb9292775d",
  "groupName": "/aws/codebuild/codebuild-demo-project",
  "deepLink": "https://console.aws.amazon.com/cloudwatch/home?region=us-west-2#logEvent:group=/aws/codebuild/codebuild-demo-project;stream=4dea3ca4-20ec-4898-b22a-a9eb9292775d"
},
"timeoutInMinutes": 60,
"environment": {
  "privilegedMode": false,
  "computeType": "BUILD_GENERAL1_MEDIUM",
  "image": "aws/codebuild/windows-base:1.0",
  "environmentVariables": [],
  "type": "WINDOWS_CONTAINER"
},
"projectName": "codebuild-demo-project",
"buildComplete": true,
"source": {
  "gitCloneDepth": 1,
  "location": "https://github.com/my-repo/codebuild-demo-project.git",
  "insecureSsl": false,
  "reportBuildStatus": false,
  "type": "GITHUB"
},
"buildStatus": "SUCCEEDED",
"secondaryArtifacts": [],
"phases": [
  {
    "durationInSeconds": 0,
    "startTime": 1548716241.89,
    "phaseType": "SUBMITTED",
    "endTime": 1548716242.241,
    "phaseStatus": "SUCCEEDED"
  },
  {
    "durationInSeconds": 0,
    "phaseType": "SUCCESSFUL"
  }
]
null
"statusCode": "",
"message": ""
},

"startTime": 1548716304.783,
"phaseType": "UPLOAD_ARTIFACTS",
"phaseStatus": "SUCCEEDED"
},
{
"durationInSeconds": 2,
"endTime": 1548716315.935,
"contexts": [
{
"statusCode": "",
"message": ""
}
],
"startTime": 1548716313.775,
"phaseType": "FINALIZING",
"phaseStatus": "SUCCEEDED"
},
{
"startTime": 1548716315.935,
"phaseType": "COMPLETED"
}
],
"startTime": 1548716241.89,
"secondarySourceVersions": [],
"initiator": "my-codebuild-project",
"serviceRole": "arn:aws:iam::123456789012:role/service-role/my-codebuild-service-role",
"currentPhase": "COMPLETED",
"id": "codebuild-demo-project:815e755f-bade-4a7e-80f0-efe51EXAMPLE",
"cache": {
"type": "NO_CACHE"
},
"endTime": 1548716315.935,
"secondarySources": [],
"queuedTimeoutInMinutes": 480,
"resolvedSourceVersion": "f2194c1757bd6cb0f8f229254a4b3c8b27d43e0b"
For more information, see View Build Details (AWS CLI) in the AWS CodeBuild User Guide.

- For API details, see BatchGetBuilds in AWS CLI Command Reference.

**batch-get-projects**

The following code example shows how to use batch-get-projects.

**AWS CLI**

**To get a list of AWS CodeBuild build project names.**

The following batch-get-projects example gets a list of CodeBuild build projects specified by name.

```
aws codebuild batch-get-projects --names codebuild-demo-project codebuild-demo-project2 my-other-demo-project
```

In the following output, the projectsNotFound array lists any build project names that were specified, but not found. The projects array lists details for each build project where information was found.

```
{
    "projectsNotFound": [],
    "projects": [
    {
        "name": "codebuild-demo-project2",
        "queuedTimeoutInMinutes": 480,
        "timeoutInMinutes": 60,
        "source": {
            "buildspec": "version: 0.2

#env:
  #variables:
     # key:
    "value"
     # key: "value"
  #parameter-store:
     # key: "value"

# key:"value"

phases:
  #install:
    #commands:
      # - command
      # - command
  #pre_build:
    #commands:
      # - command
      # - command
  build:
    commands:
      # - command
      # - command
  #post_build:
    #commands:
      # - command
      # - command
#artifacts:
  #files:
    # - location
    # - location
  #name: $(date +%Y-%m-%d)
  #discard-paths: yes
  #base-directory: location
  #cache:
  #paths:

```
Actions and scenarios
batch-get-report-groups

The following code example shows how to use batch-get-report-groups.

AWS CLI

To get information about one or more report groups in AWS CodeBuild.

The following batch-get-report-groups example retrieves information about the report group with the specified ARN.
aws codebuild batch-get-report-groups \

Output:

```
{
   "reportGroups": [
      {
         "name": "report-group-name",
         "type": "TEST",
         "exportConfig": {
            "exportConfigType": "NO_EXPORT"
         },
         "created": "2020-10-01T18:04:08.466000+00:00",
         "lastModified": "2020-10-01T18:04:08.466000+00:00",
         "tags": []
      }
   ],
   "reportGroupsNotFound": []
}
```

For more information, see [Working with report groups](https://docs.aws.amazon.com/codebuild/latest/userguide/working-with-report-groups.html) in the *AWS CodeBuild User Guide*.

- For API details, see [BatchGetReportGroups](https://docs.aws.amazon.com/cli/latest/reference/codebuild/batch-get-report-groups.html) in *AWS CLI Command Reference*.

**batch-get-reports**

The following code example shows how to use `batch-get-reports`.

**AWS CLI**

To get information about one or more reports in AWS CodeBuild.

The following `batch-get-reports` example retrieves information about the reports with the specified ARNs.

```
aws codebuild batch-get-reports \
```

Output:

```json
{
  "reports": [
    {
      "type": "TEST",
      "name": "<report-group-name>",
      "executionId": "arn:aws:codebuild:<region-ID>:<user-ID>:build/test-reports:<ID>",
      "status": "FAILED",
      "created": "2020-10-01T11:25:22.531000-07:00",
      "expired": "2020-10-31T11:25:22-07:00",
      "exportConfig": {
        "exportConfigType": "NO_EXPORT"
      },
      "truncated": false,
      "testSummary": {
        "total": 28,
        "statusCounts": {
          "ERROR": 5,
          "FAILED": 1,
          "SKIPPED": 4,
          "SUCCEEDED": 18,
          "UNKNOWN": 0
        },
        "durationInNanoSeconds": 94000000
      }
    },
    {
      "type": "TEST",
      "name": "<report-group-name>",
      "executionId": "arn:aws:codebuild:<region-ID>:<user-ID>:build/test-reports:<ID>",
      "status": "FAILED",
      "created": "2020-10-01T11:25:22.531000-07:00",
      "expired": "2020-10-31T11:25:22-07:00",
      "exportConfig": {
        "exportConfigType": "NO_EXPORT"
      },
      "truncated": false,
      "testSummary": {
        "total": 28,
        "statusCounts": {
          "ERROR": 5,
          "FAILED": 1,
          "SKIPPED": 4,
          "SUCCEEDED": 18,
          "UNKNOWN": 0
        },
        "durationInNanoSeconds": 94000000
      }
    }
  ]
}
```
For more information, see [Working with reports](#) in the AWS CodeBuild User Guide.

- For API details, see [BatchGetReports](#) in AWS CLI Command Reference.

### create-report-group

The following code example shows how to use `create-report-group`.

**AWS CLI**

**To create a report group in AWS CodeBuild.**

The following `create-report-group` example creates a new report group.

```bash
aws codebuild create-report-group \
  --cli-input-json file://create-report-group-source.json
```

Contents of `create-report-group-source.json`:
Output:

```json
{
   "reportGroup": {
      "name": "cli-created-report-group",
      "type": "TEST",
      "exportConfig": {
         "exportConfigType": "S3",
         "s3Destination": {
            "bucket": "my-s3-bucket",
            "path": "",
            "packaging": "ZIP",
            "encryptionDisabled": true
         }
      },
      "created": 1602020026.775,
      "lastModified": 1602020026.775
   }
}
```

For more information, see [Working with report groups](#) in the AWS CodeBuild User Guide.

- For API details, see [CreateReportGroup](#) in AWS CLI Command Reference.
create-webhook

The following code example shows how to use `create-webhook`.

AWS CLI

To create webhook filters for an AWS CodeBuild project

The following `create-webhook` example creates a webhook for a CodeBuild project named `my-project` that has two filter groups. The first filter group specifies pull requests that are created, updated, or reopened on branches with Git reference names that match the regular expression `^refs/heads/master$` and head references that match `^refs/heads/myBranch$`. The second filter group specifies push requests on branches with Git reference names that do not match the regular expression `^refs/heads/myBranch$`.

```bash
aws codebuild create-webhook
   --project-name my-project
   --filter-groups "[[{"type":"EVENT","pattern":"PULL_REQUEST_CREATED,
PULL_REQUEST_UPDATED, PULL_REQUEST_REOPENED"},{"type":"HEAD_REF","pattern
":"^refs/heads/myBranch$","excludeMatchedPattern":true},{"type":"BASE_REF
"},{"type":"EVENT","pattern":"PUSH"},{"type":"HEAD_REF","pattern":"^refs/heads/
myBranch$","excludeMatchedPattern":true}]]"
```

Output:

```json
{
   "webhook": {
      "payloadUrl": "https://codebuild.us-west-2.amazonaws.com/webhooks?t=eyJlbmNyeXB0ZWREYXRhIjoiVVl5MGtoeGRwSzZFRXl2Wnh4bld1Z0tKZ291TVpQNEtFamQ3RDlDYwRaGJreVFrmdm5hZ2lmdGVycnVuZw==&v=1",
      "url": "https://api.github.com/repos/iversonic/codedeploy-sample/hooks/105190656",
      "lastModifiedSecret": 1556311319.069,
      "filterGroups": [
         {
            "type": "EVENT",
            "pattern": "PULL_REQUEST_CREATED, PULL_REQUEST_UPDATED,
PULL_REQUEST_REOPENED",
            "excludeMatchedPattern": false
         }
      ]
   }
}
```
For more information, see Filter GitHub Webhook Events (SDK) in the AWS CodeBuild User Guide.

- For API details, see CreateWebhook in AWS CLI Command Reference.

```
delete-build-batch
```

The following code example shows how to use delete-build-batch.

**AWS CLI**

To delete a batch build in AWS CodeBuild.

The following delete-build-batch example deletes the specified batch build.

```
aws codebuild delete-build-batch \
--id <project-name>::<batch-ID>
```
Output:

```json
{
    "statusCode": "BATCH_DELETED",
    "buildsDeleted": [
    ],
    "buildsNotDeleted": []
}
```

For more information, see Batch builds in AWS CodeBuild in the AWS CodeBuild User Guide.

- For API details, see DeleteBuildBatch in AWS CLI Command Reference.

**delete-project**

The following code example shows how to use delete-project.

**AWS CLI**

To delete an AWS CodeBuild build project

The following delete-project example deletes the specified CodeBuild build project.

```bash
aws codebuild delete-project --name my-project
```

This command produces no output.

For more information, see Delete a Build Project (AWS CLI) in the AWS CodeBuild User Guide.

- For API details, see DeleteProject in AWS CLI Command Reference.

**delete-report**

The following code example shows how to use delete-report.
AWS CLI

To delete a report in AWS CodeBuild.

The following `delete-report` example deletes the specified report.

```
aws codebuild delete-report \
```

This command produces no output.

For more information, see [Working with reports](https://aws.amazon.com/documentation/codebuild/) in the AWS CodeBuild User Guide.

- For API details, see [DeleteReport](https://aws.amazon.com/documentation/codebuild/) in AWS CLI Command Reference.

**delete-report-group**

The following code example shows how to use `delete-report-group`.

AWS CLI

To delete a report groups in AWS CodeBuild.

The following `delete-report-group` example deletes the report group with the specified ARN.

```
aws codebuild delete-report-group \
```

This command produces no output.

For more information, see [Working with report groups](https://aws.amazon.com/documentation/codebuild/) in the AWS CodeBuild User Guide.

- For API details, see [DeleteReportGroup](https://aws.amazon.com/documentation/codebuild/) in AWS CLI Command Reference.

**delete-source-credentials**

The following code example shows how to use `delete-source-credentials`.

AWS CLI

To disconnect from a source provider and remove its access tokens.
The following `delete-source-credentials` example disconnects from a source provider and removes its tokens. The ARN of source credentials used to connect to the source provider determines which source credentials.

```bash
aws codebuild delete-source-credentials --arn arn-of-your-credentials
```

Output:

```json
{
  "arn": "arn:aws:codebuild:your-region:your-account-id:token/your-server-type"
}
```

For more information, see [Connect Source Providers with Access Tokens (CLI)](https://docs.aws.amazon.com/codebuild/latest/userguide/cli-connect-source-providers.html) in the *AWS CodeBuild User Guide*.

- For API details, see [DeleteSourceCredentials](https://docs.aws.amazon.com/cli/latest/reference/codebuild/delete-source-credentials.html) in *AWS CLI Command Reference*.

### delete-webhook

The following code example shows how to use `delete-webhook`.

**AWS CLI**

**To delete a webhook filter from an AWS CodeBuild project**

The following `delete-webhook` example deletes a webhook from the specified CodeBuild project.

```bash
aws codebuild delete-webhook --project-name my-project
```

This command produces no output.


- For API details, see [DeleteWebhook](https://docs.aws.amazon.com/cli/latest/reference/codebuild/delete-webhook.html) in *AWS CLI Command Reference*.

### describe-code-coverages

The following code example shows how to use `describe-code-coverages`.
AWS CLI

To get detailed information about code coverage test results in AWS CodeBuild.

The following `describe-code-coverages` example gets information about the code coverage test results in the specified report.

```
aws codebuild describe-code-coverages \\
```

Output:

```
{
  "codeCoverages": [
    {
      "id": "20a0adcc-db13-4b66-804b-ecaf9f852855",
      "filePath": "<source-file-1-path>",
      "lineCoveragePercentage": 83.33,
      "linesCovered": 5,
      "linesMissed": 1,
      "branchCoveragePercentage": 50.0,
      "branchesCovered": 1,
      "branchesMissed": 1,
      "expired": "2020-11-20T21:22:45+00:00"
    },
    {
      "id": "0887162d-bf57-4cf1-a164-e432373d1a83",
      "filePath": "<source-file-2-path>",
      "lineCoveragePercentage": 90.9,
      "linesCovered": 10,
      "linesMissed": 1,
      "branchCoveragePercentage": 50.0,
      "branchesCovered": 1,
      "branchesMissed": 1,
      "expired": "2020-11-20T21:22:45+00:00"
    }
  ]
}
```
For more information, see Code coverage reports in the AWS CodeBuild User Guide.

- For API details, see DescribeCodeCoverages in AWS CLI Command Reference.

describe-test-cases

The following code example shows how to use describe-test-cases.

AWS CLI

To get detailed information about test cases in AWS CodeBuild.

The following describe-test-cases example gets information about the test cases in the specified report.

```bash
aws codebuild describe-test-cases 
```

Output:

```json
{
   "testCases": [
      {
         "testRawDataPath": "<test-report-path>",
         "prefix": "NUnit.Tests.Assemblies.MockTestFixture",
         "name": "NUnit.Tests.Assemblies.MockTestFixture.NotRunnableTest",
         "status": "ERROR",
         "durationInNanoSeconds": 0,
         "message": "No arguments were provided\n",
         "expired": "2020-11-20T17:52:10+00:00"
      },
      {
         "testRawDataPath": "<test-report-path>",
         "prefix": "NUnit.Tests.Assemblies.MockTestFixture",
         "name": "NUnit.Tests.Assemblies.MockTestFixture.TestWithException",
         "status": "ERROR",
         "durationInNanoSeconds": 0,
         "message": "An unhandled exception occurred during test execution\n",
         "expired": "2020-11-21T17:52:10+00:00"
      }
   ]
}
```
For more information, see [Working with test reporting in AWS CodeBuild](https://docs.aws.amazon.com/codebuild/latest/userguide/working-with-test-reporting.html) in the *AWS CodeBuild User Guide*.

- For API details, see [DescribeTestCases](https://docs.aws.amazon.com/cli/latest/reference/codebuild/describetestcases.html) in *AWS CLI Command Reference*.

### import-source-credentials

The following code example shows how to use `import-source-credentials`.

**AWS CLI**

**Connect an AWS CodeBuild user to a source provider by importing credentials for the source provider.**

The following `import-source-credentials` example imports a token for a Bitbucket repository that uses BASIC_AUTH for its authentication type.

```bash
aws codebuild import-source-credentials --server-type BITBUCKET --auth-type BASIC_AUTH --token my-Bitbucket-password --username my-Bitbucket-username
```

**Output:**

```
{
    "arn": "arn:aws:codebuild:us-west-2:123456789012:token/bitbucket"
}
```

For more information, see [Connect Source Providers with Access Tokens (CLI)](https://docs.aws.amazon.com/codebuild/latest/userguide/working-with-source-providers.html) in the *AWS CodeBuild User Guide*.

- For API details, see [ImportSourceCredentials](https://docs.aws.amazon.com/cli/latest/reference/codebuild/importsourcematerialtype.html) in *AWS CLI Command Reference*.

### invalidate-project-cache

The following code example shows how to use `invalidate-project-cache`.
AWS CLI

To reset the cache for an AWS CodeBuild build project.

The following invalidate-project-cache example resets the cache for the specified CodeBuild project.

```
aws codebuild invalidate-project-cache --project-name my-project
```

This command produces no output.

For more information, see Build Caching in CodeBuild in the AWS CodeBuild User Guide.

- For API details, see InvalidateProjectCache in AWS CLI Command Reference.

list-build-batches

The following code example shows how to use list-build-batches.

AWS CLI

To list batch builds in AWS CodeBuild.

The following list-build-batches example lists the CodeBuild batch builds for the current account.

```
aws codebuild list-build-batches
```

Output:

```
{
   "ids": [
      "<project-name>:<batch-ID>",
      "<project-name>:<batch-ID>"
   ]
}
```

For more information, see Batch builds in AWS CodeBuild <https://docs.aws.amazon.com/codebuild/latest/userguide/batch-build.html> in the AWS CodeBuild User Guide.

- For API details, see ListBuildBatches in AWS CLI Command Reference.
list-build-batches-for-project

The following code example shows how to use `list-build-batches-for-project`.

**AWS CLI**

To list batch builds for a specific build project in AWS CodeBuild.

The following `list-build-batches-for-project` example lists the CodeBuild batch builds for the specified project.

```bash
aws codebuild list-build-batches-for-project \
   --project-name "<project-name>
```

Output:

```json
{
   "ids": [
      "<project-name>:<batch-ID>",
      "<project-name>:<batch-ID>
   ]
}
```

For more information, see [Batch builds in AWS CodeBuild](https://docs.aws.amazon.com/codebuild/latest/userguide/batch-builds.html) in the *AWS CodeBuild User Guide*.

- For API details, see `ListBuildBatchesForProject` in *AWS CLI Command Reference*.

list-builds

The following code example shows how to use `list-builds`.

**AWS CLI**

To get a list of AWS CodeBuild builds IDs.

The following `list-builds` example gets a list of CodeBuild IDs sorted in ascending order.

```bash
aws codebuild list-builds --sort-order ASCENDING
```

The output includes a `nextToken` value which indicates that there is more output available.
Run this command again and provide the nextToken value in the previous response as a parameter to get the next part of the output. Repeat until you don't receive a nextToken value in the response.

```
aws codebuild list-builds --sort-order ASCENDING --next-token 4AEA6u7J...The full token has been omitted for brevity...MzY2OA==
```

Next part of the output:

```
{
   "ids": [
      "codebuild-demo-project:49015049-21cf-4b50-9708-df115EXAMPLE",
      "codebuild-demo-project:543e7206-68a3-46d6-a4da-759abEXAMPLE",
      ... The full list of build IDs has been omitted for brevity ...
      "codebuild-demo-project:c282f198-4582-4b38-bdc0-26f96EXAMPLE"
   ]
}
```

For more information, see [View a List of Build IDs (AWS CLI)](https://docs.aws.amazon.com/codebuild/latest/userguide/API_ListBuilds.html) in the *AWS CodeBuild User Guide*

- For API details, see [ListBuilds](https://docs.aws.amazon.com/cli/latest/reference/codebuild/list-builds.html) in *AWS CLI Command Reference*.

**list-builds-for-project**

The following code example shows how to use `list-builds-for-project`.

**AWS CLI**

To view a list of builds for an AWS CodeBuild build project.
The following `list-builds-for-project` example lists the build IDs in descending order for the specified CodeBuild build project.

```
aws codebuild list-builds-for-project --project-name codebuild-demo-project --sort-order DESCENDING
```

Output:

```json
{
   "ids": [
      "codebuild-demo-project:1a2b3c4d-5678-90ab-cdef-11111example",
      "codebuild-demo-project:1a2b3c4d-5678-90ab-cdef-22222example",
      "codebuild-demo-project:1a2b3c4d-5678-90ab-cdef-33333example",
      "codebuild-demo-project:1a2b3c4d-5678-90ab-cdef-44444example",
      "codebuild-demo-project:1a2b3c4d-5678-90ab-cdef-55555example"
   ]
}
```

For more information, see View a List of Build IDs for a Build Project (AWS CLI) in the AWS CodeBuild User Guide.

- For API details, see ListBuildsForProject in AWS CLI Command Reference.

### list-curated-environment-images

The following code example shows how to use `list-curated-environment-images`.

**AWS CLI**

To get a list of Docker images managed by AWS CodeBuild that you can use for your builds.

The following `list-curated-environment-images` example lists the Docker images managed by CodeBuild that can be used for builds:

```
aws codebuild list-curated-environment-images
```

Output:

```json
{
   "platforms": [
      {
         "platform": "AMAZON_LINUX",
      }
   ]
}
```
"languages": [  
    {  
      "language": "JAVA",  
      "images": [  
        {  
          "description": "AWS ElasticBeanstalk - Java 7 Running on Amazon Linux 64bit v2.1.3",  
          "name": "aws/codebuild/eb-java-7-amazonlinux-64:2.1.3",  
          "versions": [  
            "aws/codebuild/eb-java-7-amazonlinux-64:2.1.3-1.0.0"  
          ]  
        },  
        {  
          "description": "AWS ElasticBeanstalk - Java 8 Running on Amazon Linux 64bit v2.1.3",  
          "name": "aws/codebuild/eb-java-8-amazonlinux-64:2.1.3",  
          "versions": [  
            "aws/codebuild/eb-java-8-amazonlinux-64:2.1.3-1.0.0"  
          ]  
        }
        ... LIST TRUNCATED FOR BREVITY ...
      ]
    }
  ]
}

For more information, see Docker Images Provided by CodeBuild in the AWS CodeBuild User Guide

- For API details, see ListCuratedEnvironmentImages in AWS CLI Command Reference.

**list-projects**

The following code example shows how to use list-projects.

**AWS CLI**

To get a list of AWS CodeBuild build project names.

The following list-projects example gets a list of CodeBuild build projects sorted by name in ascending order.
aws codebuild list-projects --sort-by NAME --sort-order ASCENDING

The output includes a nextToken value which indicates that there is more output available.

```
{
   "nextToken": "Ci33ACF6...The full token has been omitted for brevity...U+AkMx8=",
   "projects": [
      "codebuild-demo-project",
      "codebuild-demo-project2",
      ... The full list of build project names has been omitted for brevity ...
      "codebuild-demo-project99"
   ]
}
```

Run this command again and provide the nextToken value from the previous response as a parameter to get the next part of the output. Repeat until you don't receive a nextToken value in the response.

```
aws codebuild list-projects  --sort-by NAME --sort-order ASCENDING --next-token Ci33ACF6...The full token has been omitted for brevity...U+AkMx8=

{
   "projects": [
      "codebuild-demo-project100",
      "codebuild-demo-project101",
      ... The full list of build project names has been omitted for brevity ...
      "codebuild-demo-project122"
   ]
}
```

For more information, see View a List of Build Project Names (AWS CLI) in the AWS CodeBuild User Guide.

- For API details, see ListProjects in AWS CLI Command Reference.

list-report-groups

The following code example shows how to use list-report-groups.
AWS CLI

To get a list of the report group ARNs in AWS CodeBuild.

The following list-report-groups example retrieves the report group ARNs for the account in the region.

```bash
aws codebuild list-report-groups
```

Output:

```
{
   "reportGroups": [
   ]
}
```

For more information, see Working with report groups in the AWS CodeBuild User Guide.

- For API details, see ListReportGroups in AWS CLI Command Reference.

list-reports

The following code example shows how to use list-reports.

AWS CLI

To get a list of the reports for the current account in AWS CodeBuild.

The following list-reports example retrieves the ARNs of the reports for the current account.

```bash
aws codebuild list-reports
```

Output:

```
{
   "reports": [
```

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]
}

For more information, see Working with reports in the AWS CodeBuild User Guide.

- For API details, see ListReports in AWS CLI Command Reference.

list-reports-for-report-group

The following code example shows how to use list-reports-for-report-group.

AWS CLI

To get a list of the reports in a report group in AWS CodeBuild.

The following list-report-for-report-groups example retrieves the reports in the specified report group for the account in the region.

```bash
aws codebuild list-reports-for-report-group \
```

Output:

```json
{
   "reports": [
   ]
}
```

For more information, see Working with report groups in the AWS CodeBuild User Guide.

- For API details, see ListReportsForReportGroup in AWS CLI Command Reference.
list-shared-projects

The following code example shows how to use list-shared-projects.

AWS CLI

To list the shared project in AWS CodeBuild.

The following list-shared-projects example lists the CodeBuild shared projects that are available to the current account.

```
aws codebuild list-shared-projects
```

Output:

```
{
  "projects": [
    "arn:aws:codebuild:<region-ID>:<account-ID>:project/<shared-project-name-1>",
    "arn:aws:codebuild:<region-ID>:<account-ID>:project/<shared-project-name-2>"
  ]
}
```

For more information, see Working with shared projects in the AWS CodeBuild User Guide.

- For API details, see ListSharedProjects in AWS CLI Command Reference.

list-shared-report-groups

The following code example shows how to use list-shared-report-groups.

AWS CLI

To get a list of the shared report group ARNs in AWS CodeBuild.

The following list-shared-report-groups example retrieves the report group ARNs for the account in the region.

```
aws codebuild list-shared-report-groups
```

Output:
For more information, see Working with report groups in the AWS CodeBuild User Guide.

For API details, see ListSharedReportGroups in AWS CLI Command Reference.

list-source-credentials

The following code example shows how to use list-source-credentials.

AWS CLI

To view a list of sourceCredentialsObjects

The following list-source-credentials example lists tokens for an AWS account connected to one Bitbucket account and one GitHub account. Each sourceCredentialsInfos object in the response contains connected source credentials information.

aws codebuild list-source-credentials

Output:

```json
{
    "sourceCredentialsInfos": [ 
        {
            "serverType": "BITBUCKET",
            "authType": "BASIC_AUTH"
        },
        {
            "serverType": "GITHUB",
            "authType": "OAUTH"
        }
    ]
}
```
For more information, see [Connect Source Providers with Access Tokens (CLI)](https://docs.aws.amazon.com/codebuild/latest/userguide/cli-connect-source-access-token.html) in the AWS CodeBuild User Guide.

- For API details, see [ListSourceCredentials](https://docs.aws.amazon.com/cli/latest/reference/codebuild/list-source-credentials.html) in AWS CLI Command Reference.

### retry-build

The following code example shows how to use `retry-build`.

**AWS CLI**

To retry a failed build in AWS CodeBuild.

The following `retry-build` example restarts the specified build.

```bash
aws codebuild retry-build \
    --id <project-name>:<build-ID>
```

**Output:**

```json
{
    "build": {
        "id": "<project-name>:<build-ID>",
        "buildNumber": 9,
        "startTime": "2020-10-21T17:51:38.161000+00:00",
        "currentPhase": "QUEUED",
        "buildStatus": "IN_PROGRESS",
        "projectName": "<project-name>",
        "phases": [
            {
                "phaseType": "SUBMITTED",
                "phaseStatus": "SUCCEEDED",
                "startTime": "2020-10-21T17:51:38.161000+00:00",
                "endTime": "2020-10-21T17:51:38.210000+00:00",
                "durationInSeconds": 0
            },
            {
                "phaseType": "QUEUED",
                "startTime": "2020-10-21T17:51:38.210000+00:00"
            }
        ]
    }
}
```
"timeoutInMinutes": 60,
"queuedTimeoutInMinutes": 480,
"buildComplete": false,
"initiator": "<username>",
"encryptionKey": "arn:aws:kms:<region-ID>:<account-ID>:alias/aws/s3"
}
}

For more information, see Batch builds in AWS CodeBuild in the AWS CodeBuild User Guide.

- For API details, see RetryBuild in AWS CLI Command Reference.

**retry-build-batch**

The following code example shows how to use retry-build-batch.

**AWS CLI**

**To retry a failed batch build in AWS CodeBuild.**

The following retry-build-batch example restarts the specified batch build.

```
aws codebuild retry-build-batch \
  --id <project-name>:<batch-ID>
```

**Output:**

```
{
  "buildBatch": {
    "id": "<project-name>:<batch-ID>",
    "startTime": "2020-10-21T17:26:23.099000+00:00",
    "currentPhase": "SUBMITTED",
    "buildBatchStatus": "IN_PROGRESS",
    "resolvedSourceVersion": "3a9e11cb419e8fff14b03883dc4e64f6155aaa7e",
    "projectName": "<project-name>",
    "phases": [
      {
        "phaseType": "SUBMITTED",
        "phaseStatus": "SUCCEEDED",
        "startTime": "2020-10-21T17:26:23.099000+00:00",
        "endTime": "2020-10-21T17:26:23.457000+00:00",
```

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"durationInSeconds": 0
},
{
  "phaseType": "DOWNLOAD_BATCHSPEC",
  "phaseStatus": "SUCCEEDED",
  "startTime": "2020-10-21T17:26:23.457000+00:00",
  "endTime": "2020-10-21T17:26:54.902000+00:00",
  "durationInSeconds": 31
},
{
  "phaseType": "IN_PROGRESS",
  "phaseStatus": "CLIENT_ERROR",
  "startTime": "2020-10-21T17:26:54.902000+00:00",
  "endTime": "2020-10-21T17:28:16.060000+00:00",
  "durationInSeconds": 81
},
{
  "phaseType": "FAILED",
  "phaseStatus": "RETRY",
  "startTime": "2020-10-21T17:28:16.060000+00:00",
  "endTime": "2020-10-21T17:29:39.709000+00:00",
  "durationInSeconds": 83
},
{
  "phaseType": "SUBMITTED",
  "startTime": "2020-10-21T17:29:39.709000+00:00"
}
],
"source": {
  "type": "GITHUB",
  "location": "https://github.com/strohm-a/<project-name>-graph.git",
  "gitCloneDepth": 1,
  "gitSubmodulesConfig": {
    "fetchSubmodules": false
  },
  "reportBuildStatus": false,
  "insecureSsl": false
},
"secondarySources": [],
"secondarySourceVersions": [],
"artifacts": {
  "location": ""
},
"secondaryArtifacts": [],
"cache": {
  "type": "NO_CACHE"
},
"environment": {
  "type": "LINUX_CONTAINER",
  "image": "aws/codebuild/amazonlinux2-x86_64-standard:3.0",
  "computeType": "BUILD_GENERAL1_SMALL",
  "environmentVariables": [],
  "privilegedMode": false,
  "imagePullCredentialsType": "CODEBUILD"
},
"logConfig": {
  "cloudWatchLogs": {
    "status": "ENABLED"
  },
  "s3Logs": {
    "status": "DISABLED",
    "encryptionDisabled": false
  }
},
"buildTimeoutInMinutes": 60,
"queuedTimeoutInMinutes": 480,
"complete": false,
"initiator": "<username>",
"buildBatchNumber": 4,
"buildBatchConfig": {
  "serviceRole": "arn:aws:iam::<account-ID>:role/service-role/<project-name>",
  "restrictions": {
    "maximumBuildsAllowed": 100
  },
  "timeoutInMins": 480
},
"buildGroups": [
  {
    "identifier": "DOWNLOAD_SOURCE",
    "ignoreFailure": false,
    "currentBuildSummary": {
      "requestedOn": "2020-10-21T17:26:23.889000+00:00",
      "buildStatus": "SUCCEEDED",
      "primaryArtifact": {
Actions and scenarios

- For API details, see [RetryBuildBatch](https://docs.aws.amazon.com/cli/latest/reference/codebuild/retry-build-batch.html) in *AWS CLI Command Reference*.

### start-build

The following code example shows how to use `start-build`.

#### AWS CLI

**To start running a build of an AWS CodeBuild build project.**

The following `start-build` example starts a build for the specified CodeBuild project. The build overrides both the project's setting for the number of minutes the build is allowed to be queued before it times out and the project's artifact settings.

```bash
aws codebuild start-build \
   --project-name "my-demo-project" \
   --queued-timeout-in-minutes-override 5 \
   --artifacts-override {"type": "S3","location": "arn:aws:s3:::artifacts-override","overrideArtifactName":true}
```

**Output:**

```json
{
   "build": {
      "serviceRole": "arn:aws:iam::123456789012:role/service-role/my-codebuild-service-role",
      "buildStatus": "IN_PROGRESS",
      "buildComplete": false,
      "projectName": "my-demo-project",
      "timeoutInMinutes": 60,
      "source": {
         "insecureSsl": false,
         "type": "S3",
         ...}
```
"location": "codebuild-us-west-2-123456789012-input-bucket/my-source.zip",
"queuedTimeoutInMinutes": 5,
"currentPhase": "QUEUED",
"startTime": 1556905683.568,
"environment": {
  "computeType": "BUILD_GENERAL1_MEDIUM",
  "environmentVariables": [],
  "type": "LINUX_CONTAINER",
  "privilegedMode": false,
  "image": "aws/codebuild/standard:1.0",
  "imagePullCredentialsType": "CODEBUILD"
},
"phases": [
  {
    "phaseStatus": "SUCCEEDED",
    "startTime": 1556905683.568,
    "phaseType": "SUBMITTED",
    "durationInSeconds": 0,
    "endTime": 1556905684.524
  },
  {
    "startTime": 1556905684.524,
    "phaseType": "QUEUED"
  }
],
"logs": {
  "deepLink": "https://console.aws.amazon.com/cloudwatch/home?region=us-west-2#logEvent:group=null;stream=null"
},
"artifacts": {
  "encryptionDisabled": false,
  "location": "arn:aws:s3:::artifacts-override/my-demo-project",
  "overrideArtifactName": true
},
"cache": {
  "type": "NO_CACHE"
},
"id": "my-demo-project::12345678-a1b2-c3d4-e5f6-11111EXAMPLE",
"initiator": "my-aws-account-name",
"arn": "arn:aws:codebuild:us-west-2:123456789012:build/my-demo-project::12345678-a1b2-c3d4-e5f6-11111EXAMPLE"
start-build-batch

The following code example shows how to use start-build-batch.

AWS CLI

To start a batch build in AWS CodeBuild.

The following start-build-batch example starts a batch build of the specified project.

```
aws codebuild start-build-batch \\
--project-name <project-name>
```

Output:

```
{
    "buildBatch": {
        "id": "<project-name>:<batch-ID>",
        "startTime": "2020-10-21T16:54:24.740000+00:00",
        "currentPhase": "SUBMITTED",
        "buildBatchStatus": "IN_PROGRESS",
        "projectName": "<project-name>",
        "source": {
            "type": "GITHUB",
            "location": "<GitHub-repo-URL>",
            "gitCloneDepth": 1,
            "gitSubmodulesConfig": {
                "fetchSubmodules": false
            },
            "reportBuildStatus": false,
            "insecureSsl": false
        },
        "secondarySources": [],
        "secondarySourceVersions": []
    }
}
```
For more information, see [Batch builds in AWS CodeBuild](https://docs.aws.amazon.com/codebuild/latest/userguide/build-types.html) in the *AWS CodeBuild User Guide*.

- For API details, see [StartBuildBatch](https://docs.aws.amazon.com/cli/latest/reference/codebuild/start-build-batch.html) in *AWS CLI Command Reference*. 
The following code example shows how to use `stop-build`.

**AWS CLI**

To stop a build of an AWS CodeBuild build project.

The following `stop-build` example stops the specified CodeBuild build.

```bash
aws codebuild stop-build --id my-demo-project:12345678-a1b2-c3d4-e5f6-11111EXAMPLE
```

Output:

```json
{
   "build": {
      "startTime": 1556906956.318,
      "initiator": "my-aws-account-name",
      "projectName": "my-demo-project",
      "currentPhase": "COMPLETED",
      "cache": {
         "type": "NO_CACHE"
      },
      "source": {
         "insecureSsl": false,
         "location": "codebuild-us-west-2-123456789012-input-bucket/my-source.zip",
         "type": "S3"
      },
      "id": "my-demo-project:1a2b3c4d-5678-90ab-cdef-11111EXAMPLE",
      "endTime": 1556906974.781,
      "phases": [
         {
            "durationInSeconds": 0,
            "phaseType": "SUBMITTED",
            "endTime": 1556906956.935,
            "phaseStatus": "SUCCEEDED",
            "startTime": 1556906956.318
         },
         {
            "durationInSeconds": 1,
            "phaseType": "QUEUED",
            "endTime": 1556906958.272,
            "phaseStatus": "SUCCEEDED"
         }
      ]
   }
}
```
"startTime": 1556906956.935
},
{
"phaseType": "PROVISIONING",
"phaseStatus": "SUCCEEDED",
"durationInSeconds": 14,
"contexts": [

{
"message": "",
"statusCode": ""
}
],
"endTime": 1556906972.847,
"startTime": 1556906958.272
},
{
"phaseType": "DOWNLOAD_SOURCE",
"phaseStatus": "SUCCEEDED",
"durationInSeconds": 0,
"contexts": [

{
"message": "",
"statusCode": ""
}
],
"endTime": 1556906973.552,
"startTime": 1556906972.847
},
{
"phaseType": "INSTALL",
"phaseStatus": "SUCCEEDED",
"durationInSeconds": 0,
"contexts": [

{
"message": "",
"statusCode": ""
}
],
"endTime": 1556906973.75,
"startTime": 1556906973.552
},
{
"phaseType": "PRE_BUILD",
"phaseStatus": "SUCCEEDED",
"durationInSeconds": 0,
"contexts": [

{
"message": "",
"statusCode": ""
}
],
"endTime": 1556906973.75,
"startTime": 1556906973.552
}
"durationInSeconds": 0,
"contexts": [
    {
        "message": "",
        "statusCode": ""
    }
],
"endTime": 1556906973.937,
"startTime": 1556906973.75
],
{
    "durationInSeconds": 0,
    "phaseType": "BUILD",
    "endTime": 1556906974.781,
    "phaseStatus": "STOPPED",
    "startTime": 1556906973.937
},
{
    "phaseType": "COMPLETED",
    "startTime": 1556906974.781
}
],
"artifacts": {
    "location": "arn:aws:s3:::artifacts-override/my-demo-project",
    "encryptionDisabled": false,
    "overrideArtifactName": true
},
"buildComplete": true,
"buildStatus": "STOPPED",
"serviceRole": "arn:aws:iam::123456789012:role/service-role/my-codebuild-service-role",
"queuedTimeoutInMinutes": 5,
"timeoutInMinutes": 60,
"environment": {
    "type": "LINUX_CONTAINER",
    "environmentVariables": [],
    "computeType": "BUILD_GENERAL1_MEDIUM",
    "privilegedMode": false,
    "image": "aws/codebuild/standard:1.0",
    "imagePullCredentialsType": "CODEBUILD"
},
"logs": {
    "streamName": "1a2b3c4d-5678-90ab-cdef-11111EXAMPLE",
For more information, see Stop a Build (AWS CLI) in the AWS CodeBuild User Guide.

- For API details, see StopBuild in AWS CLI Command Reference.

**stop-build-batch**

The following code example shows how to use stop-build-batch.

**AWS CLI**

To stop an in-progress batch build in AWS CodeBuild.

The following stop-build-batch example stops the specified batch build.

```bash
aws codebuild stop-build-batch \
   --id <project-name>:<batch-ID>
```

Output:

```
{
   "buildBatch": {
      "id": "<project-name>:<batch-ID>",
      "startTime": "2020-10-21T16:54:24.740000+00:00",
      "endTime": "2020-10-21T16:56:05.152000+00:00",
      "currentPhase": "STOPPED",
      "buildBatchStatus": "STOPPED",
      "resolvedSourceVersion": "aef7744ed069c51098e15c360f4102cd2cd1ad64",
      "projectName": "<project-name>",
      "phases": [
         {
            "phaseType": "SUBMITTED",
            }`
```
"phaseStatus": "SUCCEEDED",
"startTime": "2020-10-21T16:54:24.740000+00:00",
"endTime": "2020-10-21T16:54:25.039000+00:00",
"durationIn Seconds": 0
},
{
  "phaseType": "DOWNLOAD_BAT CHSPEC",
  "phaseStatus": "SUCCEEDED",
  "startTime": "2020-10-21T16:54:25.039000+00:00",
  "endTime": "2020-10-21T16:54:56.583000+00:00",
  "durationInSeconds": 31
},
{
  "phaseType": "IN_PROGRESS",
  "phaseStatus": "STOPPED",
  "startTime": "2020-10-21T16:54:56.583000+00:00",
  "endTime": "2020-10-21T16:56:05.152000+00:00",
  "durationInSeconds": 68
},
{
  "phaseType": "STOPPED",
  "startTime": "2020-10-21T16:56:05.152000+00:00"
}
],
"source": {
  "type": "GITHUB",
  "location": "<GitHub-repo-URL>",
  "gitCloneDepth": 1,
  "gitSubmodulesConfig": {
    "fetchSubmodules": false
  },
  "reportBuildStatus": false,
  "insecureSsl": false
},
"secondarySources": [],
"secondarySourceVersions": [],
"artifacts": {
  "location": ""
},
"secondaryArtifacts": [],
"cache": {
  "type": "NO_CACHE"
},
"environment": {
"type": "LINUX_CONTAINER",
"image": "aws/codebuild/amazonlinux2-x86_64-standard:3.0",
"computeType": "BUILD_GENERAL1_SMALL",
"environmentVariables": [],
"privilegedMode": false,
"imagePullCredentialsType": "CODEBUILD"
},
"logConfig": {
    "cloudWatchLogs": {
        "status": "ENABLED"
    },
    "s3Logs": {
        "status": "DISABLED",
        "encryptionDisabled": false
    }
},
"buildTimeoutInMinutes": 60,
"queuedTimeoutInMinutes": 480,
"complete": true,
"initiator": "Strohm",
"buildBatchNumber": 3,
"buildBatchConfig": {
    "serviceRole": "arn:aws:iam::<account-ID>:role/service-role/<project-name>",
    "restrictions": {
        "maximumBuildsAllowed": 100
    },
    "timeoutInMins": 480
},
"buildGroups": [ ]
{
    "identifier": "DOWNLOAD_SOURCE",
    "ignoreFailure": false,
    "currentBuildSummary": {
        "requestedOn": "2020-10-21T16:54:25.468000+00:00",
        "buildStatus": "SUCCEEDED",
        "primaryArtifact": {
            "type": "no_artifacts",
            "identifier": "DOWNLOAD_SOURCE"
        },
        "secondaryArtifacts": []
    }
}
{}},
{} {
"identifier": "linux_small",
"dependsOn": [],
"ignoreFailure": false,
"currentBuildSummary": {
"requestedOn": "2020-10-21T16:54:56.833000+00:00",
"buildStatus": "IN_PROGRESS"
}
},
{} {
"identifier": "linux_medium",
"dependsOn": [
  "linux_small"
],
"ignoreFailure": false,
"currentBuildSummary": {
"requestedOn": "2020-10-21T16:54:56.211000+00:00",
"buildStatus": "PENDING"
}
},
{} {
"identifier": "linux_large",
"dependsOn": [
  "linux_medium"
],
"ignoreFailure": false,
"currentBuildSummary": {
"requestedOn": "2020-10-21T16:54:56.330000+00:00",
"buildStatus": "PENDING"
}
}]
}
For more information, see Batch builds in AWS CodeBuild in the AWS CodeBuild User Guide.

- For API details, see StopBuildBatch in AWS CLI Command Reference.

**update-project**

The following code example shows how to use update-project.

**AWS CLI**

**To change an AWS CodeBuild build project's settings.**

The following update-project example changes the settings of the specified CodeBuild build project named my-demo-project.

```bash
aws codebuild update-project --name "my-demo-project" \
  --description "This project is updated" \
  --source "{"type": "S3","location": "codebuild-us-west-2-123456789012-input-bucket/my-source-2.zip"}" \
  --artifacts "{"type": "S3","location": "codebuild-us-west-2-123456789012-output-bucket-2"}" \
  --environment "{"type": "LINUX_CONTAINER","image": "aws/codebuild/standard:1.0","computeType": "BUILD_GENERAL1_MEDIUM"}" \
  --service-role "arn:aws:iam::123456789012:role/service-role/my-codebuild-service-role"
```

The output displays the updated settings.

```
{
  "project": {
    "environment": {
      "privilegedMode": false,
      "environmentVariables": [],
      "type": "LINUX_CONTAINER",
      "image": "aws/codebuild/standard:1.0",
      "computeType": "BUILD_GENERAL1_MEDIUM",
      "imagePullCredentialsType": "CODEBUILD"
    },
    "queuedTimeoutInMinutes": 480,
    "description": "This project is updated",
    "artifacts": {
  
```

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For more information, see [Change a Build Project's Settings (AWS CLI)](https://docs.aws.amazon.com/codebuild/latest/userguide/) in the [AWS CodeBuild User Guide](https://docs.aws.amazon.com/codebuild/latest/userguide/).

- For API details, see [UpdateProject](https://docs.aws.amazon.com/codebuild/latest/APIReference/API_UpdateProject.html) in [AWS CLI Command Reference](https://docs.aws.amazon.com/cli/latest/reference/codebuild/update-project.html).

**update-report-group**

The following code example shows how to use `update-report-group`.

**AWS CLI**

To update a report group in AWS CodeBuild.
The following `update-report-group` example changes the export type of the report group to "NO_EXPORT".

```bash
aws codebuild update-report-group \
   --export-config="exportConfigType=NO_EXPORT"
```

Output:

```json
{
   "reportGroup": {
      "name": "cli-created-report-group",
      "type": "TEST",
      "exportConfig": {
         "exportConfigType": "NOEXPORT"
      },
      "created": 1602020686.009,
      "lastModified": 1602021033.454,
      "tags": []
   }
}
```

For more information, see [Working with report groups](https://aws.amazon.com/codebuild/user-guide/) in the *AWS CodeBuild User Guide*.


---

**update-webhook**

The following code example shows how to use `update-webhook`.

**AWS CLI**

**To update the webhook for an AWS CodeBuild project**

The following `update-webhook` example updates a webhook for the specified CodeBuild project with two filter groups. The `--rotate-secret` parameter specifies that GitHub rotate the project's secret key every time a code change triggers a build. The first filter group specifies pull requests that are created, updated, or reopened on branches with Git reference names that match the regular expression `^refs/heads/master$` and head references that match
^refs/heads/myBranch$. The second filter group specifies push requests on branches with Git reference names that do not match the regular expression ^refs/heads/myBranch$.

```bash
aws codebuild update-webhook \
  --project-name Project2 \
  --rotate-secret \
  --filter-groups "[[{"type":"EVENT","pattern":"PULL_REQUEST_CREATED, PULL_REQUEST_UPDATED, PULL_REQUEST_REOPENED"},{"type":"HEAD_REF","pattern":"^refs/heads/myBranch$","excludeMatchedPattern":true},{"type":"BASE_REF","pattern":"^refs/heads/master$","excludeMatchedPattern":true}],[[{"type":"EVENT","pattern":"PUSH"},{"type":"HEAD_REF","pattern":"^refs/heads/myBranch$","excludeMatchedPattern":true}]]"
```

Output:

```json
{
  "webhook": {
    "filterGroups": [
      {
        "pattern": "PULL_REQUEST_CREATED, PULL_REQUEST_UPDATED, PULL_REQUEST_REOPENED",
        "type": "EVENT"
      },
      {
        "excludeMatchedPattern": true,
        "pattern": "refs/heads/myBranch$",
        "type": "HEAD_REF"
      },
      {
        "excludeMatchedPattern": true,
        "pattern": "refs/heads/master$",
        "type": "BASE_REF"
      }
    ],
    [,
      {
        "pattern": "PUSH",
        "type": "EVENT"
      },
      {
        "excludeMatchedPattern": true,
        "pattern": "refs/heads/myBranch$",
        "type": "HEAD_REF"
      }
    ]
  }
}
```
For more information, see Change a Build Project's Settings (AWS CLI) in the AWS CodeBuild User Guide.

- For API details, see UpdateWebhook in AWS CLI Command Reference.

**CodeCommit examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with CodeCommit.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- **Actions**

**Actions**

associate-approval-rule-template-with-repository

The following code example shows how to use associate-approval-rule-template-with-repository.

**AWS CLI**

To associate an approval rule template with a repository
The following `associate-approval-rule-template-with-repository` example associates the specified approval rule template with a repository named MyDemoRepo.

```bash
aws codecommit associate-approval-rule-template-with-repository \
    --repository-name MyDemoRepo \
    --approval-rule-template-name 2-approver-rule-for-main
```

This command produces no output.

For more information, see [Associate an Approval Rule Template with a Repository](https://docs.aws.amazon.com/CodeCommit/latest/userguide/associate-template-to-repository.html) in the *AWS CodeCommit User Guide*.

- For API details, see [AssociateApprovalRuleTemplateWithRepository](https://docs.aws.amazon.com/cli/latest/reference/codecommit/associate-approval-rule-template-with-repository.html) in *AWS CLI Command Reference*.

### batch-associate-approval-rule-template-with-repositories

The following code example shows how to use `batch-associate-approval-rule-template-with-repositories`.

**AWS CLI**

#### To associate an approval rule template with multiple repositories in a single operation

The following `batch-associate-approval-rule-template-with-repositories` example associates the specified approval rule template with repositories named MyDemoRepo and MyOtherDemoRepo.

Note: Approval rule templates are specific to the AWS Region where they are created. They can only be associated with repositories in that AWS Region.

```bash
aws codecommit batch-associate-approval-rule-template-with-repositories \
    --repository-names MyDemoRepo, MyOtherDemoRepo \
    --approval-rule-template-name 2-approver-rule-for-main
```

Output:

```json
{
    "associatedRepositoryNames": [
        "MyDemoRepo",
        "MyOtherDemoRepo"
    ],
}
```
AWS Command Line Interface

batch-describe-merge-conflicts

The following code example shows how to use batch-describe-merge-conflicts.

AWS CLI

To get information about merge conflicts in all files or a subset of files in a merge between two commit specifiers

The following batch-describe-merge-conflicts example determines the merge conflicts for merging a source branch named feature-randomizationfeature with a destination branch named main using the THREE_WAY_MERGE strategy in a repository named MyDemoRepo.

```
aws codecommit batch-describe-merge-conflicts \
   --source-commit-specifier feature-randomizationfeature \
   --destination-commit-specifier main \
   --merge-option THREE_WAY_MERGE \
   --repository-name MyDemoRepo
```

Output:

```
{
   "conflicts": [
   {
      "conflictMetadata": {
         "filePath": "readme.md",
         "fileSizes": {
            "source": 139,
            "destination": 230,
            "base": 85
         },
      "fileModes": {

```
"source": "NORMAL",
"destination": "NORMAL",
"base": "NORMAL"
},
"objectTypes": {
"source": "FILE",
"destination": "FILE",
"base": "FILE"
},
"numberOfConflicts": 1,
"isBinaryFile": {
"source": false,
"destination": false,
"base": false
},
"contentConflict": true,
"fileModeConflict": false,
"objectTypeConflict": false,
"mergeOperations": {
"source": "M",
"destination": "M"
}
},
"mergeHunks": [
{
"isConflict": true,
"source": {
"startLine": 0,
"endLine": 3,
"hunkContent": "VGhpcyBpEXAMPLE=="
},
"destination": {
"startLine": 0,
"endLine": 1,
"hunkContent": "VXNlIHRoEXAMPLE="
}
}
],
"errors": [],
"destinationCommitId": "86958e0aEXAMPLE",
"sourceCommitId": "6ccd57fdEXAMPLE",
"baseCommitId": "767b6958EXAMPLE"
batch-disassociate-approval-rule-template-from-repositories

The following code example shows how to use batch-disassociate-approval-rule-template-from-repositories.

AWS CLI

To disassociate an approval rule template from multiple repositories in a single operation

The following batch-disassociate-approval-rule-template-from-repositories example disassociates the specified approval rule template from repositories named MyDemoRepo and MyOtherDemoRepo.

```
aws codecommit batch-disassociate-approval-rule-template-from-repositories 
   --repository-names MyDemoRepo, MyOtherDemoRepo 
   --approval-rule-template-name 1-approval-rule-for-all pull requests
```

Output:

```
{
   "disassociatedRepositoryNames": [
      "MyDemoRepo",
      "MyOtherDemoRepo"
   ],
   "errors": []
}
```

For more information, see Disassociate an Approval Rule Template in the AWS CodeCommit User Guide.

- For API details, see BatchDisassociateApprovalRuleTemplateFromRepositories in AWS CLI Command Reference.
**batch-get-commits**

The following code example shows how to use `batch-get-commits`.

**AWS CLI**

**To view information about multiple commits**

The following `batch-get-commits` example displays details about the specified commits.

```sh
aws codecommit batch-get-commits \
   --repository-name MyDemoRepo \
   --commit-ids 317f8570EXAMPLE 4c925148EXAMPLE
```

Output:

```json
{
   "commits": [
   {
      "additionalData": "",
      "committer": {
         "date": "1508280564 -0800",
         "name": "Mary Major",
         "email": "mary_major@example.com"
      },
      "author": {
         "date": "1508280564 -0800",
         "name": "Mary Major",
         "email": "mary_major@example.com"
      },
      "commitId": "317f8570EXAMPLE",
      "treeId": "1f330709EXAMPLE",
      "parents": [
         "6e147360EXAMPLE"
      ],
      "message": "Change variable name and add new response element"
   },
   {
      "additionalData": "",
      "committer": {
         "date": "1508280542 -0800",
         "name": "Li Juan",
         "email": "li_juan@example.com"
      },
```

Actions and scenarios
For more information, see [View Commit Details](#) in the [AWS CodeCommit User Guide](#).

- For API details, see [BatchGetCommits](#) in [AWS CLI Command Reference](#).

**batch-get-repositories**

The following code example shows how to use `batch-get-repositories`.

**AWS CLI**

**To view details about multiple repositories**

This example shows details about multiple AWS CodeCommit repositories.

```bash
aws codecommit batch-get-repositories \
    --repository-names MyDemoRepo MyOtherDemoRepo
```

**Output:**

```json
{
    "repositoriesNotFound": [],
    "repositories": [
        {
            "creationDate": 1429203623.625,
            "defaultBranch": "main",
            "repositoryName": "MyDemoRepo",
            "cloneUrlSsh": "ssh://git-codecommit.us-east-2.amazonaws.com/v1/repos/MyDemoRepo",
            "lastModifiedDate": 1430783812.0869999,
```
For API details, see [BatchGetRepositories](#) in *AWS CLI Command Reference*.

**create-approval-rule-template**

The following code example shows how to use `create-approval-rule-template`.

**AWS CLI**

**To create an approval rule template**

The following `create-approval-rule-template` example creates an approval rule template named `2-approver-rule-for-main`. The template requires two users who assume the role of `"CodeCommitReview` to approve any pull request before it can be merged to the main branch.

```
aws codecommit create-approval-rule-template \
  --approval-rule-template-name 2-approver-rule-for-main \
```
create-branch

The following code example shows how to use create-branch.

AWS CLI

To create a branch

This example creates a branch in an AWS CodeCommit repository. This command produces output only if there are errors.

Command:
aws codecommit create-branch --repository-name MyDemoRepo --branch-name MyNewBranch --commit-id 317f8570EXAMPLE

Output:
None.

- For API details, see `CreateBranch` in *AWS CLI Command Reference*.

create-commit

The following code example shows how to use `create-commit`.

**AWS CLI**

To create a commit

The following `create-commit` example demonstrates how to create an initial commit for a repository that adds a `readme.md` file to a repository named MyDemoRepo in the main branch.

```bash
aws codecommit create-commit \
    --repository-name MyDemoRepo \
    --branch-name main \
    --put-files "filePath=readme.md,fileContent='Welcome to our team repository.'"
```

Output:

```json
{
    "filesAdded": [
        {
            "blobId": "5e1c309d-EXAMPLE",
            "absolutePath": "readme.md",
            "fileMode": "NORMAL"
        }
    ],
    "commitId": "4df8b524-EXAMPLE",
    "treeId": "55b57003-EXAMPLE",
    "filesDeleted": [],
    "filesUpdated": []
}
```
For more information, see Create a Commit in AWS CodeCommit in the AWS CodeCommit User Guide.

- For API details, see CreateCommit in AWS CLI Command Reference.

create-pull-request

The following code example shows how to use create-pull-request.

AWS CLI

To create a pull request

The following create-pull-request example creates a pull request named 'Pronunciation difficulty analyzer' with a description of 'Please review these changes by Tuesday' that targets the 'jane-branch' source branch and is to be merged to the default branch 'main' in an AWS CodeCommit repository named 'MyDemoRepo'.

```bash
codecommit create-pull-request \
--title "My Pull Request" \
--description "Please review these changes by Tuesday" \
--client-request-token 123Example \
--targets repositoryName=MyDemoRepo,sourceReference=MyNewBranch
```

Output:

```
{
  "pullRequest": {
    "approvalRules": [
      {
        "approvalRuleContent": "{"Version": "2018-11-08", "DestinationReferences": ["refs/heads/main"], "Statements": [{"Type": "Approvers", "NumberOfApprovalsNeeded": 2, "ApprovalPoolMembers": ["arn:aws:sts::123456789012:assumed-role/CodeCommitReview/*"]}], "approvalRuleId": "dd8b17fe-EXAMPLE", "approvalRuleName": "2-approver-rule-for-main", "creationDate": 1571356106.936, "lastModifiedDate": 571356106.936, "lastModifiedUser": "arn:aws:iam::123456789012:user/Mary_Major", "originApprovalRuleTemplate": {"approvalRuleTemplateId": "dd3d22fe-EXAMPLE", "approvalRuleTemplateName": "2-approver-rule-for-main"}
      }
    ],
```
For API details, see CreatePullRequest in AWS CLI Command Reference.

create-pull-request-approval-rule

The following code example shows how to use create-pull-request-approval-rule.

AWS CLI

To create an approval rule for a pull request

The following create-pull-request-approval-rule example creates an approval rule named Require two approved approvers for the specified pull request. The rule specifies that two approvals are required from an approval pool. The pool includes all users who access CodeCommit by assuming the role of CodeCommitReview in the 123456789012 AWS account. It also includes either an IAM user or federated user named Nikhil_Jayashankar from the same AWS account.
aws codecommit create-pull-request-approval-rule  \
--approval-rule-name "Require two approved approvers"  \
--approval-rule-content "{"Version": "2018-11-08","Statements": 
[{"Type": "Approvers","NumberOfApprovalsNeeded": 2,"ApprovalPoolMembers 
": ["CodeCommitApprovers:123456789012:Nikhil_Jayashankar", 
\"arn:aws:sts::123456789012:assumed-role/CodeCommitReview/*"]}]}
"

Output:

```json
{
   "approvalRule": {
      "approvalRuleName": "Require two approved approvers",
      "lastModifiedDate": 1570752871.932,
      "ruleContentSha256": "7c44e6ebEXAMPLE",
      "creationDate": 1570752871.932,
      "approvalRuleId": "aac33506-EXAMPLE",
      "approvalRuleContent": "{\"Version\": "2018-11-08\",\"Statements\":
[\"Type\": \"Approvers\",\"NumberOfApprovalsNeeded": 2,\"ApprovalPoolMembers
": [\"CodeCommitApprovers:123456789012:Nikhil_Jayashankar", 
\"arn:aws:sts::123456789012:assumed-role/CodeCommitReview/*\"]}]\",
      "lastModifiedUser": "arn:aws:iam::123456789012:user/Mary_Major"
   }
}
```

For more information, see Create an Approval Rule in the AWS CodeCommit User Guide.

- For API details, see CreatePullRequestApprovalRule in AWS CLI Command Reference.

create-repository

The following code example shows how to use create-repository.

AWS CLI

To create a repository

This example creates a repository and associates it with the user's AWS account.

Command:

```
aws codecommit create-repository --repository-name MyDemoRepo --repository-description "My demonstration repository"
```
For API details, see [CreateRepository](AWS CLI Command Reference) in *AWS CLI Command Reference*.

**create-unreferenced-merge-commit**

The following code example shows how to use `create-unreferenced-merge-commit`.

**AWS CLI**

To create an unreferenced commit that represents the result of merging two commit specifiers

The following `create-unreferenced-merge-commit` example creates a commit that represents the results of a merge between a source branch named `bugfix-1234` with a destination branch named `main` using the `THREE_WAY_MERGE` strategy in a repository named `MyDemoRepo`.

```
aws codecommit create-unreferenced-merge-commit \
  --source-commit-specifier bugfix-1234 \
  --destination-commit-specifier main \
  --merge-option THREE_WAY_MERGE \
  --repository-name MyDemoRepo \
  --name "Maria Garcia" \
  --email "maria_garcia@example.com"
```
--commit-message "Testing the results of this merge."

Output:

```
{
    "commitId": "4f178133EXAMPLE",
    "treeId": "389765daEXAMPLE"
}
```

For more information, see Resolve Conflicts in a Pull Request in the AWS CodeCommit User Guide.

- For API details, see CreateUnreferencedMergeCommit in AWS CLI Command Reference.

**credential-helper**

The following code example shows how to use credential-helper.

**AWS CLI**

**To set up the credential helper included in the AWS CLI with AWS CodeCommit**

The credential-helper utility is not designed to be called directly from the AWS CLI. Instead it is intended to be used as a parameter with the git config command to set up your local computer. It enables Git to use HTTPS and a cryptographically signed version of your IAM user credentials or Amazon EC2 instance role whenever Git needs to authenticate with AWS to interact with CodeCommit repositories.

```
git config --global credential.helper '!aws codecommit credential-helper $@'
git config --global credential.UseHttpPath true
```

Output:

```
[credential]
    helper = !aws codecommit credential-helper $@
    UseHttpPath = true
```

For more information, see Setting up for AWS CodeCommit Using Other Methods in the AWS CodeCommit User Guide. Review the content carefully, and then follow the procedures in one of the following topics: For HTTPS Connections on Linux, macOS, or Unix or For HTTPS Connections on Windows in the AWS CodeCommit User Guide.
For API details, see CredentialHelper in AWS CLI Command Reference.

**delete-approval-rule-template**

The following code example shows how to use `delete-approval-rule-template`.

**AWS CLI**

**To delete an approval rule template**

The following `delete-approval-rule-template` example deletes the specified approval rule template.

```
aws codecommit delete-approval-rule-template  
   --approval-rule-template-name 1 Approver For All Pull Requests
```

Output:

```
{
   "approvalRuleTemplateId": "41de97b7-EXAMPLE"
}
```

For more information, see Delete an Approval Rule Template in the AWS CodeCommit User Guide.

For API details, see DeleteApprovalRuleTemplate in AWS CLI Command Reference.

**delete-branch**

The following code example shows how to use `delete-branch`.

**AWS CLI**

**To delete a branch**

This example shows how to delete a branch in an AWS CodeCommit repository.

Command:

```
aws codecommit delete-branch --repository-name MyDemoRepo --branch-name MyNewBranch
```
Output:

```
{
    "branch": {
        "commitId": "317f8570EXAMPLE",
        "branchName": "MyNewBranch"
    }
}
```

- For API details, see `DeleteBranch` in *AWS CLI Command Reference*.

**delete-comment-content**

The following code example shows how to use `delete-comment-content`.

**AWS CLI**

**To delete the content of a comment**

You can only delete the content of a comment if you created the comment. This example demonstrates how to delete the content of a comment with the system-generated ID of `ff30b348EXAMPLEb9aa670f`.

```
aws codecommit delete-comment-content \
    --comment-id ff30b348EXAMPLEb9aa670f
```

Output:

```
{
    "comment": {
        "creationDate": 1508369768.142,
        "deleted": true,
        "lastModifiedDate": 1508369842.278,
        "clientRequestToken": "123Example",
        "commentId": "ff30b348EXAMPLEb9aa670f",
        "authorArn": "arn:aws:iam::111111111111:user/Li_Juan",
        "callerReactions": [],
        "reactionCounts": {
            "CLAP": 1
        }
    }
}
```
delete-file

The following code example shows how to use delete-file.

AWS CLI

To delete a file

The following delete-file example demonstrates how to delete a file named README.md from a branch named main with a most recent commit ID of c5709475EXAMPLE in a repository named MyDemoRepo.

```bash
aws codecommit delete-file \\
   --repository-name MyDemoRepo \\
   --branch-name main \\
   --file-path README.md \\
   --parent-commit-id c5709475EXAMPLE
```

Output:

```json
{
   "blobId":"559b44fEXAMPLE",
   "commitId":"353cf655EXAMPLE",
   "filePath":"README.md",
   "treeId":"6bc824cEXAMPLE"
}
```

For more information, see [Edit or Delete a File in AWS CodeCommit](https://docs.aws.amazon.com/CodeCommit/latest/APIReference/API_DeleteCommit.html) in the [AWS CodeCommit API Reference](https://docs.aws.amazon.com/CodeCommit/latest/APIReference/Welcome.html) guide.

- For API details, see [DeleteCommentContent](https://docs.aws.amazon.com/cli/latest/reference/codecommit/delete-comment-content.html) in [AWS CLI Command Reference](https://docs.aws.amazon.com/cli/latest/reference/codecommit.html).

delete-pull-request-approval-rule

The following code example shows how to use delete-pull-request-approval-rule.
To delete an approval rule for a pull request

The following delete-pull-request-approval-rule example deletes the approval rule named My Approval Rule for the specified pull request.

```
aws codecommit delete-pull-request-approval-rule  
   --approval-rule-name "My Approval Rule"  
   --pull-request-id 15
```

Output:

```
{
   "approvalRuleId": "077d8e8a8-EXAMPLE"
}
```

For more information, see Edit or Delete an Approval Rule in the AWS CodeCommit User Guide. For API details, see DeletePullRequestApprovalRule in AWS CLI Command Reference.

delete-repository

The following code example shows how to use delete-repository.

AWS CLI

To delete a repository

This example shows how to delete an AWS CodeCommit repository.

Command:

```
aws codecommit delete-repository --repository-name MyDemoRepo
```

Output:

```
{
   "repositoryId": "f7579e13-b83e-4027-aaef-650c0EXAMPLE"
}
```

For API details, see DeleteRepository in AWS CLI Command Reference.
describe-merge-conflicts

The following code example shows how to use describe-merge-conflicts.

AWS CLI

To get detailed information about merge conflicts

The following describe-merge-conflicts example determines the merge conflicts for a file named readme.md in the specified source branch and destination branch using the THREE_WAY_MERGE strategy.

```bash
aws codecommit describe-merge-conflicts \
  --source-commit-specifier feature-randomizationfeature \
  --destination-commit-specifier main \
  --merge-option THREE_WAY_MERGE \
  --file-path readme.md \
  --repository-name MyDemoRepo
```

Output:

```json
{
  "conflictMetadata": {
    "filePath": "readme.md",
    "fileSizes": {
      "source": 139,
      "destination": 230,
      "base": 85
    },
    "fileModes": {
      "source": "NORMAL",
      "destination": "NORMAL",
      "base": "NORMAL"
    },
    "objectTypes": {
      "source": "FILE",
      "destination": "FILE",
      "base": "FILE"
    },
    "numberOfConflicts": 1,
    "isBinaryFile": {
      "source": false,
```
For more information, see [Resolve Conflicts in a Pull Request](https://docs.aws.amazon.com/codecommit/latest/userguide/resolve-merge-conflicts.html) in the [AWS CodeCommit User Guide](https://docs.aws.amazon.com/codecommit/latest/userguide/).

- For API details, see [DescribeMergeConflicts](https://docs.aws.amazon.com/cli/latest/reference/codecommit/describe-merge-conflicts.html) in [AWS CLI Command Reference](https://docs.aws.amazon.com/cli/latest/reference/codecommit/describe-merge-conflicts.html).

**describe-pull-request-events**

The following code example shows how to use `describe-pull-request-events`.

**AWS CLI**

To view events in a pull request
The following describe-pull-request-events example retrieves the events for a pull request with the ID of '8'.

```
aws codecommit describe-pull-request-events --pull-request-id 8
```

Output:

```
{
   "pullRequestEvents": [
      {
         "pullRequestId": "8",
         "pullRequestEventType": "PULL_REQUEST_CREATED",
         "eventDate": 1510341779.53,
         "actor": "arn:aws:iam::111111111111:user/Zhang_Wei"
      },
      {
         "pullRequestId": "8",
         "pullRequestStatusChangedEventMetadata": {
            "pullRequestStatus": "CLOSED"
         },
         "pullRequestId": "8",
         "pullRequestEventType": "PULL_REQUEST_STATUS_CHANGED",
         "eventDate": 1510341930.72,
         "actor": "arn:aws:iam::111111111111:user/Jane_Doe"
      }
   ]
}
```

- For API details, see [DescribePullRequestEvents](aws CLI Command Reference).

**disassociate-approval-rule-template-from-repository**

The following code example shows how to use disassociate-approval-rule-template-from-repository.

**AWS CLI**

**To disassociate an approval rule template from a repository**

The following disassociate-approval-rule-template-from-repository example disassociates the specified approval rule template from a repository named MyDemoRepo.

```
aws codecommit disassociate-approval-rule-template-from-repository \
```
evaluate-pull-request-approval-rules

The following code example shows how to use `evaluate-pull-request-approval-rules`.

**AWS CLI**

To evaluate whether a pull request has all of its approval rules satisfied

The following `evaluate-pull-request-approval-rules` example evaluates the state of approval rules on the specified pull request. In this example, an approval rule has not been satisfied for the pull request, so the output of the command shows an approved value of false.

```
aws codecommit evaluate-pull-request-approval-rules \
   --pull-request-id 27 \\n   --revision-id 9f29d167EXAMPLE
```

Output:

```
{
   "evaluation": {
      "approved": false,
      "approvalRulesNotSatisfied": [
         "Require two approved approvers"
      ],
      "overridden": false,
      "approvalRulesSatisfied": []
   }
}
```

For more information, see [Merge a Pull Request](https://aws.amazon.com/efs/) in the AWS CodeCommit User Guide.
• For API details, see `EvaluatePullRequestApprovalRules` in *AWS CLI Command Reference*.

**get-approval-rule-template**

The following code example shows how to use `get-approval-rule-template`.

**AWS CLI**

**To get the content of an approval rule template**

The following `get-approval-rule-template` example gets the content of an approval rule template named `1-approver-rule-for-all-pull-requests`.

```bash
aws codecommit get-approval-rule-template \
    --approval-rule-template-name 1-approver-rule-for-all-pull-requests
```

**Output:**

```json
{
    "approvalRuleTemplate": {
        "approvalRuleTemplateContent": "\{"Version": "2018-11-08","Statements": 
        [{"Type": "Approvers","NumberOfApprovalsNeeded": 1,"ApprovalPoolMembers": 
        ["arn:aws:sts::123456789012:assumed-role/CodeCommitReview/*"]}],
        "ruleContentSha256": "621181bbEXAMPLE",
        "lastModifiedDate": 1571356106.936,
        "creationDate": 1571356106.936,
        "approvalRuleTemplateName": "1-approver-rule-for-all-pull-requests",
        "lastModifiedUser": "arn:aws:iam::123456789012:user/Li_Juan",
        "approvalRuleTemplateId": "a29abb15-EXAMPLE",
        "approvalRuleTemplateDescription": "All pull requests must be approved by
one developer on the team."
    }
}
```

For more information, see [Manage Approval Rule Templates](https://docs.aws.amazon.com/codecommit/latest/userguide/rip审批规则模板的管理.html) in the *AWS CodeCommit User Guide*.

• For API details, see `GetApprovalRuleTemplate` in *AWS CLI Command Reference*.

**get-blob**

The following code example shows how to use `get-blob`.
To view information about a Git blob object

The following `get-blob` example retrieves information about a Git blob with the ID of '2eb4af3bEXAMPLE' in an AWS CodeCommit repository named 'MyDemoRepo'.

```
aws codecommit get-blob --repository-name MyDemoRepo --blob-id 2eb4af3bEXAMPLE
```

Output:

```json
{
    "content": "QSBCaW5hcnkgTGFyToEXAMPLE="
}
```

- For API details, see [GetBlob](https://docs.aws.amazon.com/cli/latest/reference/codecommit/get-blob.html) in *AWS CLI Command Reference*.

get-branch

The following code example shows how to use `get-branch`.

AWS CLI

To get information about a branch

This example gets information about a branch in an AWS CodeCommit repository.

Command:

```
aws codecommit get-branch --repository-name MyDemoRepo --branch-name MyNewBranch
```

Output:

```json
{
    "BranchInfo": {
        "commitID": "317f8570EXAMPLE",
        "branchName": "MyNewBranch"
    }
}
```

- For API details, see [GetBranch](https://docs.aws.amazon.com/cli/latest/reference/codecommit/get-branch.html) in *AWS CLI Command Reference*. 
get-comment

The following code example shows how to use `get-comment`.

**AWS CLI**

**To view details of a comment**

This example demonstrates how to view details of a comment with the system-generated comment ID of `ff30b348EXAMPLEb9aa670f`.

```
aws codecommit get-comment \
   --comment-id ff30b348EXAMPLEb9aa670f
```

Output:

```
{
   "comment": {
      "authorArn": "arn:aws:iam::111111111111:user/Li_Juan",
      "clientRequestToken": "123Example",
      "commentId": "ff30b348EXAMPLEb9aa670f",
      "content": "Whoops - I meant to add this comment to the line, but I don't see how to delete it.",
      "creationDate": 1508369768.142,
      "deleted": false,
      "commentId": "",
      "lastModifiedDate": 1508369842.278,
      "callerReactions": [],
      "reactionCounts": {
         "SMILE" : 6,
         "THUMBSUP" : 1
      }
   }
}
```

- For API details, see [GetComment](https://docs.aws.amazon.com/cli/latest/reference/codecommit/get-comment.html) in *AWS CLI Command Reference*.

get-comment-reactions

The following code example shows how to use `get-comment-reactions`.
AWS CLI

To view emoji reactions to a comment

The following get-comment-reactions example lists all emoji reactions to a comment with the ID of abcd1234EXAMPLEb5678efgh. If the font for your shell supports displaying Emoji Version 1.0, then in the output for emoji the emoji is displayed.

```
aws codecommit get-comment-reactions
   --comment-id abcd1234EXAMPLEb5678efgh
```

Output:

```
{
   "reactionsForComment": [
      {
         "reaction": {
            "emoji": "??",
            "shortCode": "thumbsup",
            "unicode": "U+1F44D"
         },
         "users": [
            "arn:aws:iam::123456789012:user/Li_Juan",
            "arn:aws:iam::123456789012:user/Mary_Major",
            "arn:aws:iam::123456789012:user/Jorge_Souza"
         ]
      },
      {
         "reaction": {
            "emoji": "??",
            "shortCode": "thumbsdown",
            "unicode": "U+1F44E"
         },
         "users": [
            "arn:aws:iam::123456789012:user/Nikhil_Jayashankar"
         ]
      },
      {
         "reaction": {
            "emoji": "??",
            "shortCode": "confused",
            "unicode": "U+1F615"
         }
      }
   ]
}
```
get-comments-for-compared-commit

The following code example shows how to use get-comments-for-compared-commit.

AWS CLI

To view comments on a commit

This example demonstrates how to view view comments made on the comparison between two commits in a repository named MyDemoRepo.

```
aws codecommit get-comments-for-compared-commit \
  --repository-name MyDemoRepo \
  --before-commit-ID 6e147360EXAMPLE \
  --after-commit-id 317f8570EXAMPLE
```

Output:

```json
{
  "commentsForComparedCommitData": [
    {
      "afterBlobId": "1f330709EXAMPLE",
      "afterCommitId": "317f8570EXAMPLE",
      "beforeBlobId": "80906a4cEXAMPLE",
      "beforeCommitId": "6e147360EXAMPLE",
      "comments": [
        {
          "content": "Sample comment",
          "insertionLine": 10,
          "line": 10,
          "message": "This is a sample comment.
```
For API details, see GetCommentsForComparedCommit in AWS CLI Command Reference.
get-comments-for-pull-request

The following code example shows how to use `get-comments-for-pull-request`.

AWS CLI

To view comments for a pull request

This example demonstrates how to view comments for a pull request in a repository named `MyDemoRepo`.

```
aws codecommit get-comments-for-pull-request \
  --repository-name MyDemoRepo \
  --before-commit-ID 317f8570EXAMPLE \
  --after-commit-id 5d036259EXAMPLE
```

Output:

```
{
    "commentsForPullRequestData": [
        {
            "afterBlobId": "1f330709EXAMPLE",
            "afterCommitId": "5d036259EXAMPLE",
            "beforeBlobId": "80906a4cEXAMPLE",
            "beforeCommitId": "317f8570EXAMPLE",
            "comments": [
                {
                    "authorArn": "arn:aws:iam::111111111111:user/Saanvi_Sarkar",
                    "clientRequestToken": "",
                    "commentId": "abcd1234EXAMPLEb5678efgh",
                    "content": "These don't appear to be used anywhere. Can we remove them?",
                    "creationDate": 1508369622.123,
                    "deleted": false,
                    "lastModifiedDate": 1508369622.123,
                    "callerReactions": [],
                    "reactionCounts": {
                        "THUMBSUP": 6,
                        "CONFUSED": 1
                    }
                },
                {
                }
            ]
        }
    ]
}
```
get-commit

The following code example shows how to use get-commit.

AWS CLI

To view information about a commit in a repository

This example shows details about a commit with the system-generated ID of '7e9fd3091thisisanexamplethisisanexample1' in an AWS CodeCommit repository named 'MyDemoRepo'.

Command:
aws codecommit get-commit --repository-name MyDemoRepo --commit-id 7e9fd3091thisisanexamplethisisanexample1

Output:

```
{
    "commit": {
        "additionalData": "",
        "committer": {
            "date": "1484167798 -0800",
            "name": "Mary Major",
            "email": "mary_major@example.com"
        },
        "author": {
            "date": "1484167798 -0800",
            "name": "Mary Major",
            "email": "mary_major@example.com"
        },
        "treeId": "347a3408thisisanexampletreeidexample",
        "parents": [
            "7aa87a031thisisanexamplethisisanexample1"
        ],
        "message": "Fix incorrect variable name"
    }
}
```


**get-differences**

The following code example shows how to use `get-differences`.

**AWS CLI**

To get information about differences for a commit specifier in a repository

This example shows view metadata information about changes between two commit specifiers (branch, tag, HEAD, or other fully qualified references, such as commit IDs) in a renamed folder in AWS CodeCommit repository named MyDemoRepo. The example includes several options that are not required, including `--before-commit-specifier`, `--before-path`, and `--after-path`, in
order to more fully illustrate how you can use these options to limit the results. The response includes file mode permissions.

Command:

```bash
aws codecommit get-differences --repository-name MyDemoRepo --before-commit-specifier 955bba12thisisanexamplethisisanexample --after-commit-specifier 14a95463thisisanexamplethisisanexample --before-path tmp/example-folder --after-path tmp/renamed-folder
```

Output:

```json
{
   "differences": [
   {
      "afterBlob": {
         "path": "blob.txt",
         "blobId": "2eb4af3b1thisisanexamplethisisanexample1",
         "mode": "100644"
      },
      "changeType": "M",
      "beforeBlob": {
         "path": "blob.txt",
         "blobId": "bf7fcf281thisisanexamplethisisanexample1",
         "mode": "100644"
      }
   }
   ]
}
```

- For API details, see [GetDifferences](#) in [AWS CLI Command Reference](#).

get-file

The following code example shows how to use get-file.

### AWS CLI

#### To get the base-64 encoded contents of a file in an AWS CodeCommit repository

The following `get-file` example demonstrates how to get the base-64 encoded contents of a file named `README.md` from a branch named `main` in a repository named `MyDemoRepo`. 
aws codecommit get-file
  --repository-name MyDemoRepo
  --commit-specifier main
  --file-path README.md

Output:

```
{
  "blobId" : "559b44fEXAMPLE",
  "commitId" : "c5709475EXAMPLE",
  "fileContent" : "IyBQaHVzEXAMPLE",
  "filePath" : "README.md",
  "fileMode" : "NORMAL",
  "fileSize" : 1563
}
```

For more information, see GetFile in the AWS CodeCommit API Reference guide.

- For API details, see GetFile in AWS CLI Command Reference.

get-folder

The following code example shows how to use get-folder.

AWS CLI

To get the contents of a folder in an AWS CodeCommit repository

The following get-folder example demonstrates how to get the contents of a top-level folder from a repository named MyDemoRepo.

```
aws codecommit get-folder --repository-name MyDemoRepo --folder-path ""
```

Output:

```
{
  "commitId" : "c5709475EXAMPLE",
  "files" : [
  {
    "absolutePath" : ".gitignore",
    "blobId" : "74094e8bEXAMPLE",
    "fileMode" : "NORMAL",
  },
  ]
}```
"relativePath": ".gitignore"
},
{
"absolutePath": "Gemfile",
"blobId": "9ceb72f6EXAMPLE",
"fileMode": "NORMAL",
"relativePath": "Gemfile"
},
{
"absolutePath": "Gemfile.lock",
"blobId": "795c4a2aEXAMPLE",
"fileMode": "NORMAL",
"relativePath": "Gemfile.lock"
},
{
"absolutePath": "LICENSE.txt",
"blobId": "0c7932c8EXAMPLE",
"fileMode": "NORMAL",
"relativePath": "LICENSE.txt"
},
{
"absolutePath": "README.md",
"blobId": "559b44feEXAMPLE",
"fileMode": "NORMAL",
"relativePath": "README.md"
}
],
"folderPath": "",
"subFolders": [
{
"absolutePath": "public",
"relativePath": "public",
"treeId": "d5e92ae3aEXAMPLE"
},
{
"absolutePath": "tmp",
"relativePath": "tmp",
"treeId": "d564d0bcEXAMPLE"
}
],
"subModules": [],
"symbolicLinks": [],
"treeId": "7b3c4dadEXAMPLE"
For more information, see GetFolder in the AWS CodeCommit API Reference guide.

- For API details, see GetFolder in AWS CLI Command Reference.

get-merge-commit

The following code example shows how to use get-merge-commit.

AWS CLI

To get detailed information about a merge commit

The following get-merge-commit example displays details about a merge commit for the source branch named bugfix-bug1234 with a destination branch named main using the THREE_WAY_MERGE strategy in a repository named MyDemoRepo.

```bash
aws codecommit get-merge-commit \
  --source-commit-specifier bugfix-bug1234 \
  --destination-commit-specifier main \
  --merge-option THREE_WAY_MERGE \
  --repository-name MyDemoRepo
```

Output:

```json
{
    "sourceCommitId": "c5709475EXAMPLE",
    "destinationCommitId": "317f8570EXAMPLE",
    "baseCommitId": "fb12a539EXAMPLE",
    "mergeCommitId": "ffc4d608eEXAMPLE"
}
```

For more information, see View Commit Details in the AWS CodeCommit User Guide.

- For API details, see GetMergeCommit in AWS CLI Command Reference.

get-merge-conflicts

The following code example shows how to use get-merge-conflicts.
AWS CLI

To view whether there are any merge conflicts for a pull request

The following `get-merge-conflicts` example displays whether there are any merge conflicts between the tip of a source branch named `feature-randomizationfeature` and a destination branch named 'main' in a repository named `MyDemoRepo`.

```bash
aws codecommit get-merge-conflicts \
  --repository-name MyDemoRepo \
  --source-commit-specifier feature-randomizationfeature \
  --destination-commit-specifier main \
  --merge-option THREE_WAY_MERGE
```

Output:

```json
{
  "mergeable": false,
  "destinationCommitId": "86958e0aEXAMPLE",
  "sourceCommitId": "6ccd57fdEXAMPLE",
  "baseCommitId": "767b6958EXAMPLE",
  "conflictMetadataList": [
    {
      "filePath": "readme.md",
      "fileSizes": {
        "source": 139,
        "destination": 230,
        "base": 85
      },
      "fileModes": {
        "source": "NORMAL",
        "destination": "NORMAL",
        "base": "NORMAL"
      },
      "objectTypes": {
        "source": "FILE",
        "destination": "FILE",
        "base": "FILE"
      },
      "numberOfConflicts": 1,
      "isBinaryFile": {
        "source": false,
        "destination": false,
```

Actions and scenarios
For API details, see GetMergeConflicts in AWS CLI Command Reference.

get-merge-options

The following code example shows how to use get-merge-options.

AWS CLI

To get information about the merge options available for merging two specified branches

The following get-merge-options example determines the merge options available for merging a source branch named bugfix-bug1234 with a destination branch named main in a repository named MyDemoRepo.

```bash
aws codecommit get-merge-options \
  --source-commit-specifier bugfix-bug1234 \
  --destination-commit-specifier main \
  --repository-name MyDemoRepo
```

Output:

```
{
  "mergeOptions": [
    "FAST_FORWARD_MERGE",
    "SQUASH_MERGE",
    "THREE_WAY_MERGE"
  ],
  "sourceCommitId": "18059494EXAMPLE",
  "destinationCommitId": "ffd3311dEXAMPLE",
}
get-pull-request

The following code example shows how to use get-pull-request.

AWS CLI

To view details of a pull request

This example demonstrates how to view information about a pull request with the ID of 27.

```
aws codecommit get-pull-request \\
   --pull-request-id 27
```

Output:

```
{
   "pullRequest": {
      "approvalRules": [
         {
            "approvalRuleId": "dd8b17fe-EXAMPLE",
            "approvalRuleName": "2-approver-rule-for-main",
            "creationDate": 1571356106.936,
            "lastModifiedDate": 571356106.936,
            "lastModifiedUser": "arn:aws:iam::123456789012:user/Mary_Major",
            "ruleContentSha256": "4711b576EXAMPLE"
         }
      ],
      "lastActivityDate": 1562619583.565,
      "pullRequestTargets": [
         {
            "sourceCommit": "ca45e279EXAMPLE",
            "}

For more information, see Resolve Conflicts in a Pull Request in the AWS CodeCommit User Guide.

- For API details, see GetMergeOptions in AWS CLI Command Reference.
For API details, see [GetPullRequest](https://docs.aws.amazon.com/cli/latest/reference/codecommit/get-pull-request-approval-states.html) in **AWS CLI Command Reference**.

### get-pull-request-approval-states

The following code example shows how to use `get-pull-request-approval-states`.

**AWS CLI**

**To view approvals on a pull request**

The following `get-pull-request-approval-states` example returns approvals for the specified pull request.

```
aws codecommit get-pull-request-approval-states \
  --pull-request-id 8 \
  --revision-id 9f29d167EXAMPLE
```

**Output:**

```
{
  "approvals": [
    {
      "approve": true,
      "reviewerArn": "arn:aws:iam::123456789012:user/Nikhil_Jayashankar",
      "approvedAt": 1562619583.565
    }
  ]
}
```
"userArn": "arn:aws:iamp=123456789012:user/Mary_Major",
"approvalState": "APPROVE"
]
]}

For more information, see View Pull Requests in the AWS CodeCommit User Guide.

- For API details, see GetPullRequestApprovalStates in AWS CLI Command Reference.

get-pull-request-override-state

The following code example shows how to use get-pull-request-override-state.

AWS CLI

To get information about the override status of a pull request

The following get-pull-request-override-state example returns the override state for the specified pull request. In this example, the approval rules for the pull request were overridden by a user named Mary Major, so the output returns a value of true:

```
aws codecommit get-pull-request-override-state \
  --pull-request-id 34 \ 
  --revision-id 9f29d167EXAMPLE
```

Output:

```
{
  "overridden": true,
  "overrider": "arn:aws:iamp=123456789012:user/Mary_Major"
}
```

For more information, see Override Approval Rules on a Pull Request in the AWS CodeCommit User Guide.

- For API details, see GetPullRequestOverrideState in AWS CLI Command Reference.

get-repository

The following code example shows how to use get-repository.
To get information about a repository

This example shows details about an AWS CodeCommit repository.

```bash
aws codecommit get-repository \
   --repository-name MyDemoRepo
```

Output:

```
{
   "repositoryMetadata": {
      "creationDate": 1429203623.625,
      "defaultBranch": "main",
      "repositoryName": "MyDemoRepo",
      "cloneUrlSsh": "ssh://git-codecommit.us-east-1.amazonaws.com/v1/repos/v1/repos/MyDemoRepo",
      "lastModifiedDate": 1430783812.0869999,
      "repositoryDescription": "My demonstration repository",
      "cloneUrlHttp": "https://codecommit.us-east-1.amazonaws.com/v1/repos/MyDemoRepo",
      "repositoryId": "f7579e13-b83e-4027-aaef-650c0EXAMPLE",
      "Arn": "arn:aws:codecommit:us-east-1:80398EXAMPLE:MyDemoRepo"
   }
}
```

- For API details, see [GetRepository](#) in *AWS CLI Command Reference*.

get-repository-triggers

The following code example shows how to use `get-repository-triggers`.

AWS CLI

To get information about triggers in a repository

This example shows details about triggers configured for an AWS CodeCommit repository named MyDemoRepo.

```bash
aws codecommit get-repository-triggers \
```
Output:

```json
{
    "configurationId": "f7579e13-b83e-4027-aaef-650c0EXAMPLE",
    "triggers": [
        {
            "branches": [
                "main",
                "preprod"
            ],
            "name": "MyFirstTrigger",
            "customData": "",
            "events": [
                "all"
            ]
        },
        {
            "branches": [],
            "name": "MySecondTrigger",
            "customData": "EXAMPLE",
            "events": [
                "all"
            ]
        }
    ]
}
```

- For API details, see [GetRepositoryTriggers](https://docs.aws.amazon.com/cli/latest/reference/codecommit/get-repository-triggers.html) in *AWS CLI Command Reference*.

### list-approval-rule-templates

The following code example shows how to use `list-approval-rule-templates`.

**AWS CLI**

To list all approval rule templates in an AWS Region
The following `list-approval-rule-templates` example lists all approval rule templates in the specified Region. If no AWS Region is specified as a parameter, the command returns approval rule templates for the region specified in the AWS CLI profile used to run the command.

```
aws codecommit list-approval-rule-templates
   --region us-east-2
```

Output:

```
{
   "approvalRuleTemplateNames": [
       "2 aprover rule for main",
       "1 approver rule for all pull requests"
   ]
}
```

For more information, see Manage Approval Rule Templates in the AWS CodeCommit User Guide.

- For API details, see ListApprovalRuleTemplates in AWS CLI Command Reference.

`list-associated-approval-rule-templates-for-repository`

The following code example shows how to use `list-associated-approval-rule-templates-for-repository`.

**AWS CLI**

**To list all templates associated with a repository**

The following `list-associated-approval-rule-templates-for-repository` example lists all approval rule templates associated with a repository named MyDemoRepo.

```
aws codecommit list-associated-approval-rule-templates-for-repository
   --repository-name MyDemoRepo
```

Output:

```
{
   "approvalRuleTemplateNames": [
```

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"2 approver rule for main",
"1 approver rule for all pull requests"
]
}

For more information, see Manage Approval Rule Templates in the AWS CodeCommit User Guide.

- For API details, see ListAssociatedApprovalRuleTemplatesForRepository in AWS CLI Command Reference.

list-branches

The following code example shows how to use list-branches.

AWS CLI

To view a list of branch names

This example lists all branch names in an AWS CodeCommit repository.

```
aws codecommit list-branches \ 
   --repository-name MyDemoRepo
```

Output:

```
{
   "branches": [
      "MyNewBranch",
      "main"
   ]
}
```

- For API details, see ListBranches in AWS CLI Command Reference.

list-pull-requests

The following code example shows how to use list-pull-requests.

AWS CLI

To view a list of pull requests in a repository
This example demonstrates how to list pull requests created by an IAM user with the ARN 'arn:aws:iam::111111111111:user/Li_Juan' and the status of 'CLOSED' in an AWS CodeCommit repository named 'MyDemoRepo':

```bash
aws codecommit list-pull-requests --author-arn arn:aws:iam::111111111111:user/Li_Juan --pull-request-status CLOSED --repository-name MyDemoRepo
```

Output:

```json
{
  "nextToken": "",
  "pullRequestIds": ["2","12","16","22","23","35","30","39","47"]
}
```

- For API details, see [ListPullRequests](#) in [AWS CLI Command Reference](#).

**list-repositories**

The following code example shows how to use `list-repositories`.

**AWS CLI**

**To view a list of repositories**

This example lists all AWS CodeCommit repositories associated with the user's AWS account.

Command:

```bash
aws codecommit list-repositories
```

Output:

```json
{
  "repositories": [
    {
      "repositoryName": "MyDemoRepo",
      "repositoryId": "f7579e13-b83e-4027-aaef-650c0EXAMPLE",
    },
    {
```

Actions and scenarios
list-repositories-for-approval-rule-template

The following code example shows how to use list-repositories-for-approval-rule-template.

AWS CLI

To list all repositories associated with a template

The following list-repositories-for-approval-rule-template example lists all repositories associated with the specified approval rule template.

```bash
aws codecommit list-repositories-for-approval-rule-template \ 
  --approval-rule-template-name 2/approver-rule-for-main
```

Output:

```json
{
  "repositoryNames": [
    "MyDemoRepo",
    "MyClonedRepo"
  ]
}
```

For more information, see Manage Approval Rule Templates in the AWS CodeCommit User Guide.

For API details, see ListRepositoriesForApprovalRuleTemplate in AWS CLI Command Reference.

list-tags-for-resource

The following code example shows how to use list-tags-for-resource.
**AWS CLI**

**To view the AWS tags for a repository**

The following `list-tags-for-resource` example lists tag keys and tag values for the specified repository.

```
aws codecommit list-tags-for-resource \
```

Output:

```
{
  "tags": {
    "Status": "Secret",
    "Team": "Saanvi"
  }
}
```

For more information, see [View Tags for a Repository](#) in the *AWS CodeCommit User Guide*.

- For API details, see [ListTagsForResource](#) in *AWS CLI Command Reference*.

**merge-branches-by-fast-forward**

The following code example shows how to use `merge-branches-by-fast-forward`.

**AWS CLI**

**To merge two branches using the fast-forward merge strategy**

The following `merge-branches-by-fast-forward` example merges the specified source branch with the specified destination branch in a repository named `MyDemoRepo`.

```
aws codecommit merge-branches-by-fast-forward \
  --source-commit-specifier bugfix-bug1234 \
  --destination-commit-specifier bugfix-bug1233 \
  --repository-name MyDemoRepo
```

Output:

```
{
}
```
For more information, see Compare and Merge Branches in the AWS CodeCommit User Guide.
• For API details, see MergeBranchesByFastForward in AWS CLI Command Reference.

merge-branches-by-squash

The following code example shows how to use merge-branches-by-squash.

AWS CLI

To merge two branches using the squash merge strategy

The following merge-branches-by-squash example merges the specified source branch with the specified destination branch in a repository named MyDemoRepo.

```bash
aws codecommit merge-branches-by-squash \
    --source-commit-specifier bugfix-bug1234 \
    --destination-commit-specifier bugfix-bug1233 \
    --author-name "Maria Garcia" \
    --email "maria_garcia@example.com" \
    --commit-message "Merging two fix branches to prepare for a general patch." \
    --repository-name MyDemoRepo
```

Output:

```json
{
    "commitId": "4f178133EXAMPLE",
    "treeId": "389765daEXAMPLE"
}
```

For more information, see Compare and Merge Branches in the AWS CodeCommit User Guide.
• For API details, see MergeBranchesBySquash in AWS CLI Command Reference.

merge-branches-by-three-way

The following code example shows how to use merge-branches-by-three-way.
**AWS CLI**

**To merge two branches using the three-way merge strategy**

The following `merge-branches-by-three-way` example merges the specified source branch with the specified destination branch in a repository named MyDemoRepo.

```bash
aws codecommit merge-branches-by-three-way 
   --source-commit-specifier main 
   --destination-commit-specifier bugfix-bug1234 
   --author-name "Jorge Souza" --email "jorge_souza@example.com" 
   --commit-message "Merging changes from main to bugfix branch before additional testing." 
   --repository-name MyDemoRepo
```

Output:

```json
{
   "commitId": "4f178133EXAMPLE",
   "treeId": "389765daEXAMPLE"
}
```

For more information, see [Compare and Merge Branches](https://docs.aws.amazon.com/codecommit/latest/userguide/compare-merge-branch.html) in the *AWS CodeCommit User Guide*.

- For API details, see [MergeBranchesByThreeWay](https://docs.aws.amazon.com/cli/latest/reference/codecommit/merge-branches-by-three-way.html) in *AWS CLI Command Reference*.

**merge-pull-request-by-fast-forward**

The following code example shows how to use `merge-pull-request-by-fast-forward`.

**AWS CLI**

**To merge and close a pull request**

This example demonstrates how to merge and close a pull request with the ID of '47' and a source commit ID of '99132ab0EXAMPLE' in a repository named MyDemoRepo.

```bash
aws codecommit merge-pull-request-by-fast-forward 
   --pull-request-id 47 
   --source-commit-id 99132ab0EXAMPLE 
   --repository-name MyDemoRepo
```
For more information, see [Merge a Pull Request](#) in the [AWS CodeCommit User Guide](#).
merge-pull-request-by-squash

The following code example shows how to use merge-pull-request-by-squash.

AWS CLI

To merge a pull request using the squash merge strategy

The following merge-pull-request-by-squash example merges and closes the specified pull request using the conflict resolution strategy of ACCEPT_SOURCE in a repository named MyDemoRepo.

```bash
aws codecommit merge-pull-request-by-squash \
  --pull-request-id 47 \
  --source-commit-id 99132ab0EXAMPLE \
  --repository-name MyDemoRepo \
  --conflict-detail-level LINE_LEVEL \
  --conflict-resolution-strategy ACCEPT_SOURCE \
  --name "Jorge Souza" --email "jorge_souza@example.com" \
  --commit-message "Merging pull request 47 by squash and accepting source in merge conflicts"
```

Output:

```
{
  "pullRequest": {
    "approvalRules": [
      {
        "approvalRuleContent": "{"\"Version\": "2018-11-08\", \\
\"DestinationReferences\": ["refs/heads/main"],\"Statements\": [{\"Type \\
\"": \"Approvers\",\"NumberOfApprovalsNeeded\": 2,\"ApprovalPoolMembers\": [\"arn:aws:sts::123456789012:assumed-role/CodeCommitReview/**\"]}],", \\
"approvalRuleId": "dd8b17fe-EXAMPLE", \\
"approvalRuleName": "2-approver-rule-for-main", \\
"creationDate": 1571356106.936, \\
"lastModifiedDate": 571356106.936, \\
"lastModifiedUser": "arn:aws:iam::123456789012:user/Mary_Major", \\
"originApprovalRuleTemplate": {
      "approvalRuleTemplateId": "dd8b17fe-EXAMPLE", \\
      "approvalRuleTemplateName": "2-approver-rule-for-main"
    }
  }
}
```
For more information, see [Merge a Pull Request](https://docs.aws.amazon.com/codecommit/latest/userguide/merge-pull-request.html) in the *AWS CodeCommit User Guide*.

For API details, see [MergePullRequestBySquash](https://docs.aws.amazon.com/cli/latest/reference/codecommit/merge-pull-request-by-squash.html) in *AWS CLI Command Reference*.

**merge-pull-request-by-three-way**

The following code example shows how to use **merge-pull-request-by-three-way**.

**AWS CLI**

To merge a pull request using the three-way merge strategy
The following merge-pull-request-by-three-way example merges and closes the specified pull request using the default options for conflict detail and conflict resolution strategy in a repository named MyDemoRepo.

```
aws codecommit merge-pull-request-by-three-way \
  --pull-request-id 47 \
  --source-commit-id 99132ab0EXAMPLE \
  --repository-name MyDemoRepo \
  --name "Maria Garcia" \ 
  --email "maria_garcia@example.com" \
  --commit-message "Merging pull request 47 by three-way with default options"
```

Output:

```
{
  "pullRequest": {
    "approvalRules": [
      {
        "approvalRuleContent": "{"Version": "2018-11-08", \\
          "DestinationReferences": ["refs/heads/main"], \\
          "Statements": [{"Type": "Approvers","NumberOfApprovalsNeeded": 2,"ApprovalPoolMembers": ["arn:aws:sts::123456789012:assumed-role/CodeCommitReview/*"],}],},
        "approvalRuleId": "dd8b17fe-EXAMPLE",
        "approvalRuleTemplateName": "2-approver-rule-for-main",
        "creationDate": 1571356106.936,
        "lastModifiedDate": 571356106.936,
        "lastModifiedUser": "arn:aws:iam::123456789012:user/Mary_Major",
        "originApprovalRuleTemplate": {
          "approvalRuleTemplateId": "dd8b17fe-EXAMPLE",
          "approvalRuleTemplateName": "2-approver-rule-for-main"
        },
        "ruleContentSha256": "4711b576EXAMPLE"
      }
    ],
    "authorArn": "arn:aws:iam::123456789012:user/Li_Juan",
    "clientRequestToken": "",
    "creationDate": 1508530823.142,
    "description": "Review the latest changes and updates to the global variables",
    "lastActivityDate": 1508887223.155,
    "pullRequestId": "47",
    "pullRequestStatus": "CLOSED",
    "pullRequestTargets": [
```
For more information, see **Merge a Pull Request** in the *AWS CodeCommit User Guide*.

- For API details, see **MergePullRequestByThreeWay** in *AWS CLI Command Reference*.

**override-pull-request-approval-rules**

The following code example shows how to use `override-pull-request-approval-rules`.

**AWS CLI**

**To override approval rule requirements on a pull request**

The following `override-pull-request-approval-rules` example overrides approval rules on the specified pull request. To revoke an override instead, set the `--override-status` parameter value to `REVOKE`.

```
aws codecommit override-pull-request-approval-rules \
    --pull-request-id 34 \
    --revision-id 927df8d8EXAMPLE \
    --override-status OVERRIDE
```

This command produces no output.

For more information, see **Override Approval Rules on a Pull Request** in the *AWS CodeCommit User Guide*.

- For API details, see **OverridePullRequestApprovalRules** in *AWS CLI Command Reference*.
post-comment-for-compared-commit

The following code example shows how to use post-comment-for-compared-commit.

AWS CLI

To create a comment on a commit

This example demonstrates how to add the comment "Can you add a test case for this?" on the change to the cl_sample.js file in the comparison between two commits in a repository named MyDemoRepo.

```
aws codecommit post-comment-for-compared-commit \
  --repository-name MyDemoRepo \ 
  --before-commit-id 317f8570EXAMPLE \ 
  --after-commit-id 5d036259EXAMPLE \ 
  --client-request-token 123Example \ 
  --content "Can you add a test case for this?" \ 
  --location filePath=cl_sample.js,filePosition=1232,relativeFileVersion=AFTER
```

Output:

```
{
  "afterBlobId": "1f330709EXAMPLE",
  "afterCommitId": "317f8570EXAMPLE",
  "beforeBlobId": "80906a4cEXAMPLE",
  "beforeCommitId": "6e147360EXAMPLE",
  "comment": {
    "authorArn": "arn:aws:iam::111111111111:user/Li_Juan",
    "clientRequestToken": "",
    "commentId": "553b509bEXAMPLE56198325",
    "content": "Can you add a test case for this?",
    "creationDate": 1508369612.203,
    "deleted": false,
    "commentId": "abc123-EXAMPLE",
    "lastModifiedDate": 1508369612.203,
    "callerReactions": [],
    "reactionCounts": []
  },
  "location": {
    "filePath": "cl_sample.js",
    "filePosition": 1232,
    "relativeFileVersion": "AFTER"
  }
}
```
For API details, see PostCommentForComparedCommit in AWS CLI Command Reference.

post-comment-for-pull-request

The following code example shows how to use post-comment-for-pull-request.

AWS CLI

To add a comment to a pull request

The following post-comment-for-pull-request example adds the comment "These don't appear to be used anywhere. Can we remove them?" on the change to the ahs_count.py file in a pull request with the ID of 47 in a repository named MyDemoRepo.

```
aws codecommit post-comment-for-pull-request \
--pull-request-id "47" \ 
--repository-name MyDemoRepo \ 
--before-commit-id 317f8570EXAMPLE \ 
--after-commit-id 5d036259EXAMPLE \ 
--client-request-token 123Example \ 
--content "These don't appear to be used anywhere. Can we remove them?" \ 
--location filePath=ahs_count.py,filePosition=367,relativeFileVersion=AFTER
```

Output:

```
{
   "afterBlobId": "1f330709EXAMPLE",
   "afterCommitId": "5d036259EXAMPLE",
   "beforeBlobId": "80906a4cEXAMPLE",
   "beforeCommitId": "317f8570EXAMPLE",
   "comment": {
      "authorArn": "arn:aws:iam::1111111111user:Saanvi_Sarkar",
      "clientRequestToken": "123Example",
      "commentId": "abcd1234EXAMPLEb5678efgh",
      "content": "These don't appear to be used anywhere. Can we remove them?"
   }
}
```
For API details, see `PostCommentForPullRequest` in *AWS CLI Command Reference*.

**post-comment-reply**

The following code example shows how to use `post-comment-reply`.

**AWS CLI**

**To reply to a comment on a commit or in a pull request**

This example demonstrates how to add the reply "Good catch. I'll remove them." to the comment with the system-generated ID of abcd1234EXAMPLEb5678efgh.

```bash
aws codecommit post-comment-reply \
    --in-reply-to abcd1234EXAMPLEb5678efgh \
    --content "Good catch. I'll remove them." \
    --client-request-token 123Example
```

**Output:**

```json
{
    "comment": {
        "authorArn": "arn:aws:iam::111111111111:user/Li_Juan",
        "clientRequestToken": "123Example",
        "commentId": "442b498bEXAMPLE5756813",
        "creationDate": 1508369622.123,
        "deleted": false,
        "CommentId": "",
        "lastModifiedDate": 1508369622.123,
        "callerReactions": [],
        "reactionCounts": []
    },
    "location": {
        "filePath": "ahs_count.py",
        "filePosition": 367,
        "relativeFileVersion": "AFTER"
    },
    "repositoryName": "MyDemoRepo",
    "pullRequestId": "47"
}
```
"content": "Good catch. I'll remove them.",
"creationDate": 1508369829.136,
"deleted": false,
"CommentId": "abcd1234EXAMPLEb5678efgh",
"lastModifiedDate": 150836912.221,
"callerReactions": []
"reactionCounts": []
}
}

• For API details, see PostCommentReply in AWS CLI Command Reference.

put-comment-reaction

The following code example shows how to use put-comment-reaction.

AWS CLI

To reply to a comment on a commit with an emoji

The following put-comment-reaction example replies to a comment with the ID of abcd1234EXAMPLEb5678efgh with an emoji reaction value of :thumbsup:.

aws codecommit put-comment-reaction
   --comment-id abcd1234EXAMPLEb5678efgh
   --reaction-value :thumbsup:

This command produces no output.

For more information, see Comment on a commit in AWS CodeCommit in the AWS CodeCommit User Guide.

• For API details, see PutCommentReaction in AWS CLI Command Reference.

put-file

The following code example shows how to use put-file.

AWS CLI

To add a file to a repository
The following `put-file` example adds a file named 'ExampleSolution.py' to a repository named 'MyDemoRepo' to a branch named 'feature-randomizationfeature' whose most recent commit has an ID of '4c925148EXAMPLE'.

```bash
aws codecommit put-file
    --repository-name MyDemoRepo
    --branch-name feature-randomizationfeature
    --file-content file://MyDirectory/ExampleSolution.py
    --file-path /solutions/ExampleSolution.py
    --parent-commit-id 4c925148EXAMPLE
    --name "Maria Garcia"
    --email "maria_garcia@example.com"
    --commit-message "I added a third randomization routine."
```

Output:

```json
{
    "blobId": "2eb4af3bEXAMPLE",
    "commitId": "317f8570EXAMPLE",
    "treeId": "347a3408EXAMPLE"
}
```

- For API details, see [PutFile](https://docs.aws.amazon.com/cli/latest/reference/codecommit/put-file.html) in *AWS CLI Command Reference*.

### put-repository-triggers

The following code example shows how to use `put-repository-triggers`.

**AWS CLI**

**To add or update a trigger in a repository**

This example demonstrates how to update triggers named 'MyFirstTrigger' and 'MySecondTrigger' using an already-created JSON file (here named MyTriggers.json) that contains the structure of all the triggers for a repository named MyDemoRepo. To learn how to get the JSON for existing triggers, see the `get-repository-triggers` command.

```bash
aws codecommit put-repository-triggers
    --repository-name MyDemoRepo file://MyTriggers.json
```
Contents of MyTriggers.json:

```json
{
    "repositoryName": "MyDemoRepo",
    "triggers": [
        {
            "branches": [
                "main",
                "preprod"
            ],
            "name": "MyFirstTrigger",
            "customData": "",
            "events": [
                "all"
            ]
        },
        {
            "branches": [],
            "name": "MySecondTrigger",
            "customData": "EXAMPLE",
            "events": [
                "all"
            ]
        }
    ]
}
```

Output:

```json
{
    "configurationId": "6fa51cd8-35c1-EXAMPLE"
}
```


**tag-resource**

The following code example shows how to use tag-resource.
AWS CLI

To add AWS tags to an existing repository

The following `tag-resource` example tags the specified repository with two tags.

```
aws codecommit tag-resource
  --tags Status=Secret,Team=Saanvi
```

This command produces no output.

For more information, see Add a Tag to a Repository in the AWS CodeCommit User Guide.

- For API details, see `TagResource` in AWS CLI Command Reference.

**test-repository-triggers**

The following code example shows how to use `test-repository-triggers`.

AWS CLI

To test triggers in a repository

This example demonstrates how to test a trigger named 'MyFirstTrigger' in an AWS CodeCommit repository named MyDemoRepo. In this example, events in the repository trigger notifications from an Amazon Simple Notification Service (Amazon SNS) topic.

Command:

```
aws codecommit test-repository-triggers
  --repository-name MyDemoRepo
  --triggers name=MyFirstTrigger,destinationArn=arn:aws:sns:us-east-1:111111111111:MyCodeCommitTopic,branches=mainline,preprod,events=all
```

Output:

```
{
  "successfulExecutions": [
    "MyFirstTrigger"
  ],
  "failedExecutions": []
}
```
untag-resource

The following code example shows how to use untag-resource.

AWS CLI

To remove AWS tags from a repository

The following untag-resource example removes the tag with the specified key from the repository named MyDemoRepo.

```bash
aws codecommit untag-resource \
    --tag-keys Status
```

This command produces no output.

For more information, see Remove a Tag from a Repository in the AWS CodeCommit User Guide.

update-approval-rule-template-content

The following code example shows how to use update-approval-rule-template-content.

AWS CLI

To update the content of an approval rule template

The following update-approval-rule-template-content example changes the content of the specified approval rule template to redefine the approval pool to users who assume the role of CodeCommitReview.

```bash
aws codecommit update-approval-rule-template-content \
    --approval-rule-template-name 1-approver-rule \
    --new-rule-content "{"Version": "2018-11-08","DestinationReferences": ["refs/heads/main"],"Statements": [{"Type": "Approvers
```
Output:

```json
{
    "approvalRuleTemplate": {
        "creationDate": 1571352720.773,
        "approvalRuleTemplateDescription": "Requires 1 approval for all pull requests from the CodeCommitReview pool",
        "lastModifiedDate": 1571358728.41,
        "approvalRuleTemplateId": "41de97b7-EXAMPLE",
        "approvalRuleTemplateContent": "{"Version": "2018-11-08","Statements": [{"Type": "Approvers","NumberOfApprovalsNeeded": 1,"ApprovalPoolMembers": ["arn:aws:sts::123456789012:assumed-role/CodeCommitReview/*"]}]}",
        "approvalRuleTemplateName": "1-approver-rule-for-all-pull-requests",
        "ruleContentSha256": "2f6c21a5EXAMPLE",
        "lastModifiedUser": "arn:aws:iam::123456789012:user/Li_Juan"
    }
}
```

For more information, see [Manage Approval Rule Templates](https://docs.aws.amazon.com/codecommit/latest/userguide) in the *AWS CodeCommit User Guide*.

- For API details, see [UpdateApprovalRuleTemplateContent](https://docs.aws.amazon.com/cli/latest/reference/codecommit/update-approval-rule-template-content.html) in *AWS CLI Command Reference*.

### update-approval-rule-template-description

The following code example shows how to use `update-approval-rule-template-description`.

#### AWS CLI

**To update the description of an approval rule template**

The following `update-approval-rule-template-description` example changes the description of the specified approval rule template to Requires 1 approval for all pull requests from the CodeCommitReview pool:

```
aws codecommit update-approval-rule-template-description \
    --approval-rule-template-name 1-approver-rule-for-all-pull-requests \
    --approval-rule-template-content \
```
Output:

```
{
    "approvalRuleTemplate": {
        "creationDate": 1571352720.773,
        "approvalRuleTemplateDescription": "Requires 1 approval for all pull requests from the CodeCommitReview pool",
        "lastModifiedDate": 1571358728.41,
        "approvalRuleTemplateId": "41de97b7-EXAMPLE",
        "approvalRuleTemplateContent": "{"Version": "2018-11-08","Statements": [{"Type": "Approvers","NumberOfApprovalsNeeded": 1,"ApprovalPoolMembers": ["arn:aws:sts::123456789012:assumed-role/CodeCommitReview/*"]}]}",
        "approvalRuleTemplateName": "1-approver-rule-for-all-pull-requests",
        "ruleContentSha256": "2f6c21a5EXAMPLE",
        "lastModifiedUser": "arn:aws:iam::123456789012:user/Li_Juan"
    }
}
```

For more information, see Manage Approval Rule Templates in the AWS CodeCommit User Guide.

- For API details, see UpdateApprovalRuleTemplateDescription in AWS CLI Command Reference.

update-approval-rule-template-name

The following code example shows how to use update-approval-rule-template-name.

AWS CLI

To update the name of an approval rule template

The following update-approval-rule-template-name example changes the name of an approval rule template from 1-approver-rule to 1-approver-rule-for-all-pull-requests.

```
aws codecommit update-approval-rule-template-name \
    --old-approval-rule-template-name 1-approver-rule \
    --new-approval-rule-template-name 1-approver-rule-for-all-pull-requests
```

Output:
For more information, see Manage Approval Rule Templates in the AWS CodeCommit User Guide.

- For API details, see UpdateApprovalRuleTemplateName in AWS CLI Command Reference.

**update-comment**

The following code example shows how to use update-comment.

**AWS CLI**

**To update a comment on a commit**

This example demonstrates how to add the content "Fixed as requested. I'll update the pull request." to a comment with an ID of 442b498bEXAMPLE5756813.

```
aws codecommit update-comment \
    --comment-id 442b498bEXAMPLE5756813 \
    --content "Fixed as requested. I'll update the pull request."
```

**Output:**

```json
{
    "comment": {
        "authorArn": "arn:aws:iam::1111111111:user/Li_Juan",
        "clientRequestToken": "",
        "ruleContentSha256": "2f6c21a5cEXAMPLE"
    }
}
```
update-default-branch

The following code example shows how to use `update-default-branch`.

**AWS CLI**

**To change the default branch for a repository**

This example changes the default branch for an AWS CodeCommit repository. This command produces output only if there are errors.

**Command:**

```bash/aws codecommit update-default-branch --repository-name MyDemoRepo --default-branch-name MyNewBranch```

**Output:**

None.

**For API details, see** [UpdateDefaultBranch](https://docs.aws.amazon.com/cli/latest/reference/codecommit/update-default-branch.html) in *AWS CLI Command Reference*.

update-pull-request-approval-rule-content

The following code example shows how to use `update-pull-request-approval-rule-content`.

**Actions and scenarios**
## To edit an approval rule for a pull request

The following `update-pull-request-approval-rule-content` example updates she specified approval rule to require one user approval from an approval pool that includes any IAM user in the 123456789012 AWS account.

```bash
aws codecommit update-pull-request-approval-rule-content
  --pull-request-id 27
  --approval-rule-name "Require two approved approvers"
```

Output:

```json
{
  "approvalRule": {
    "approvalRuleId": "aac33506-EXAMPLE",
    "originApprovalRuleTemplate": {},
    "creationDate": 1570752871.932,
    "lastModifiedDate": 1570754058.333,
    "approvalRuleName": Require two approved approvers",
    "lastModifiedUser": "arn:aws:iam::123456789012:user/Mary_Major",
    "ruleContentSha256": "cd93921cEXAMPLE",
  }
}
```

For more information, see [Edit or Delete an Approval Rule](https://docs.aws.amazon.com/codecommit/latest/userguide/edit-or-delete-an-approval-rule.html) in the *AWS CodeCommit User Guide*.  
- For API details, see [UpdatePullRequestApprovalRuleContent](https://docs.aws.amazon.com/cli/latest/reference/codecommit/update-pull-request-approval-rule-content.html) in *AWS CLI Command Reference*.

### update-pull-request-approval-state

The following code example shows how to use `update-pull-request-approval-state`.

## AWS CLI

### To approve or revoke approval for a pull request

```bash
aws codecommit update-pull-request-approval-state
  --pull-request-id 27
  --approval-state "Approved"
  --approval-user "arn:aws:iam::123456789012:user/Mary_Major"
```

Output:

```json
{
  "approval": {
    "approvalState": "Approved",
    "approvalDate": 1570754058.333,
    "approvalUser": "arn:aws:iam::123456789012:user/Mary_Major",
    "approvalRuleId": "aac33506-EXAMPLE",
    "approvalRequestId": "af8473a4-EXAMPLE",
    "changeId": "54e0394a-EXAMPLE",
    "revisionId": "8bbd9f2b-EXAMPLE",
    "pullRequestId": "47330030-EXAMPLE",
    "reviewer": "arn:aws:iam::123456789012:user/Mary_Major",
    "ruleContentSha256": "cd93921cEXAMPLE",
    "ruleName": "Require two approved approvers"
  }
}
```

For more information, see [Edit or Delete an Approval Rule](https://docs.aws.amazon.com/codecommit/latest/userguide/edit-or-delete-an-approval-rule.html) in the *AWS CodeCommit User Guide*.  
- For API details, see [UpdatePullRequestApprovalRuleState](https://docs.aws.amazon.com/cli/latest/reference/codecommit/update-pull-request-approval-state.html) in *AWS CLI Command Reference*.
The following `update-pull-request-approval-state` example approves a pull request with the ID of 27 and a revision ID of 9f29d167EXAMPLE. If you wanted to revoke approval instead, then set the `--approval-state` parameter value to `REVOKE`.

```bash
aws codecommit update-pull-request-approval-state \
   --pull-request-id 27 \ 
   --revision-id 9f29d167EXAMPLE \ 
   --approval-state "APPROVE"
```

This command produces no output.

For more information, see [Review a Pull Request](#) in the *AWS CodeCommit User Guide*.

- For API details, see [UpdatePullRequestApprovalState](#) in *AWS CLI Command Reference*.

### update-pull-request-description

The following code example shows how to use `update-pull-request-description`.

**AWS CLI**

**To change the description of a pull request**

This example demonstrates how to change the description of a pull request with the ID of 47.

```bash
aws codecommit update-pull-request-description \
   --pull-request-id 47 \ 
   --description "Updated the pull request to remove unused global variable."
```

Output:

```json
{
   "pullRequest": {
      "authorArn": "arn:aws:iam::111111111111:user/LiJuan",
      "clientRequestToken": ",
      "creationDate": 1508530823.155,
      "description": "Updated the pull request to remove unused global variable.",
      "lastActivityDate": 1508372423.204,
      "pullRequestId": "47",
      "pullRequestStatus": "OPEN",
      "pullRequestTargets":[
         { "destinationCommit": "9f31c968EXAMPLE" }
```
For API details, see UpdatePullRequestDescription in AWS CLI Command Reference.

update-pull-request-status

The following code example shows how to use update-pull-request-status.

AWS CLI

To change the status of a pull request

This example demonstrates how to to change the status of a pull request with the ID of 42 to a status of CLOSED in an AWS CodeCommit repository named MyDemoRepo.

```
aws codecommit update-pull-request-status \
  --pull-request-id 42 \
  --pull-request-status CLOSED
```

Output:

```json
{
  "pullRequest": {
    "approvalRules": [
      {
        "approvalRuleContent": "{"Version": "2018-11-08"},"Statements": [{"Type": "Approvers","NumberOfApprovalsNeeded": 2,"ApprovalPoolMembers": ["arn:aws:sts::123456789012:assumed-role/CodeCommitReview/*"]}],
        "approvalRuleId": "dd8b17fe-EXAMPLE",
        "approvalRuleName": "2/approvers-needed-for-this-change",
        "creationDate": 1571356106.936,
```
update-pull-request-title

The following code example shows how to use update-pull-request-title.

AWS CLI

To change the title of a pull request

This example demonstrates how to change the title of a pull request with the ID of 47.

```bash
aws codecommit update-pull-request-title \
  --pull-request-id 47 \
  --title "Consolidation of global variables - updated review"
```
Output:

```json
{
   "pullRequest": {
      "approvalRules": [
         {
            "approvalRuleContent": "{\"Version\": \"2018-11-08\", \"DestinationReferences\": [\"refs/heads/main\"], \"Statements\": [{\"Type\": \"Approvers\", \"NumberOfApprovalsNeeded\": 2, \"ApprovalPoolMembers\": [\"arn:aws:sts::123456789012:assumed-role/CodeCommitReview/*\"]}]},
            "approvalRuleId": "dd8b17fe-EXAMPLE",
            "approvalRuleName": "2-approver-rule-for-main",
            "creationDate": 1571356106.936,
            "lastModifiedDate": 571356106.936,
            "lastModifiedUser": "arn:aws:iam::123456789012:user/Mary_Major",
            "originApprovalRuleTemplate": {
               "approvalRuleTemplateId": "dd8b26gr-EXAMPLE",
               "approvalRuleTemplateName": "2-approver-rule-for-main"
            },
            "ruleContentSha256": "4711b576EXAMPLE"
         }
      ],
      "authorArn": "arn:aws:iam::123456789012:user/Li_Juan",
      "clientRequestToken": "",
      "creationDate": 1508530823.12,
      "description": "Review the latest changes and updates to the global variables. I have updated this request with some changes, including removing some unused variables.",
      "lastActivityDate": 1508372657.188,
      "pullRequestId": "47",
      "pullRequestStatus": "OPEN",
      "pullRequestTargets": [
         {
            "destinationCommit": "9f31c968EXAMPLE",
            "destinationReference": "refs/heads/main",
            "mergeMetadata": {
               "isMerged": false,
            },
            "repositoryName": "MyDemoRepo",
            "sourceCommit": "99132ab0EXAMPLE",
            "sourceReference": "refs/heads/variables-branch"
         }
      ],
      "title": "Consolidation of global variables - updated review"
   }
}
```
update-repository-description

The following code example shows how to use update-repository-description.

AWS CLI

To change the description for a repository

This example changes the description for an AWS CodeCommit repository. This command produces output only if there are errors.

Command:

```bash
aws codecommit update-repository-description --repository-name MyDemoRepo --repository-description "This description was changed"
```

Output:

None.

For API details, see UpdateRepositoryDescription in AWS CLI Command Reference.

update-repository-name

The following code example shows how to use update-repository-name.

AWS CLI

To change the name of a repository

This example changes the name of an AWS CodeCommit repository. This command produces output only if there are errors. Changing the name of the AWS CodeCommit repository will change the SSH and HTTPS URLs that users need to connect to the repository. Users will not be able to connect to this repository until they update their connection settings. Also, because the repository's ARN will change, changing the repository name will invalidate any IAM user policies that rely on this repository's ARN.
Command:

```
aws codecommit update-repository-name --old-name MyDemoRepo --new-name MyRenamedDemoRepo
```

Output:

None.

- For API details, see [UpdateRepositoryName](https://docs.aws.amazon.com/cli/latest/reference/codecommit/update-repository-name.html) in *AWS CLI Command Reference*.

**CodeDeploy examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with CodeDeploy.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- [Actions](#)

**Actions**

*add-tags-to-on-premises-instances*

The following code example shows how to use *add-tags-to-on-premises-instances*.

**AWS CLI**

To add tags to on-premises instances
The following `add-tags-to-on-premises-instances` example associates in AWS CodeDeploy the same on-premises instance tag to two on-premises instances. It does not register the on-premises instances with AWS CodeDeploy.

```bash
aws deploy add-tags-to-on-premises-instances \
  --instance-names AssetTag12010298EX AssetTag23121309EX \
  --tags Key=Name,Value=CodeDeployDemo-OnPrem
```

This command produces no output.

- For API details, see [AddTagsToOnPremisesInstances](#) in [AWS CLI Command Reference](#).

### batch-get-application-revisions

The following code example shows how to use `batch-get-application-revisions`.

**AWS CLI**

**To retrieve information about application revisions**

The following `batch-get-application-revisions` example retrieves information about the specified revision stored in a GitHub repository.

```bash
aws deploy batch-get-application-revisions \
  --application-name my-codedeploy-application \
  --revisions "[{{"githubLocation": {"commitId": "fa85936EXAMPLEa31736c051f10d77297EXAMPLE","repository": "my-github-token/my-repository"},"revisionType": "GitHub"}]"
```

Output:

```json
{
  "revisions": [
    {
      "genericRevisionInfo": {
        "description": "Application revision registered by Deployment ID: d-A1B2C3111",
        "lastUsedTime": 1556912355.884,
        "registerTime": 1556912355.884,
        "firstUsedTime": 1556912355.884,
        "deploymentGroups": []
      },
```
For more information, see BatchGetApplicationRevisions in the AWS CodeDeploy API Reference.

- For API details, see BatchGetApplicationRevisions in AWS CLI Command Reference.

**batch-get-applications**

The following code example shows how to use batch-get-applications.

**AWS CLI**

**To get information about multiple applications**

The following batch-get-applications example displays information about multiple applications that are associated with the user's AWS account.

```
aws deploy batch-get-applications --application-names WordPress_App MyOther_App
```

**Output:**

```
{
    "applicationsInfo": [
    {
        "applicationName": "WordPress_App",
        "applicationId": "d9dd6993-f171-44fa-a811-211e4EXAMPLE",
        "createTime": 1407878168.078,
        "linkedToGitHub": false
    },
    {
        "applicationName": "MyOther_App",
        "applicationId": "8ca57519-31da-42b2-9194-8bb16EXAMPLE",
    }
]}
```
for API details, see BatchGetApplications in AWS CLI Command Reference.

**batch-get-deployment-groups**

The following code example shows how to use batch-get-deployment-groups.

**AWS CLI**

*To retrieve information about one or more deployment groups*

The following batch-get-deployment-groups example retrieves information about two of the deployment groups that are associated with the specified CodeDeploy application.

```bash
aws deploy batch-get-deployment-groups \
  --application-name my-codedeploy-application \
  --deployment-group-names "["my-deployment-group-1","my-deployment-group-2"]"
```

**Output:**

```json
{
  "deploymentGroupsInfo": [
    {
      "deploymentStyle": {
        "deploymentOption": "WITHOUT_TRAFFIC_CONTROL",
        "deploymentType": "IN_PLACE"
      },
      "autoRollbackConfiguration": {
        "enabled": false
      },
      "onPremisesTagSet": {
        "onPremisesTagSetList": []
      },
      "serviceRoleArn": "arn:aws:iam::123456789012:role/CodeDeployServiceRole",
      "lastAttemptedDeployment": {
        "endTime": 1556912366.415,
        "status": "Failed",
```
"createTime": 1556912355.884,
    "deploymentId": "d-A1B2C3111"
},
    "autoScalingGroups": [],
    "deploymentGroupName": "my-deployment-group-1",
    "ec2TagSet": {
        "ec2TagSetList": [
            [
                {
                    "Type": "KEY_AND_VALUE",
                    "Value": "my-EC2-instance",
                    "Key": "Name"
                }
            ]
        ]
    },
    "deploymentGroupId": "a1b2c3d4-5678-90ab-cdef-11111example",
    "triggerConfigurations": [],
    "applicationName": "my-codedeploy-application",
    "computePlatform": "Server",
    "deploymentConfigName": "CodeDeployDefault.AllAtOnce"
},
{
    "deploymentStyle": {
        "deploymentOption": "WITHOUT_TRAFFIC_CONTROL",
        "deploymentType": "IN_PLACE"
    },
    "autoRollbackConfiguration": {
        "enabled": false
    },
    "onPremisesTagSet": {
        "onPremisesTagSetList": []
    },
    "serviceRoleArn": "arn:aws:iamp:123456789012:role/CodeDeloyServiceRole",
    "autoScalingGroups": [],
    "deploymentGroupName": "my-deployment-group-2",
    "ec2TagSet": {
        "ec2TagSetList": [
            [
                {
                    "Type": "KEY_AND_VALUE",
                    "Value": "my-EC2-instance",
                    "Key": "Name"
                }
            ]
        ]
    }
batch-get-deployment-targets

The following code example shows how to use batch-get-deployment-targets.

AWS CLI

To retrieve the targets associated with a deployment

The following batch-get-deployment-targets example returns information about one of the targets associated with the specified deployment.

```
aws deploy batch-get-deployment-targets \
   --deployment-id "d-1A2B3C4D5" \ 
   --target-ids "i-01a2b3c4d5e6f1111"
```

Output:

```json
{
   "deploymentTargets": [
   {
   "deploymentTargetType": "InstanceTarget",
   "instanceTarget": {
   "lifecycleEvents": [
   {
   "startTime": 1556918592.162,
   "lifecycleEventName": "ApplicationStop",
   },
   ],
   "errorMessage": ""
   }
   ],
   "errorMessage": ""
   }
   ]
}
```
"status": "Succeeded",
"endTime": 1556918592.247,
"diagnostics": {
  "scriptName": "",
  "errorCode": "Success",
  "logTail": "",
  "message": "Succeeded"
}
},
{
  "startTime": 1556918593.193,
  "lifecycleEventName": "DownloadBundle",
  "status": "Succeeded",
  "endTime": 1556918593.981,
  "diagnostics": {
    "scriptName": "",
    "errorCode": "Success",
    "logTail": "",
    "message": "Succeeded"
  }
},
{
  "startTime": 1556918594.805,
  "lifecycleEventName": "BeforeInstall",
  "status": "Succeeded",
  "endTime": 1556918681.807,
  "diagnostics": {
    "scriptName": "",
    "errorCode": "Success",
    "logTail": "",
    "message": "Succeeded"
  }
}
],
"targetArn": "arn:aws:ec2:us-west-2:123456789012:instance/i-01a2b3c4d5e6f1111",
"deploymentId": "d-1A2B3C4D5",
"lastUpdatedAt": 1556918687.504,
"targetId": "i-01a2b3c4d5e6f1111",
"status": "Succeeded"}
For more information, see [BatchGetDeploymentTargets](#) in the *AWS CodeDeploy API Reference.*

- For API details, see [BatchGetDeploymentTargets](##) in *AWS CLI Command Reference.*

**batch-get-deployments**

The following code example shows how to use `batch-get-deployments`.

**AWS CLI**

**To get information about multiple deployments**

The following `batch-get-deployments` example displays information about multiple deployments that are associated with the user's AWS account.

```bash
```

**Output:**

```json
{
  "deploymentsInfo": [
    {
      "applicationName": "WordPress_App",
      "status": "Failed",
      "deploymentOverview": {
        "Failed": 0,
        "InProgress": 0,
        "Skipped": 0,
        "Succeeded": 1,
        "Pending": 0
      },
      "deploymentConfigName": "CodeDeployDefault.OneAtATime",
      "creator": "user",
      "deploymentGroupName": "WordPress_DG",
      "revision": {
        "revisionType": "S3",
        "s3Location": {
          "bundleType": "zip",
          "version": "uTecLusEXAMPLEFXtfUcyfV8bEXAMPLE",
          "bucket": "CodeDeployDemoBucket",
```
"key": "WordPressApp.zip"
}

"deploymentId": "d-A1B2C3111",
"createTime": 1408480721.9,
"completeTime": 1408480741.822

{
  "applicationName": "MyOther_App",
  "status": "Failed",
  "deploymentOverview": {
    "Failed": 1,
    "InProgress": 0,
    "Skipped": 0,
    "Succeeded": 0,
    "Pending": 0
  },
  "deploymentConfigName": "CodeDeployDefault.OneAtATime",
  "creator": "user",
  "errorInformation": {
    "message": "Deployment failed: Constraint default violated: No hosts succeeded."
  },
  "code": "HEALTH_CONSTRAINTS"
},

"deploymentGroupName": "MyOther_DG",

"revision": {
  "revisionType": "S3",
  "s3Location": {
    "bundleType": "zip",
    "eTag": "\dd56cfdEXAMPLE8e768f9d77fEXAMPLE\",
    "bucket": "CodeDeployDemoBucket",
    "key": "MyOtherApp.zip"
  }
},

"deploymentId": "d-A1B2C3222",
"createTime": 1409764576.589,
"completeTime": 1409764596.101

• For API details, see BatchGetDeployments in AWS CLI Command Reference.
batch-get-on-premises-instances

The following code example shows how to use `batch-get-on-premises-instances`.

**AWS CLI**

**To get information about one or more on-premises instances**

The following `batch-get-on-premises-instances` example gets information about two on-premises instances.

```bash
aws deploy batch-get-on-premises-instances --instance-names AssetTag12010298EX AssetTag23121309EX
```

**Output:**

```
{
   "instanceInfos": [
   {
      "iamUserArn": "arn:aws:iam::123456789012:user/AWS/CodeDeploy/AssetTag12010298EX",
      "tags": [
         {
            "Value": "CodeDeployDemo-OnPrem",
            "Key": "Name"
         }
      ],
      "instanceName": "AssetTag12010298EX",
      "registerTime": 1425579465.228,
      "instanceArn": "arn:aws:codedeploy:us-west-2:123456789012:instance/AssetTag12010298EX_4IwLNI2Alh"
   },
   {
      "iamUserArn": "arn:aws:iam::123456789012:user/AWS/CodeDeploy/AssetTag23121309EX",
      "tags": [
         {
            "Value": "CodeDeployDemo-OnPrem",
            "Key": "Name"
         }
      ],
      "instanceName": "AssetTag23121309EX",
      "registerTime": 1425595585.988,
```
For API details, see [BatchGetOnPremisesInstances](#) in *AWS CLI Command Reference*.

**continue-deployment**

The following code example shows how to use `continue-deployment`.

**AWS CLI**

To start rerouting traffic without waiting for a specified wait time to elapse.

The following `continue-deployment` example starts rerouting traffic from instances in the original environment that are ready to start shifting traffic to instances in the replacement environment.

```bash
aws deploy continue-deployment \
  --deployment-id "d-A1B2C3111" \
  --deployment-wait-type "READY_WAIT"
```

This command produces no output.

For more information, see [ContinueDeployment](#) in the *AWS CodeDeploy API Reference*.

For API details, see [ContinueDeployment](#) in *AWS CLI Command Reference*.

**create-application**

The following code example shows how to use `create-application`.

**AWS CLI**

To create an application

The following `create-application` example creates an application and associates it with the user's AWS account.
aws deploy create-application --application-name MyOther_App

Output:

{
   "applicationId": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE"
}

For API details, see CreateApplication in AWS CLI Command Reference.

create-deployment

The following code example shows how to use create-deployment.

AWS CLI

Example 1: To create a CodeDeploy deployment using the EC2/On-premises compute platform

The following create-deployment example creates a deployment and associates it with the user's AWS account.

aws deploy create-deployment \
   --application-name WordPress_App \
   --deployment-config-name CodeDeployDefault.OneAtATime \
   --deployment-group-name WordPress_DG \
   --description "My demo deployment" \
   --s3-location
   bucket=CodeDeployDemoBucket,bundleType=zip,eTag=dd56cfdEXAMPLE8e768f9d77fEXAMPLE,key=WordPressApp.zip

Output:

{
   "deploymentId": "d-A1B2C3111"
}

Example 2: To create a CodeDeploy deployment using the Amazon ECS compute platform

The following create-deployment example uses the following two files to deploy an Amazon ECS service.
Contents of create-deployment.json file:

```json
{
    "applicationName": "ecs-deployment",
    "deploymentGroupName": "ecs-deployment-dg",
    "revision": {
        "revisionType": "S3",
        "s3Location": {
            "bucket": "ecs-deployment-bucket",
            "key": "appspec.yaml",
            "bundleType": "YAML"
        }
    }
}
```

That file, in turn, retrieves the following file appspec.yaml from an S3 bucket called ecs-deployment-bucket.

```yaml
version: 0.0
Resources:
  - TargetService:
      Type: AWS::ECS::Service
      Properties:
        LoadBalancerInfo:
          ContainerName: "sample-app"
          ContainerPort: 80
          PlatformVersion: "LATEST"

Command:

```
aws deploy create-deployment \
  --cli-input-json file://create-deployment.json \
  --region us-east-1
```

Output:

```json
{
    "deploymentId": "d-1234ABCDE"
}
```
For more information, see `CreateDeployment` in the *AWS CodeDeploy API Reference*.

- For API details, see `CreateDeployment` in *AWS CLI Command Reference*.

### create-deployment-config

The following code example shows how to use `create-deployment-config`.

**AWS CLI**

**To create a custom deployment configuration**

The following `create-deployment-config` example creates a custom deployment configuration and associates it with the user's AWS account.

```
aws deploy create-deployment-config \
    --deployment-config-name ThreeQuartersHealthy \
    --minimum-healthy-hosts type=FLEET_PERCENT,value=75
```

Output:

```
{
    "deploymentConfigId": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE"
}
```

- For API details, see `CreateDeploymentConfig` in *AWS CLI Command Reference*.

### create-deployment-group

The following code example shows how to use `create-deployment-group`.

**AWS CLI**

**To create a deployment group**

The following `create-deployment-group` example creates a deployment group and associates it with the specified application and the user's AWS account.

```
aws deploy create-deployment-group \
    --application-name WordPress_App \
    --auto-scaling-groups CodeDeployDemo-ASG
```
--deployment-config-name CodeDeployDefault.OneAtATime \
--deployment-group-name WordPress_DG \
--ec2-tag-filters Key=Name,Value=CodeDeployDemo,Type=KEY_AND_VALUE \
--service-role-arn arn:aws:iam::123456789012:role/CodeDeployDemoRole

Output:

{
   "deploymentGroupId": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE"
}

• For API details, see CreateDeploymentGroup in AWS CLI Command Reference.

download-application

The following code example shows how to use download-application.

AWS CLI

To download an application

The following download-application example downloads the specified application that is associated with the user's AWS account.

aws deploy download-application --application-name WordPress_App

This command produces no output.

• For API details, see DownloadApplication in AWS CLI Command Reference.

detail-deployment-config

The following code example shows how to use detail-deployment-config.

AWS CLI

To detail a deployment configuration

The following detail-deployment-config example details a custom deployment configuration that is associated with the user's AWS account.
aws deploy delete-deployment-config --deployment-config-name ThreeQuartersHealthy

This command produces no output.

- For API details, see DeleteDeploymentConfig in AWS CLI Command Reference.

delete-deployment-group

The following code example shows how to use delete-deployment-group.

AWS CLI

To delete a deployment group

The following delete-deployment-group example deletes a deployment group that is associated with the specified application.

```bash
aws deploy delete-deployment-group \
   --application-name WordPress_App \
   --deployment-group-name WordPress_DG
```

Output:

```
{
   "hooksNotCleanedUp": []
}
```

- For API details, see DeleteDeploymentGroup in AWS CLI Command Reference.

delete-git-hub-account-token

The following code example shows how to use delete-git-hub-account-token.

AWS CLI

To deletes a GitHub account connection

The following delete-git-hub-account-token example deletes the connection of the specified GitHub account.
aws deploy delete-git-hub-account-token --token-name my-github-account

Output:

```
{
   "tokenName": "my-github-account"
}
```

For more information, see [DeleteGitHubAccountToken](#) in the *AWS CodeDeploy API Reference*.  
- For API details, see [DeleteGitHubAccountToken](#) in *AWS CLI Command Reference*.

deregister

The following code example shows how to use `deregister`.

**AWS CLI**

**To deregister an on-premises instance**

The following `deregister` example deregisters an on-premises instance with AWS CodeDeploy. It does not delete the IAM user that is associated with the instance. It disassociates in AWS CodeDeploy the on-premises tags from the instance. It does not uninstall the AWS CodeDeploy Agent from the instance nor remove the on-premises configuration file from the instance.

```
aws deploy deregister \
   --instance-name AssetTag12010298EX \
   --no-delete-iam-user \
   --region us-west-2
```

Output:

```
Retrieving on-premises instance information... DONE
IamUserArn: arn:aws:iam::80398EXAMPLE:user/AWS/CodeDeploy/AssetTag12010298EX
Tags: Key=Name,Value=CodeDeployDemo-OnPrem
Removing tags from the on-premises instance... DONE
Deregistering the on-premises instance... DONE
Run the following command on the on-premises instance to uninstall the codedeploy-agent:
```
aws deploy uninstall

- For API details, see Deregister in AWS CLI Command Reference.

deregister-on-premises-instance

The following code example shows how to use deregister-on-premises-instance.

AWS CLI

**To deregister an on-premises instance**

The following deregister-on-premises-instance example deregisters an on-premises instance with AWS CodeDeploy, but it does not delete the IAM user associated with the instance, nor does it disassociate in AWS CodeDeploy the on-premises instance tags from the instance. It also does not uninstall the AWS CodeDeploy Agent from the instance nor remove the on-premises configuration file from the instance.

```bash
aws deploy deregister-on-premises-instance --instance-name AssetTag12010298EX
```

This command produces no output.
- For API details, see DeregisterOnPremisesInstance in AWS CLI Command Reference.

get-application

The following code example shows how to use get-application.

AWS CLI

**To get information about an application**

The following get-application example displays information about an application that is associated with the user's AWS account.

```bash
aws deploy get-application --application-name WordPress_App
```

Output:

```json
{
```
get-application-revision

The following code example shows how to use get-application-revision.

AWS CLI

To get information about an application revision

The following get-application-revision example displays information about an application revision that is associated with the specified application.

```
aws deploy get-application-revision \
   --application-name WordPress_App \
   --s3-location
   bucket=CodeDeployDemoBucket,bundleType=zip,eTag=dd56cfdEXAMPLE8e768f9d77fEXAMPLE,key=WordPressApp.zip
```

Output:

```
{
   "applicationName": "WordPress_App",
   "revisionInfo": {
      "description": "Application revision registered by Deployment ID: d-A1B2C3111",
      "registerTime": 1411076520.009,
      "deploymentGroups": "WordPress_DG",
      "lastUsedTime": 1411076520.009,
      "firstUsedTime": 1411076520.009
   },
   "revision": {
      "revisionType": "S3",
      "s3Location": {
```
get-deployment

The following code example shows how to use `get-deployment`.

**AWS CLI**

**To get information about a deployment**

The following `get-deployment` example displays information about a deployment that is associated with the user’s AWS account.

```bash
aws deploy get-deployment --deployment-id d-A1B2C3123
```

**Output:**

```json
{
   "deploymentInfo": {
      "applicationName": "WordPress_App",
      "status": "Succeeded",
      "deploymentOverview": {
         "Failed": 0,
         "InProgress": 0,
         "Skipped": 0,
         "Succeeded": 1,
         "Pending": 0
      },
      "deploymentConfigName": "CodeDeployDefault.OneAtATime",
      "creator": "user",
      "description": "My WordPress app deployment",
      "revision": {
         "revisionType": "S3"
      }
   }
}
```

- For API details, see [GetApplicationRevision](awscli) in *AWS CLI Command Reference*.
For API details, see GetDeployment in AWS CLI Command Reference.

get-deployment-config

The following code example shows how to use get-deployment-config.

**AWS CLI**

To get information about a deployment configuration

The following get-deployment-config example displays information about a deployment configuration that is associated with the user's AWS account.

```
aws deploy get-deployment-config --deployment-config-name ThreeQuartersHealthy
```

Output:

```json
{
    "deploymentConfigInfo": {  
        "deploymentConfigId": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
        "minimumHealthyHosts": {  
            "type": "FLEET_PERCENT",
            "value": 75
        },
        "createTime": 1411081164.379,
        "deploymentConfigName": "ThreeQuartersHealthy"
    }
}
```
For API details, see `GetDeploymentConfig` in `AWS CLI Command Reference`.

### get-deployment-group

The following code example shows how to use `get-deployment-group`.

**AWS CLI**

**To view information about a deployment group**

The following `get-deployment-group` example displays information about a deployment group that is associated with the specified application.

```bash
aws deploy get-deployment-group \
   --application-name WordPress_App \
   --deployment-group-name WordPress_DG
```

**Output:**

```json
{
   "deploymentGroupInfo": {
      "applicationName": "WordPress_App",
      "autoScalingGroups": [
         "CodeDeployDemo-ASG"
      ],
      "deploymentConfigName": "CodeDeployDefault.OneAtATime",
      "ec2TagFilters": [
         {
            "Type": "KEY_AND_VALUE",
            "Value": "CodeDeployDemo",
            "Key": "Name"
         }
      ],
      "deploymentGroupId": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
      "serviceRoleArn": "arn:aws:iam::123456789012:role/CodeDeployDemoRole",
      "deploymentGroupName": "WordPress_DG"
   }
}
```
get-deployment-instance

The following code example shows how to use get-deployment-instance.

AWS CLI

To get information about a deployment instance

The following get-deployment-instance example displays information about a deployment instance that is associated with the specified deployment.

```
aws deploy get-deployment-instance --deployment-id d-QA4G4F9EX --instance-id i-902e9fEX
```

Output:

```
{
  "instanceSummary": {
    "instanceId": "arn:aws:ec2:us-east-1:80398EXAMPLE:instance/i-902e9fEX",
    "lifecycleEvents": [
      {
        "status": "Succeeded",
        "endTime": 1408480726.569,
        "startTime": 1408480726.437,
        "lifecycleEventName": "ApplicationStop"
      },
      {
        "status": "Succeeded",
        "endTime": 1408480728.016,
        "startTime": 1408480727.665,
        "lifecycleEventName": "DownloadBundle"
      },
      {
        "status": "Succeeded",
        "endTime": 1408480729.744,
        "startTime": 1408480729.125,
        "lifecycleEventName": "BeforeInstall"
      },
      {
        "status": "Succeeded",
        "endTime": 1408480730.979,
        "endTime": 1408480730.979,
        "startTime": 1408480730.979,
        "lifecycleEventName": "AfterInstall"
      }
    ]
  }
}
```
For API details, see [GetDeploymentInstance](https://docs.aws.amazon.com/cli/latest/reference/deploy/get-deployment-instance) in *AWS CLI Command Reference*.

**get-deployment-target**

The following code example shows how to use get-deployment-target.

**AWS CLI**

To return information about a deployment target

The following `get-deployment-target` example returns information about a deployment target that is associated with the specified deployment.

```
aws deploy get-deployment-target \
  --deployment-id "d-A1B2C3111" \
  --target-id "i-a1b2c3d4e5f611111"
```
Output:

```json
{
  "deploymentTarget": {
    "deploymentTargetType": "InstanceTarget",
    "instanceTarget": {
      "lastUpdatedAt": 1556918687.504,
      "targetId": "i-a1b2c3d4e5f611111",
      "targetArn": "arn:aws:ec2:us-west-2:123456789012:instance/i-a1b2c3d4e5f611111",
      "status": "Succeeded",
      "lifecycleEvents": [
        {
          "status": "Succeeded",
          "diagnostics": {
            "errorCode": "Success",
            "message": "Succeeded",
            "logTail": "",
            "scriptName": ""
          },
          "lifecycleEventName": "ApplicationStop",
          "startTime": 1556918592.162,
          "endTime": 1556918592.247
        },
        {
          "status": "Succeeded",
          "diagnostics": {
            "errorCode": "Success",
            "message": "Succeeded",
            "logTail": "",
            "scriptName": ""
          },
          "lifecycleEventName": "DownloadBundle",
          "startTime": 1556918593.193,
          "endTime": 1556918593.981
        },
        {
          "status": "Succeeded",
          "diagnostics": {
            "errorCode": "Success",
            "message": "Succeeded",
            "logTail": "",
            "scriptName": ""
          }
        }
      ]
    }
  }
}
```
"lifecycleEventName": "BeforeInstall",
"startTime": 1556918594.805,
"endTime": 1556918681.807
},
{
  "status": "Succeeded",
  "diagnostics": {
    "errorCode": "Success",
    "message": "Succeeded",
    "logTail": "",
    "scriptId": ""
  },
  "lifecycleEventName": "Install",
  "startTime": 1556918682.696,
  "endTime": 1556918683.005
},
{
  "status": "Succeeded",
  "diagnostics": {
    "errorCode": "Success",
    "message": "Succeeded",
    "logTail": "",
    "scriptId": ""
  },
  "lifecycleEventName": "AfterInstall",
  "startTime": 1556918684.135,
  "endTime": 1556918684.216
},
{
  "status": "Succeeded",
  "diagnostics": {
    "errorCode": "Success",
    "message": "Succeeded",
    "logTail": "",
    "scriptId": ""
  },
  "lifecycleEventName": "ApplicationStart",
  "startTime": 1556918685.211,
  "endTime": 1556918685.295
},
{
  "status": "Succeeded",
  "diagnostics": {
    "errorCode": "Success",
    "message": "Succeeded",
    "logTail": "",
    "scriptId": ""
  },
  "lifecycleEventName": "ApplicationStop",
  "startTime": 1556918686.396,
  "endTime": 1556918686.476
}
For more information, see [GetDeploymentTarget](https://docs.aws.amazon.com/CodeDeploy/latest/APIReference/API_GetDeploymentTarget.html) in the *AWS CodeDeploy API Reference*.

- For API details, see [GetDeploymentTarget](https://docs.aws.amazon.com/cli/latest/reference/deploy/get-on-premises-instance.html) in *AWS CLI Command Reference*.

going-on-premises-instance

The following code example shows how to use `get-on-premises-instance`.

**AWS CLI**

**To get information about an on-premises instance**

The following `get-on-premises-instance` example retrieves information about the specified on-premises instance.

```
aws deploy get-on-premises-instance --instance-name AssetTag12010298EX
```

**Output:**

```json
{}
  "instanceInfo": {
    "iamUserArn": "arn:aws:iam::123456789012:user/AWS/CodeDeploy/AssetTag12010298EX",
    "tags": [
      {
        "Value": "CodeDeployDemo-OnPrem",
        "Key": "Name"
      }
    ]
  }
```
install

The following code example shows how to use install.

AWS CLI

To install an on-premises instance

The following install example copies the on-premises configuration file from the specified location on the instance to the location on the instance that the AWS CodeDeploy Agent expects to find it. It also installs the AWS CodeDeploy Agent on the instance. It does not create any IAM user, nor register the on-premises instance with AWS CodeDeploy, nor associate any on-premises instance tags in AWS CodeDeploy for the instance.

```bash
aws deploy install \
  --override-config \
  --config-file C:\temp\codedeploy.onpremises.yml \
  --region us-west-2 \
  --agent-installer s3://aws-codedeploy-us-west-2/latest/codedeploy-agent.msi
```

Output:

```
Creating the on-premises instance configuration file... DONE
Installing the AWS CodeDeploy Agent... DONE
```

For API details, see Install in AWS CLI Command Reference.

list-application-revisions

The following code example shows how to use list-application-revisions.
To get information about application revisions

The following list-application-revisions example displays information about all application revisions that are associated with the specified application.

```bash
aws deploy list-application-revisions \
  --application-name WordPress_App \
  --s3-bucket CodeDeployDemoBucket \
  --deployed exclude \
  --s3-key-prefix WordPress_ \
  --sort-by lastUsedTime \
  --sort-order descending
```

Output:

```json
{
  "revisions": [
    {
      "revisionType": "S3",
      "s3Location": {
        "version": "uTecLusvCB_JqHXtfUcyfV8bEXAMPLE",
        "bucket": "CodeDeployDemoBucket",
        "key": "WordPress_App.zip",
        "bundleType": "zip"
      }
    },
    {
      "revisionType": "S3",
      "s3Location": {
        "version": "tMk.UxgDpMEVb7V187ZM6wVAWEXAMPLE",
        "bucket": "CodeDeployDemoBucket",
        "key": "WordPress_App_2-0.zip",
        "bundleType": "zip"
      }
    }
  ]
}
```

- For API details, see [ListApplicationRevisions](https://docs.aws.amazon.com/cli/latest/reference/deploy/list-application-revisions.html) in *AWS CLI Command Reference*. 

Actions and scenarios
**list-applications**

The following code example shows how to use `list-applications`.

**AWS CLI**

**To get information about applications**

The following `list-applications` example displays information about all applications that are associated with the user's AWS account.

```bash
aws deploy list-applications
```

Output:

```json
{
  "applications": [
    "WordPress_App",
    "MyOther_App"
  ]
}
```

- For API details, see [ListApplications](https://docs.aws.amazon.com/cli/latest/reference/deploy/list-applications.html) in *AWS CLI Command Reference*.

**list-deployment-configs**

The following code example shows how to use `list-deployment-configs`.

**AWS CLI**

**To get information about deployment configurations**

The following `list-deployment-configs` example displays information about all deployment configurations that are associated with the user's AWS account.

```bash
aws deploy list-deployment-configs
```

Output:

```json
{
  "deploymentConfigList": [
  
  ]
}
```
"ThreeQuartersHealthy",
"CodeDeployDefault.AllAtOnce",
"CodeDeployDefault.HalfAtATime",
"CodeDeployDefault.OneAtATime"
]
}

• For API details, see ListDeploymentConfigs in AWS CLI Command Reference.

to list-deployment-groups

The following code example shows how to use list-deployment-groups.

**AWS CLI**

**To get information about deployment groups**

The following list-deployment-groups example displays information about all deployment groups that are associated with the specified application.

```bash
aws deploy list-deployment-groups --application-name WordPress_App
```

Output:

```json
{
  "applicationName": "WordPress_App",
  "deploymentGroups": [
    "WordPress_DG",
    "WordPress_Beta_DG"
  ]
}
```

• For API details, see ListDeploymentGroups in AWS CLI Command Reference.

to list-deployment-instances

The following code example shows how to use list-deployment-instances.

**AWS CLI**

**To get information about deployment instances**

```bash
aws deploy list-deployment-instances --application-name WordPress_App
```
The following `list-deployment-instances` example displays information about all deployment instances that are associated with the specified deployment.

```
aws deploy list-deployment-instances \
   --deployment-id d-A1B2C3111 \
   --instance-status-filter Succeeded
```

Output:
```
{
   "instancesList": [
      "i-EXAMPLE11",
      "i-EXAMPLE22"
   ]
}
```

- For API details, see [ListDeploymentInstances](#) in *AWS CLI Command Reference*.

### list-deployment-targets

The following code example shows how to use `list-deployment-targets`.

**AWS CLI**

#### To retrieve a list of target IDs that are associated with a deployment

The following `list-deployment-targets` example retrieves a list of target IDs associated with deployments that have a status of "Failed" or "InProgress."

```
aws deploy list-deployment-targets \
   --deployment-id "d-A1B2C3111" \
   --target-filters "{"TargetStatus":["Failed","InProgress"]}"
```

Output:
```
{
   "targetIds": ["i-0f1558aaf90e5f1f9"
]
}
```
For more information, see ListDeploymentTargets in the AWS CodeDeploy API Reference.

- For API details, see ListDeploymentTargets in AWS CLI Command Reference.

list-deployments

The following code example shows how to use list-deployments.

AWS CLI

To get information about deployments

The following list-deployments example displays information about all deployments that are associated with the specified application and deployment group.

```bash
aws deploy list-deployments \
  --application-name WordPress_App \
  --create-time-range start=2014-08-19T00:00:00,end=2014-08-20T00:00:00 \
  --deployment-group-name WordPress_DG \
  --include-only-statuses Failed
```

Output:

```json
{
  "deployments": [
    "d-EXAMPLE11",
    "d-EXAMPLE22",
    "d-EXAMPLE33"
  ]
}
```

- For API details, see ListDeployments in AWS CLI Command Reference.

list-git-hub-account-token-names

The following code example shows how to use list-git-hub-account-token-names.

AWS CLI

To lists the names of stored connections to GitHub accounts
The following `list-git-hub-account-token-names` example lists the names of the stored connections to GitHub accounts for the current AWS user.

```
aws deploy list-git-hub-account-token-names
```

Output:

```
{
   "tokenNameList": [
      "my-first-token",
      "my-second-token",
      "my-third-token"
   ]
}
```

For more information, see [ListGitHubAccountTokenNames](#) in the AWS CodeDeploy API Reference.
- For API details, see [ListGitHubAccountTokenNames](#) in AWS CLI Command Reference.

**list-on-premises-instances**

The following code example shows how to use `list-on-premises-instances`.

**AWS CLI**

**To get information about one or more on-premises instances**

The following `list-on-premises-instances` example retrieves a list of available on-premises instance names for instances that are registered in AWS CodeDeploy and also have the specified on-premises instance tag associated in AWS CodeDeploy with the instance.

```
aws deploy list-on-premises-instances \
   --registration-status Registered \
   --tag-filters Key=Name,Value=CodeDeployDemo-OnPrem,Type=KEY_AND_VALUE
```

Output:

```
{
   "instanceNames": [
      "AssetTag12010298EX"
   ]
}
```
list-tags-for-resource

The following code example shows how to use list-tags-for-resource.

AWS CLI

To list tags for a resource (application)

The following list-tags-for-resource example lists the tags applied to an application named testApp in CodeDeploy.

```
aws deploy list-tags-for-resource \
```

Output:

```
{
   "Tags": [
      {
         "Key": "Type",
         "Value": "testType"
      },
      {
         "Key": "Name",
         "Value": "testName"
      }
   ]
}
```

For more information, see Tagging instances for deployment groups in CodeDeploy in the AWS CodeDeploy User Guide.

• For API details, see ListTagsForResource in AWS CLI Command Reference.

push

The following code example shows how to use push.
AWS CLI

To bundle and deploy an AWS CodeDeploy compatible application revision to Amazon S3

The following push example bundles and deploys an application revision to Amazon S3 and then associates the application revision with the specified application.

```
aws deploy push \\
--application-name WordPress_App \\
--description "This is my deployment" \\
--ignore-hidden-files \\
--s3-location s3://CodeDeployDemoBucket/WordPressApp.zip \\
--source /tmp/MyLocalDeploymentFolder/
```

The output describes how to use the create-deployment command to create a deployment that uses the uploaded application revision.

```
To deploy with this revision, run:
aws deploy create-deployment --application-name WordPress_App
                        --deployment-config-name <deployment-config-name> --
                        deployment-group-name <deployment-group-name> --s3-location
                        bucket=CodeDeployDemoBucket,key=WordPressApp.zip,bundleType=zip,eTag="cecc9b8EXAMPLE50a6e71f8EXAMPLE"
```

- For API details, see Push in AWS CLI Command Reference.

register

The following code example shows how to use register.

AWS CLI

To register an on-premises instance

The following register example registers an on-premises instance with AWS CodeDeploy, associates in AWS CodeDeploy the specified on-premises instance tag with the registered instance, and creates an on-premises configuration file that can be copied to the instance. It does not create the IAM user, nor does it install the AWS CodeDeploy Agent on the instance.

```
aws deploy register \\
--instance-name AssetTag12010298EX \\
--iam-user-arn arn:aws:iam::80398EXAMPLE:user/CodeDeployUser-OnPrem \\
```

Actions and scenarios
--tags Key=Name,Value=CodeDeployDemo-OnPrem \ 
--region us-west-2

Output:

Registering the on-premises instance... DONE
Adding tags to the on-premises instance... DONE
Copy the on-premises configuration file named codedeploy.onpremises.yml to the on-premises instance, and run the following command on the on-premises instance to install and configure the AWS CodeDeploy Agent:
aws deploy install --config-file codedeploy.onpremises.yml

- For API details, see Register in AWS CLI Command Reference.

register-application-revision

The following code example shows how to use register-application-revision.

AWS CLI

To register information about an already-uploaded application revision

The following register-application-revision example registers information about an already-uploaded application revision stored in Amazon S3 with AWS CodeDeploy.

aws deploy register-application-revision \
   --application-name WordPress_App \
   --description "Revised WordPress application" \
   --s3-location 
   bucket=CodeDeployDemoBucket,key=RevisedWordPressApp.zip,bundleType=zip,eTag=cecc9b8a08ead5

This command produces no output.

- For API details, see RegisterApplicationRevision in AWS CLI Command Reference.

register-on-premises-instance

The following code example shows how to use register-on-premises-instance.

AWS CLI

To register an on-premises instance
The following register-on-premises-instance example registers an on-premises instance with AWS CodeDeploy. It does not create the specified IAM user, nor does it associate in AWS CodeDeploy any on-premises instances tags with the registered instance.

```bash
aws deploy register-on-premises-instance \\
  --instance-name AssetTag12010298EX \\
```

This command produces no output.

- For API details, see [RegisterOnPremisesInstance](#) in [AWS CLI Command Reference](#).

remove-tags-from-on-premises-instances

The following code example shows how to use remove-tags-from-on-premises-instances.

AWS CLI

**To remove tags from one or more on-premises instances**

The following remove-tags-from-on-premises-instances example disassociates the specified on-premises tags in AWS CodeDeploy from on-premises instances. It does not deregister the on-premises instances in AWS CodeDeploy, nor uninstall the AWS CodeDeploy Agent from the instance, nor remove the on-premises configuration file from the instances, nor delete the IAM users that are associated with the instances.

```bash
aws deploy remove-tags-from-on-premises-instances \\
  --instance-names AssetTag12010298EX AssetTag23121309EX \\
  --tags Key=Name,Value=CodeDeployDemo-OnPrem
```

This command produces no output.

- For API details, see [RemoveTagsFromOnPremisesInstances](#) in [AWS CLI Command Reference](#).

stop-deployment

The following code example shows how to use stop-deployment.

AWS CLI

**To attempt to stop a deployment**
The following stop-deployment example attempts to stop an in-progress deployment that is associated with the user’s AWS account.

```bash
aws deploy stop-deployment --deployment-id d-A1B2C3111
```

Output:

```json
{
    "status": "Succeeded",
    "statusMessage": "No more commands will be scheduled for execution in the deployment instances"
}
```

- For API details, see [StopDeployment](https://docs.aws.amazon.com/cli/latest/reference/deploy/stop-deployment.html) in *AWS CLI Command Reference*.

**tag-resource**

The following code example shows how to use `tag-resource`.

**AWS CLI**

**To tag a resource (application)**

The following `tag-resource` example adds two tags with keys Name and Type, and values testName and testType to an application named testApp in CodeDeploy:

```bash
aws deploy tag-resource \
    --tags Key=Name,Value=testName Key=Type,Value=testType
```

If successful, this command produces no output.

For more information, see [Tagging instances for deployment groups in CodeDeploy](https://docs.aws.amazon.com/codedeploy/latest/userguide/using-tagging.html) in the *AWS CodeDeploy User Guide*.

- For API details, see [TagResource](https://docs.aws.amazon.com/cli/latest/reference/deploy/tag-resource.html) in *AWS CLI Command Reference*.

**uninstall**

The following code example shows how to use `uninstall`.

```bash
aws deploy uninstall --deployment-id d-A1B2C3111
```
AWS CLI

**To uninstall an on-premises instance**

The following uninstall example uninstalls the AWS CodeDeploy Agent from the on-premises instance and removes the on-premises configuration file from the instance. It doesn't deregister the instance in AWS CodeDeploy, nor disassociate any on-premises instance tags in AWS CodeDeploy from the instance, nor delete the IAM user that is associated with the instance.

```bash
aws deploy uninstall
```

This command produces no output.

- For API details, see [Uninstall](#) in *AWS CLI Command Reference*.

**untag-resource**

The following code example shows how to use `untag-resource`.

AWS CLI

**To remove tags from a resource (application)**

The following `untag-resource` example removes two tags with keys Name and Type from an application named testApp in CodeDeploy.

```bash
aws deploy untag-resource \   --resource-arn arn:aws:codedeploy:us-west-2:111122223333:application:testApp \   --tag-keys Name Type
```

If successful, this command produces no output.

For more information, see [Tagging instances for deployment groups in CodeDeploy](#) in the *AWS CodeDeploy User Guide*.

- For API details, see [UntagResource](#) in *AWS CLI Command Reference*.

**update-application**

The following code example shows how to use `update-application`. 
AWS CLI

To change details of an application

The following update-application example changes the name of an application that is associated with the user’s AWS account.

```bash
aws deploy update-application \
    --application-name WordPress_App \
    --new-application-name My_WordPress_App
```

This command produces no output.

- For API details, see UpdateApplication in AWS CLI Command Reference.

update-deployment-group

The following code example shows how to use update-deployment-group.

AWS CLI

To change information about a deployment group

The following update-deployment-group example changes the settings of a deployment group that is associated with the specified application.

```bash
aws deploy update-deployment-group \
    --application-name WordPress_App \
    --auto-scaling-groups My_CodeDeployDemo_ASG \
    --current-deployment-group-name WordPress_DG \
    --deployment-config-name CodeDeployDefault.AllAtOnce \
    --ec2-tag-filters Key=Name,Type=KEY_AND_VALUE,Value=My_CodeDeployDemo \
    --new-deployment-group-name My_WordPress_DepGroup \
    --service-role-arn arn:aws:iam::80398EXAMPLE:role/CodeDeployDemo-2
```

This command produces no output.

- For API details, see UpdateDeploymentGroup in AWS CLI Command Reference.
**CodeGuru Reviewer examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with CodeGuru Reviewer.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- *Actions*

**Actions**

**associate-repository**

The following code example shows how to use associate-repository.

**AWS CLI**

**Example 1: To create a Bitbucket repository association**

The following associate-repository example creates a repository association using an existing Bitbucket repository.

```bash
aws codeguru-reviewer associate-repository \
--repository 'Bitbucket={Owner=sample-owner, Name=mySampleRepo, ConnectionArn=arn:aws:codestar-connections:us-west-2:123456789012:connection/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111 }'
```

Output:

```json
{
```
For more information, see Create a Bitbucket repository association in Amazon CodeGuru Reviewer in the Amazon CodeGuru Reviewer User Guide.

Example 2: To create a GitHub Enterprise repository association

The following associate-repository example creates a repository association using an existing GitHub Enterprise repository.

```
aws codeguru-reviewer associate-repository \
   --repository 'GitHubEnterpriseServer={Owner=sample-owner, Name=mySampleRepo, \n   ConnectionArn=arn:aws:codestar-connections:us-west-2:123456789012:connection/\n   a1b2c3d4-5678-90ab-cdef-EXAMPLE11111 }'
```

Output:

```
{
   "RepositoryAssociation": {
      "ProviderType": "GitHubEnterpriseServer",
      "Name": "mySampleRepo",
      "LastUpdatedTimeStamp": 1596216896.979,
      "AssociationId": "association:a1b2c3d4-5678-90ab-cdef-EXAMPLE22222",
      "CreatedTimeStamp": 1596216896.979,
      "ConnectionArn": "arn:aws:codestar-connections:us-west-2:123456789012:connection/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
      "State": "Associating",
      "StateReason": "Pending Repository Association",
   }
}
```
For more information, see Create a GitHub Enterprise Server repository association in Amazon CodeGuru Reviewer in the Amazon Codeguru Reviewer User Guide.

Example 3: To create an AWS CodeCommit repository association

The following associate-repository example creates a repository association using an existing AWS CodeCommit repository.

```bash
aws codeguru-reviewer associate-repository 
  --repository CodeCommit={Name=mySampleRepo}
```

Output:

```
{
    "RepositoryAssociation": {
        "AssociationId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
        "Name": "My-ecs-beta-repo",
        "LastUpdatedTimeStamp": 1595634764.029,
        "ProviderType": "CodeCommit",
        "CreatedTimeStamp": 1595634764.029,
        "Owner": "544120495673",
        "State": "Associating",
        "StateReason": "Pending Repository Association",
        "AssociationArn": "arn:aws:codeguru-reviewer:us-west-2:544120495673:association:a1b2c3d4-5678-90ab-cdef-EXAMPLE11111"
    }
}
```

For more information, see Create an AWS CodeCommit repository association in Amazon CodeGuru Reviewer in the Amazon CodeGuru Reviewer User Guide.

- For API details, see AssociateRepository in AWS CLI Command Reference.

create-code-review

The following code example shows how to use create-code-review.
AWS CLI

To create a code review.

The following create-code-review creates a review of code in the mainline branch of an AWS CodeCommit repository that is named my-repository-name.

```
aws codeguru-reviewer create-code-review \
    --name my-code-review \
    --repository-association-arn arn:aws:codeguru-reviewer:us-west-2:123456789012:association:a1b2c3d4-5678-90ab-cdef-EXAMPLE11111 \
    --type '{"RepositoryAnalysis": {"RepositoryHead": {"BranchName": "mainline"}}}'
```

Output:

```
{
    "CodeReview": {
        "Name": "my-code-review",
        "RepositoryName": "my-repository-name",
        "Owner": "123456789012",
        "ProviderType": "CodeCommit",
        "State": "Pending",
        "StateReason": "CodeGuru Reviewer has received the request, and a code review is scheduled.",
        "CreatedTimeStamp": 1618873489.195,
        "LastUpdatedTimeStamp": 1618873489.195,
        "Type": "RepositoryAnalysis",
        "SourceCodeType": {
            "RepositoryHead": {
                "BranchName": "mainline"
            }
        },
        "AssociationArn": "arn:aws:codeguru-reviewer:us-west-2:123456789012:association:a1b2c3d4-5678-90ab-cdef-EXAMPLE11111"
    }
}
```

For more information, see [Create code reviews in Amazon CodeGuru Reviewer](https://docs.aws.amazon.com/codeguru-reviewer/latest/userguide/create-code-review.html) in the *Amazon CodeGuru Reviewer User Guide*. 
For API details, see CreateCodeReview in AWS CLI Command Reference.

**describe-code-review**

The following code example shows how to use describe-code-review.

**AWS CLI**

List details about a code review.

The following describe-code-review lists information about a review of code in the "mainline" branch of an AWS CodeCommit repository that is named "my-repo-name".

```
aws codeguru-reviewer put-recommendation-feedback \
  --recommendation-id 3be1b2e5d7ef6e298a06499379ee290c9c596cf688fdcadb08285ddb0dd390eb \
  --reactions ThumbsUp
```

**Output**

```
{
    "CodeReview": {
        "Name": "My-ecs-beta-repo-master-xs6di4kfd4j269dz",
        "RepositoryName": "My-ecs-beta-repo",
        "Owner": "123456789012",
        "ProviderType": "CodeCommit",
        "State": "Pending",
        "StateReason": "CodeGuru Reviewer is reviewing the source code.",
        "CreatedTimeStamp": 1618874226.226,
        "LastUpdatedTimeStamp": 1618874233.689,
        "Type": "RepositoryAnalysis",
        "SourceCodeType": {
            "RepositoryHead": {
                "BranchName": "mainline"
            }
        }
    }
}
```
}
}

For more information, see View code review details in the Amazon CodeGuru Reviewer User Guide.

- For API details, see DescribeCodeReview in AWS CLI Command Reference.

describe-recommendation-feedback

The following code example shows how to use describe-recommendation-feedback.

AWS CLI

To view information about feedback on a recommendation

The following describe-recommendation-feedback displays information about feedback on a recommendation. This recommendation has one ThumbsUp reaction.

```
aws codeguru-reviewer describe-recommendation-feedback \
   --recommendation-id 3be1b2e5d7ef6e298a06499379ee290c9c596cf688fdc6db08285dd0dd390eb
```

Output:

```
{
   "RecommendationFeedback": {
      "RecommendationId": "3be1b2e5d7ef6e298a06499379ee290c9c596cf688fdcadb08285dd0dd390eb",
      "Reactions": [
         "ThumbsUp"
      ],
      "UserId": "aws-user-id",
      "CreatedTimeStamp": 1618877070.313,
      "LastUpdatedTimeStamp": 1618877948.881
   }
}
```
describe-repository-association

The following code example shows how to use describe-repository-association.

**AWS CLI**

**Example 1: To return information about a GitHub repository association**

The following describe-repository-association example returns information about a repository association that uses a GitHub Enterprise repository and is in the Associated state.

```
aws codeguru-reviewer describe-repository-association \
```

**Output:**

```json
{
   "RepositoryAssociation": {
      "AssociationId": "b822717e-0711-4e8a-bada-0e738289c75e",
      "Name": "mySampleRepo",
      "LastUpdatedTimeStamp": 1588102637.649,
      "ProviderType": "GitHub",
      "CreatedTimeStamp": 1588102615.636,
      "Owner": "sample-owner",
      "State": "Associated",
      "StateReason": "Pull Request Notification configuration successful",
      "AssociationArn": "arn:aws:codeguru-reviewer:us-west-2:123456789012:association:a1b2c3d4-5678-90ab-cdef-EXAMPLE11111"
   }
}
```

For more information, see [Create a GitHub Enterprise Server repository association in Amazon CodeGuru Reviewer](https://docs.aws.amazon.com/codeguru-reviewer/latest/userguide) in the Amazon CodeGuru Reviewer User Guide.

---

For more information, see [View recommendations and provide feedback](https://docs.aws.amazon.com/codeguru-reviewer/latest/userguide) and [Step 4: Provide feedback](https://docs.aws.amazon.com/codeguru-reviewer/latest/userguide) in the Amazon CodeGuru Reviewer User Guide.

- For API details, see [DescribeRecommendationFeedback](https://docs.aws.amazon.com/codeguru-reviewer/latest/userguide) in AWS CLI Command Reference.
Example 2: To return information about a failed repository association

The following describe-repository-association example returns information about a repository association that uses a GitHub Enterprise repository and is in the Failed state.

```
aws codeguru-reviewer describe-repository-association \
```

Output:

```
{
   "RepositoryAssociation": {
      "ProviderType": "GitHubEnterpriseServer",
      "Name": "mySampleRepo",
      "LastUpdatedTimeStamp": 1596217036.892,
      "AssociationId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
      "CreatedTimeStamp": 1596216896.979,
      "ConnectionArn": "arn:aws:codestar-connections:us-west-2:123456789012:connection/a1b2c3d4-5678-90ab-cdef-EXAMPLE22222",
      "State": "Failed",
      "StateReason": "Failed, Please retry.",
      "Owner": "sample-owner"
   }
}
```

For more information, see Create a GitHub Enterprise Server repository association in Amazon CodeGuru Reviewer in the Amazon CodeGuru Reviewer User Guide.

Example 3: To return information about a disassociating repository association

The following describe-repository-association example returns information about a repository association that uses a GitHub Enterprise repository and is in the Disassociating state.

```
aws codeguru-reviewer describe-repository-association \
```

Output:
The following code example shows how to use `disassociate-repository`.

**AWS CLI**

**To disassociate a repository association**

The following `disassociate-repository` disassociates a repository association that is using an AWS CodeCommit repository.

```
aws codeguru-reviewer disassociate-repository \   
```

Output:

```
{
    "RepositoryAssociation": {
        "AssociationId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
    }
}
```
For more information, see Disassociate a repository in CodeGuru Reviewer in the Amazon CodeGuru Reviewer User Guide.

- For API details, see DisassociateRepository in AWS CLI Command Reference.

**list-code-reviews**

The following code example shows how to use list-code-reviews.

**AWS CLI**

**To list code reviews created in your AWS account in the last 90 days.**

The following list-code-reviews example lists the code reviews created in the last 90 days using pull requests.

```bash
aws codeguru-reviewer list-code-reviews \
   --type PullRequest
```

**Output:**

```json
{
   "CodeReviewSummaries": [
      {
         "LastUpdatedTimeStamp": 1588897288.054,
         "Name": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
         "ProviderType": "GitHub",
         "PullRequestId": "5",
      }
   ]
}
```
"MetricsSummary": {
   "MeteredLinesOfCodeCount": 24,
   "FindingsCount": 1
 },
"CreatedTimeStamp": 1588897068.512,
"State": "Completed",
"Owner": "sample-owner",
"RepositoryName": "sample-repository-name",
"Type": "PullRequest"
},
{
   "LastUpdatedTimeStamp": 1588869793.263,
   "Name": "a1b2c3d4-5678-90ab-cdef-EXAMPLE22222",
   "ProviderType": "GitHub",
   "PullRequestId": "4",
   "MetricsSummary": {
      "MeteredLinesOfCodeCount": 29,
      "FindingsCount": 0
   },
   "CreatedTimeStamp": 1588869575.949,
   "State": "Completed",
   "Owner": "sample-owner",
   "RepositoryName": "sample-repository-name",
   "Type": "PullRequest"
},
{
   "LastUpdatedTimeStamp": 1588870511.211,
   "Name": "a1b2c3d4-5678-90ab-cdef-EXAMPLE33333",
   "ProviderType": "GitHub",
   "PullRequestId": "4",
   "MetricsSummary": {
      "MeteredLinesOfCodeCount": 2,
      "FindingsCount": 0
   },
   "CreatedTimeStamp": 1588870292.425,
   "State": "Completed",
   "Owner": "sample-owner",
   "RepositoryName": "sample-repository-name",
   "Type": "PullRequest"
}
"Type": "PullRequest"
},
{
    "LastUpdatedTimeStamp": 1588118522.452,
    "Name": "a1b2c3d4-5678-90ab-cdef-EXAMPLE44444",
    "ProviderType": "GitHub",
    "PullRequestId": "3",
    "MetricsSummary": {
        "MeteredLinesOfCodeCount": 29,
        "FindingsCount": 0
    },
    "CreatedTimeStamp": 1588118301.131,
    "State": "Completed",
    "Owner": "sample-owner",
    "RepositoryName": "sample-repository-name",
    "Type": "PullRequest"
},
{
    "LastUpdatedTimeStamp": 1588112205.207,
    "Name": "a1b2c3d4-5678-90ab-cdef-EXAMPLE55555",
    "ProviderType": "GitHub",
    "PullRequestId": "2",
    "MetricsSummary": {
        "MeteredLinesOfCodeCount": 25,
        "FindingsCount": 0
    },
    "CreatedTimeStamp": 1588111987.443,
    "State": "Completed",
    "Owner": "sample Owner",
    "RepositoryName": "sample-repository-name",
    "Type": "PullRequest"
},
{
    "LastUpdatedTimeStamp": 1588104489.981,
    "Name": "a1b2c3d4-5678-90ab-cdef-EXAMPLE66666",
    "ProviderType": "GitHub",
    "PullRequestId": "1",
    "MetricsSummary": {
        "MeteredLinesOfCodeCount": 25,
        "FindingsCount": 0
    },
    "CreatedTimeStamp": 1588104489.981,
    "State": "Completed",
    "Owner": "sample-owner",
    "RepositoryName": "sample-repository-name",
    "Type": "PullRequest"
The following code example shows how to use `list-recommendation-feedback`.

**AWS CLI**

To list customer recommendation feedback for a recommendation on an associated repository

The following `list-recommendation-feedback` Lists customer feedback on all recommendations on a code review. This code review has one piece of feedback, a "ThumbsUp", from a customer.

```bash
aws codeguru-reviewer list-recommendation-feedback \
```

Output:

```json
{
   "RecommendationFeedbackSummaries": [
      {
         "RecommendationId": "3be1b2e5d7e6e298a06499379ee290c9c596cf688fdcadb08285ddb0dd390eb",
         "Reactions": ["ThumbsUp"
```
For more information, see Step 4: Provide feedback in the Amazon CodeGuru Reviewer User Guide.

- For API details, see ListRecommendationFeedback in AWS CLI Command Reference.

**list-recommendations**

The following code example shows how to use `list-recommendations`.

**AWS CLI**

**To list the recommendations for a completed code review**

The following `list-recommendations` example lists the recommendations for a completed code review. This code review has one recommendation.

```
aws codeguru-reviewer list-recommendations \\
```

**Output:**

```
{
    "RecommendationSummaries": [
        {
            "Description": "\n\n**Problem**  
You are using a `ConcurrentHashMap`, but your usage of `containsKey()` and `get()` may not be thread-safe at lines: **63 and 64**. In between the check and the `get()` another thread can remove the key and the `get()` will return `null`. The remove that can remove the key is at line: **59**.\n\n**Fix**  
Consider calling `get()`, checking instead of your current check if the returned object is `null`, and then using that object only, without calling `get()` again.\n\n**More info**  
[View an example on GitHub](https://github.com/apache/hadoop/blob/f16cf877e565084c66bc63605659b157c4394dc8/hadoop-tools/hadoop-aws/src/main/java/org/apache/hadoop/fs/s3a/s3guard/S3Guard.java#L302-L304) (external link).",
            "RecommendationId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE22222",
            "StartLine": 63,
        }
    ]
}
```
For more information, see [Step 4: Provide feedback](#) in the *Amazon CodeGuru Reviewer User Guide*.

- For API details, see [ListRecommendations](#) in *AWS CLI Command Reference*.

**list-repository-associations**

The following code example shows how to use `list-repository-associations`.

**AWS CLI**

To list the repository associations in your AWS account

The following `list-repository-associations` example returns a list of repository association summary objects in your account. You can filter the returned list by `ProviderType`, `Name`, `State`, and `Owner`.

```
aws codeguru-reviewer list-repository-associations
```

Output:

```json
{
   "RepositoryAssociationSummaries": [
      {
         "LastUpdatedTimeStamp": 1595886609.616,
         "Name": "test",
         "AssociationId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
         "Owner": "sample-owner",
         "State": "Associated",
         "ProviderType": "Bitbucket"
      },
      {
         "LastUpdatedTimeStamp": 1595636966.935,
```

```json
}
```
"Name": "CodeDeploy-CodePipeline-ECS-Tutorial",
"AssociationId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE22222",
"Owner": "123456789012",
"State": "Associated",
"ProviderType": "CodeCommit"
},
{
"LastUpdatedTimeStamp": 1595634785.983,
"Name": "My-ecs-beta-repo",
"AssociationId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE33333",
"Owner": "123456789012",
"State": "Associated",
"ProviderType": "CodeCommit"
},
{
"LastUpdatedTimeStamp": 1590712811.77,
"Name": "MyTestCodeCommit",
"AssociationId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE44444",
"Owner": "123456789012",
"State": "Associated",
"ProviderType": "CodeCommit"
},
{
"LastUpdatedTimeStamp": 1588102637.649,
"Name": "aws-codeguru-profiler-sample-application",
"AssociationId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE55555",
"Owner": "sample-owner",
"State": "Associated",
"ProviderType": "GitHub"
},
{
"LastUpdatedTimeStamp": 1588028233.995,
"Name": "codeguru-profiler-demo-app",
"AssociationId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE66666",
"Owner": "sample-owner",
"State": "Associated",
"AssociationArn": "arn:aws:codeguru-reviewer:us-west-2:123456789012:association:a1b2c3d4-5678-90ab-cdef-EXAMPLE66666"}
        "ProviderType": "GitHub"
    ]
}]

For more information, see View all repository associations in CodeGuru Reviewer in the Amazon CodeGuru Reviewer User Guide.

- For API details, see ListRepositoryAssociations in AWS CLI Command Reference.

list-tags-for-resource

The following code example shows how to use list-tags-for-resource.

AWS CLI

To list the tags on an associated repository

The following list-tags-for-resource lists the tags on an associated repository. This associated repository has two tags.

```bash
aws codeguru-reviewer list-tags-for-resource \  --resource-arn arn:aws:codeguru-reviewer:us-west-2:123456789012:association:a1b2c3d4-5678-90ab-cdef-EXAMPLE11111
```

Output:

```json
{
   "Tags": {
      "Status": "Secret",
      "Team": "Saanvi"
   }
}
```

For more information, see View tags for a CodeGuru Reviewer associated repository (AWS CLI) in the Amazon CodeGuru Reviewer User Guide.

- For API details, see ListTagsForResource in AWS CLI Command Reference.
**put-recommendation-feedback**

The following code example shows how to use `put-recommendation-feedback`.

**AWS CLI**

**To add a recommendation to a code review**

The following `put-recommendation-feedback` puts a ThumbsUp recommendation on a code review.

```
aws codeguru-reviewer put-recommendation-feedback \
  --recommendation-id 3be1b2e5d7ef6e298a06499379ee290c9c596cf688fdcadb08285ddb0dd390eb \
  --reactions ThumbsUp
```

This command produces no output.

For more information, see [Step 4: Provide feedback](#) in the *Amazon CodeGuru Reviewer User Guide*.

- For API details, see [PutRecommendationFeedback](#) in *AWS CLI Command Reference*.

**tag-resource**

The following code example shows how to use `tag-resource`.

**AWS CLI**

**To add a tag to an associated repository**

The following `tag-resource` adds two tags to an associated repository

```
aws codeguru-reviewer tag-resource \
  --resource-arn arn:aws:codeguru-reviewer:us-west-2:123456789012:association:a1b2c3d4-5678-90ab-cdef-EXAMPLE11111 \
  --tags Status=Secret,Team=Saanvi
```

This command produces no output.
For more information, see Add a tag to a CodeGuru Reviewer associated repository (AWS CLI) and Add or update tags for a CodeGuru Reviewer associated repository (AWS CLI) in the Amazon CodeGuru Reviewer User Guide.

- For API details, see TagResource in AWS CLI Command Reference.

**untag-resource**

The following code example shows how to use untag-resource.

**AWS CLI**

To untag an associated repository

The following untag-resource removes two tags with keys "Secret" and "Team" from an associated repository.

```bash
aws codeguru-reviewer untag-resource \
    --resource-arn arn:aws:codeguru-reviewer:us-west-2:123456789012:association:a1b2c3d4-5678-90ab-cdef-EXAMPLE11111 \
    --tag-keys Status Team
```

This command produces no output.

For more information, see Remove tags from a CodeGuru Reviewer associated repository (AWS CLI) in the Amazon CodeGuru Reviewer User Guide.

- For API details, see UntagResource in AWS CLI Command Reference.

**CodePipeline examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with CodePipeline.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.
Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics

- Actions

Actions

acknowledge-job

The following code example shows how to use `acknowledge-job`.

**AWS CLI**

To retrieve information about a specified job

This example returns information about a specified job, including the status of that job if it exists. This is only used for job workers and custom actions. To determine the value of nonce and the job ID, use `aws codepipeline poll-for-jobs`.

**Command:**

```bash
aws codepipeline acknowledge-job --job-id f4f4ff82-2d11-EXAMPLE --nonce 3
```

**Output:**

```json
{
   "status": "InProgress"
}
```

- For API details, see [AcknowledgeJob](#) in [AWS CLI Command Reference](#).

create-custom-action-type

The following code example shows how to use `create-custom-action-type`.

**AWS CLI**

To create a custom action
This example creates a custom action for AWS CodePipeline using an already-created JSON file (here named MyCustomAction.json) that contains the structure of the custom action. For more information about the requirements for creating a custom action, including the structure of the file, see the AWS CodePipeline User Guide.

```bash
aws codepipeline create-custom-action-type --cli-input-json file://MyCustomAction.json
```

Contents of JSON file MyCustomAction.json:

```json
{
    "category": "Build",
    "provider": "MyJenkinsProviderName",
    "version": "1",
    "settings": {
        "entityUrlTemplate": "https://192.0.2.4/job/{Config:ProjectName}/",
        "executionUrlTemplate": "https://192.0.2.4/job/{Config:ProjectName}/lastSuccessfulBuild/{ExternalExecutionId}/"
    },
    "configurationProperties": [
        {
            "name": "MyJenkinsExampleBuildProject",
            "required": true,
            "key": true,
            "secret": false,
            "queryable": false,
            "description": "The name of the build project must be provided when this action is added to the pipeline."
        },
        {
            "name": "MyJenkinsExampleBuildProject",
            "required": true,
            "key": true,
            "secret": false,
            "queryable": false,
            "description": "The name of the build project must be provided when this action is added to the pipeline."
        }
    ],
    "inputArtifactDetails": {
        "maximumCount": 1,
        "minimumCount": 0
    },
    "outputArtifactDetails": {
        "maximumCount": 1,
        "minimumCount": 0
    }
}
```

This command returns the structure of the custom action.
create-pipeline

The following code example shows how to use create-pipeline.

AWS CLI

To create a pipeline

This example creates a pipeline in AWS CodePipeline using an already-created JSON file (here named MySecondPipeline.json) that contains the structure of the pipeline. For more information about the requirements for creating a pipeline, including the structure of the file, see the AWS CodePipeline User Guide.

Command:

```bash
aws codepipeline create-pipeline --cli-input-json file://MySecondPipeline.json
```

JSON file sample contents:

```json
{
    "pipeline": {
        "roleArn": "arn:aws:iam::111111111111:role/AWS-CodePipeline-Service",
        "stages": [
            {
                "name": "Source",
                "actions": [
                    {
                        "inputArtifacts": [],
                        "name": "Source",
                        "actionTypeId": {
                            "category": "Source",
                            "owner": "AWS",
                            "version": "1",
                            "provider": "S3"
                        },
                        "outputArtifacts": [
                            {
                                "name": "MyApp"
                            }
                        ]
                    }
                ]
            }
        ]
    }
}
```
"configuration": {  
  "S3Bucket": "awscodepipeline-demo-bucket",
  "S3ObjectKey": "aws-codepipeline-s3-aws-codedeploy_linux.zip"
},
"runOrder": 1
}
],
{
  "name": "Beta",
  "actions": [
    {
      "inputArtifacts": [
        {
          "name": "MyApp"
        }
      ],
      "name": "CodePipelineDemoFleet",
      "actionTypeId": {
        "category": "Deploy",
        "owner": "AWS",
        "version": "1",
        "provider": "CodeDeploy"
      },
      "outputArtifacts": [],
      "configuration": {
        "ApplicationName": "CodePipelineDemoApplication",
        "DeploymentGroupName": "CodePipelineDemoFleet"
      },
      "runOrder": 1
    }
  ]
},
"artifactStore": {
  "type": "S3",
  "location": "codepipeline-us-east-1-11EXAMPLE11"
},
"name": "MySecondPipeline",
"version": 1
}
Output:

This command returns the structure of the pipeline.

- For API details, see CreatePipeline in AWS CLI Command Reference.

**delete-custom-action-type**

The following code example shows how to use `delete-custom-action-type`.

**AWS CLI**

**To delete a custom action**

This example deletes a custom action in AWS CodePipeline by using an already-created JSON file (here named `DeleteMyCustomAction.json`) that contains the action type, provider name, and version number of the action to be deleted. Use the list-action-types command to view the correct values for category, version, and provider.

Command:

```bash
aws codepipeline delete-custom-action-type --cli-input-json file://DeleteMyCustomAction.json
```

JSON file sample contents:

```json
{
    "category": "Build",
    "version": "1",
    "provider": "MyJenkinsProviderName"
}
```

Output:

None.

- For API details, see DeleteCustomActionType in AWS CLI Command Reference.

**delete-pipeline**

The following code example shows how to use `delete-pipeline`.
AWS CLI

To delete a pipeline

This example deletes a pipeline named MySecondPipeline from AWS CodePipeline. Use the list-pipelines command to view a list of pipelines associated with your AWS account.

Command:

```bash
aws codepipeline delete-pipeline --name MySecondPipeline
```

Output:

None.

- For API details, see [DeletePipeline](#) in *AWS CLI Command Reference*.

delete-webhook

The following code example shows how to use delete-webhook.

AWS CLI

To delete a webhook

The following delete-webhook example deletes a webhook for a GitHub version 1 source action. You must use the deregister-webhook-with-third-party command to deregister the webhook before you delete it.

```bash
aws codepipeline delete-webhook \
    --name my-webhook
```

This command produces no output.

For more information, see [Delete the webhook for your GitHub source](#) in the *AWS CodePipeline User Guide*.

- For API details, see [DeleteWebhook](#) in *AWS CLI Command Reference*.

deregister-webhook-with-third-party

The following code example shows how to use deregister-webhook-with-third-party.
AWS CLI

To deregister a webhook

The following deregister-webhook-with-third-party example deletes a webhook for a GitHub version 1 source action. You must deregister the webhook before you delete it.

```
aws codepipeline deregister-webhook-with-third-party \
--webhook-name my-webhook
```

This command produces no output.

For more information, see Delete the webhook for your GitHub source in the AWS CodePipeline User Guide.

- For API details, see DeregisterWebhookWithThirdParty in AWS CLI Command Reference.

disable-stage-transition

The following code example shows how to use disable-stage-transition.

AWS CLI

To disable a transition to a stage in a pipeline

This example disables transitions into the Beta stage of the MyFirstPipeline pipeline in AWS CodePipeline.

Command:

```
aws codepipeline disable-stage-transition --pipeline-name MyFirstPipeline --stage-name Beta --transition-type Inbound
```

Output:

None.

- For API details, see DisableStageTransition in AWS CLI Command Reference.

enable-stage-transition

The following code example shows how to use enable-stage-transition.
**AWS CLI**

**To enable a transition to a stage in a pipeline**

This example enables transitions into the Beta stage of the MyFirstPipeline pipeline in AWS CodePipeline.

Command:

```bash/aws codepipeline enable-stage-transition --pipeine-name MyFirstPipeline --stage-name Beta --transition-type Inbound```

Output:

None.

- For API details, see [EnableStageTransition](https://docs.aws.amazon.com/cli/latest/reference/codepipeline/enable-stage-transition.html) in *AWS CLI Command Reference*.

**get-job-details**

The following code example shows how to use get-job-details.

**AWS CLI**

**To get details of a job**

This example returns details about a job whose ID is represented by f4f4ff82-2d11-EXAMPLE. This command is only used for custom actions. When this command is called, AWS CodePipeline returns temporary credentials for the Amazon S3 bucket used to store artifacts for the pipeline, if required for the custom action. This command will also return any secret values defined for the action, if any are defined.

Command:

```bash/aws codepipeline get-job-details --job-id f4f4ff82-2d11-EXAMPLE```

Output:

```json
{
  "jobDetails": {
    "accountId": "111111111111",
    "data": {}}
}
"actionConfiguration": {
    "__type": "ActionConfiguration",
    "configuration": {
        "ProjectName": "MyJenkinsExampleTestProject"
    }
},
"actionTypeId": {
    "__type": "ActionTypeId",
    "category": "Test",
    "owner": "Custom",
    "provider": "MyJenkinsProviderName",
    "version": "1"
},
"artifactCredentials": {
    "__type": "AWSSessionCredentials",
    "accessKeyId": "AKIAIOSFODNN7EXAMPLE",
    "secretAccessKey": "wJalrXUtnFEMI/K7MDENG/bPxRfiCYEXAMPLEKEY",
    "sessionToken": "fICCQD6m7oRw0uXOjANBgkqhkiG9w0BAQUFADCBiDELMAkGA1UEBhMCVVMxCzAJBgNVBAgTAldBMRAwDgYDVQQHEwdTZWF0dGxlMQ8wDQYDVQQKEwZBbWF6b2...25zb2xlMRIwEAYDVQQDEwlUZXN0Q2lsYWMxHzAdBgkqhkiG9w0BCQEWEG5vb25lQGFtYXpvbi5jb20wgZ8wDQYJKoZIhvcNAQEBBQADgY0AMIGJAoGBAMaK0dn+a4GmW1WiWJ21uUSfwEvTySWtC2XADZ4nB+BLYgVIk60CpiwsZ3G93vUEI03IyNoH/f0wYK8m9TrDHudUZg3qX4waLG5M43q7Wgce/MbQITxOUSQv7c7ugFFDzQGBzZswY6786m86gpEIbb30hjZnzcvQAaRHHd1QWIMm2nrAgMBAAEwDQYJKoZIhvcNAQEFBQ...auNkyExzyLwaxlAoo7TJHiadbts4J5iNnZgL0FkbFFBjv5fpJIlj00zkhNYS5f6GuoEDmFJl0ZxBHjJnyp3780D8uTsa",
    "inputArtifacts": [
        {
            "__type": "Artifact",
            "location": {
                "s3Location": {
                    "bucketName": "codepipeline-us-east-1-11EXAMPLE11",
                    "objectKey": "MySecondPipeline/MyAppBuild/EXAMPLE"
                },
                "type": "S3"
            },
            "name": "MyAppBuild"
        }
    ],
    "outputArtifacts": [],
    "pipelineContext": {
        "__type": "PipelineContext",
        "action": {
            "name": "MyJenkinsTest-Action"
        },
        "pipelineName": "MySecondPipeline"}
get-pipeline

The following code example shows how to use get-pipeline.

AWS CLI

To view the structure of a pipeline

This example returns the structure of a pipeline named MyFirstPipeline.

Command:

```
aws codepipeline get-pipeline --name MyFirstPipeline
```

Output:

```
{
  "pipeline": {
    "roleArn": "arn:aws:iam::111111111111:role/AWS-CodePipeline-Service",
    "stages": [
      {
        "name": "Source",
        "actions": [
          {
            "inputArtifacts": [],
            "name": "Source",
            "actionTypeId": {
              "category": "Source",
              "owner": "AWS",
              "version": "1",
              "provider": "S3"
            },
          }
        ]
      }
    ],
  },

  "id": "f4f4ff82-2d11-EXAMPLE"
}
```

For API details, see GetJobDetails in AWS CLI Command Reference.
"outputArtifacts": [  

    
    "name": "MyApp"


],
"configuration": {  
    "S3Bucket": "awscodelinesdemo-bucket",
    "S3ObjectKey": "aws-codepipeline-s3-aws-codedeploy_linux.zip"

    
},
"runOrder": 1


},

{
    "name": "Beta",
    "actions": [

        
        "inputArtifacts": [  
            
            "name": "MyApp"
        ],

        "name": "CodePipelineDemoFleet",
        "actionTypeId": {  
            "category": "Deploy",
            "owner": "AWS",
            "version": "1",
            "provider": "CodeDeploy"

        },

        "outputArtifacts": [],
        "configuration": {  
            "ApplicationName": "CodePipelineDemoApplication",
            "DeploymentGroupName": "CodePipelineDemoFleet"

        },

        "runOrder": 1

    
    ]

    
},

"artifactStore": {  
    "type": "S3",
    "location": "codepipeline-us-east-1-11EXAMPLE11"

}
get-pipeline-state

The following code example shows how to use get-pipeline-state.

AWS CLI

To get information about the state of a pipeline

This example returns the most recent state of a pipeline named MyFirstPipeline.

Command:

```
aws codepipeline get-pipeline-state --name MyFirstPipeline
```

Output:

```
{
  "created": 1446137312.204,
  "pipelineName": "MyFirstPipeline",
  "pipelineVersion": 1,
  "stageStates": [
    {
      "actionStates": [
        {
          "actionName": "Source",
          "entityUrl": "https://console.aws.amazon.com/s3/home?#",
          "latestExecution": {
            "lastStatusChange": 1446137358.328,
            "status": "Succeeded"
          }
        }
      ],
      "stageName": "Source"
    },
    {
      "actionStates": [
        {
          "actionName": "Source",
          "entityUrl": "https://console.aws.amazon.com/s3/home?#",
          "latestExecution": {
            "lastStatusChange": 1446137358.328,
            "status": "Succeeded"
          }
        }
      ],
      "stageName": "Source"
    }
  ]
}
```
For API details, see GetPipelineState in AWS CLI Command Reference.

list-action-executions

The following code example shows how to use list-action-executions.

AWS CLI

To list action executions

The following list-action-executions example views action execution details for a pipeline, such as action execution ID, input artifacts, output artifacts, execution result, and status.

```
aws codepipeline list-action-executions \
--pipeline-name myPipeline
```

Output:
null
"externalExecutionUrl": "https://myaddress.com",
"outputVariables": {},

{
"pipelineExecutionId": "EXAMPLE0-adfc-488e-bf4c-1111111720d3",
"actionExecutionId": "EXAMPLE5-abb4-4192-9031-11111113a7b0",
"pipelineVersion": 12,
"stageName": "Source",
"actionName": "Source",
"startTime": 1598572624.387,
"lastUpdateTime": 1598572628.16,
"status": "Succeeded",
"input": {
"actionTypeId": {
"category": "Source",
"owner": "AWS",
"provider": "CodeCommit",
"version": "1"
},
"configuration": {
"BranchName": "production",
"PollForSourceChanges": "false",
"RepositoryName": "my-repo"
},
"resolvedConfiguration": {
"BranchName": "production",
"PollForSourceChanges": "false",
"RepositoryName": "my-repo"
},
"region": "us-east-1",
"inputArtifacts": [],
"namespace": "SourceVariables"
},
"output": {
"outputArtifacts": [
{
"name": "SourceArtifact",
"s3location": {
"bucket": "my-bucket",
"key": "myPipeline/SourceArti/key"
}
}]}
For more information, see View action executions (CLI) in the AWS CodePipeline User Guide.

- For API details, see ListActionExecutions in AWS CLI Command Reference.

**list-action-types**

The following code example shows how to use list-action-types.

**AWS CLI**

**To view the action types available**

Used by itself, the list-action-types command returns the structure of all actions available to your AWS account. This example uses the --action-owner-filter option to return only custom actions.

Command:

```
aws codepipeline list-action-types --action-owner-filter Custom
```

Output:

```
{
   "actionTypes": [ ]
}
```
{
    "inputArtifactDetails": {
        "maximumCount": 5,
        "minimumCount": 0
    },
    "actionConfigurationProperties": [
        {
            "secret": false,
            "required": true,
            "name": "MyJenkinsExampleBuildProject",
            "key": true,
            "queryable": true
        }
    ],
    "outputArtifactDetails": {
        "maximumCount": 5,
        "minimumCount": 0
    },
    "id": {
        "category": "Build",
        "owner": "Custom",
        "version": "1",
        "provider": "MyJenkinsProviderName"
    },
    "settings": {
        "entityUrlTemplate": "http://192.0.2.4/job/{Config:ProjectName}",
        "executionUrlTemplate": "http://192.0.2.4/job/{Config:ProjectName}/ {ExternalExecutionId}"
    }
},
{
    "inputArtifactDetails": {
        "maximumCount": 5,
        "minimumCount": 0
    },
    "actionConfigurationProperties": [
        {
            "secret": false,
            "required": true,
            "name": "MyJenkinsExampleTestProject",
            "key": true,
            "queryable": true
        }
    ]
}
For API details, see ListActionTypes in AWS CLI Command Reference.

list-pipeline-executions

The following code example shows how to use list-pipeline-executions.

AWS CLI

To view pipeline execution history

The following list-pipeline-executions example shows the pipeline execution history for a pipeline in your AWS account.

```bash
aws codepipeline list-pipeline-executions \
   --pipeline-name MyPipeline
```

Output:

```json
{
   "pipelineExecutionSummaries": [ 
   
   "lastUpdateTime": 1496380678.648,
   "pipelineExecutionId": "7cf7f7cb-3137-539g-j458-d7eu3EXAMPLE",
   
   ]
}
```
The following code example shows how to use `list-pipelines`.

### AWS CLI

**To view a list of pipelines**

This example lists all AWS CodePipeline pipelines associated with the user's AWS account.

**Command:**

```
aws codepipeline list-pipelines
```

**Output:**

```
{
  "pipelines": [
    {
      "updated": 1439504274.641,
      "pipelineExecutionId": "3137f7cb-8d494hj4-039j-d841-d7eu3EXAMPLE",
      "startTime": 1496590401.222,
      "status": "Succeeded"
    },
    {
      "lastUpdateTime": 1496946071.6456,
      "pipelineExecutionId": "4992f7jf-7cf7-913k-k334-d7eu3EXAMPLE",
      "startTime": 1496945471.5645,
      "status": "Succeeded"
    }
  ]
}
```
For API details, see ListPipelines in AWS CLI Command Reference.

list-tags-for-resource

The following code example shows how to use list-tags-for-resource.

AWS CLI

To list tags

The following list-tags-for-resource example retrieves a list of all tags attached to the specified pipeline resource.

```bash
aws codepipeline list-tags-for-resource \
   --resource-arn arn:aws:codepipeline:us-east-1:123456789012:MyPipeline
```

Output:

```json
{
   "tags": {
      "Project": "ProjectA",
      "IscontainerBased": "true"
   }
}
```

For more information, see View tags for a pipeline (CLI) in the AWS CodePipeline User Guide.

For API details, see ListTagsForResource in AWS CLI Command Reference.
**list-webhooks**

The following code example shows how to use list-webhooks.

**AWS CLI**

To list webhooks

The following list-webhooks example retrieves a list of all tags attached to the specified pipeline resource.

```bash
aws codepipeline list-webhooks \
   --endpoint-url "https://codepipeline.eu-central-1.amazonaws.com" \
   --region "eu-central-1"
```

Output:

```
{
   "webhooks": [
   {
      "url": "https://webhooks.domain.com/trigger111111111EXAMPLE1111111111111": {
         "authenticationConfiguration": {
            "SecretToken": "Secret"
         },
         "name": "my-webhook",
         "authentication": "GITHUB_HMAC",
         "targetPipeline": "my-Pipeline",
         "targetAction": "Source",
         "filters": [
            {
               "jsonPath": "$\.ref",
               "matchEquals": "refs/heads/\{Branch\}"
            }
         ]
      },
      "arn": "arn:aws:codepipeline:eu-central-1:123456789012:webhook:my-webhook"
   }
   ]
}
```

For more information, see [List webhooks in your account](https://docs.aws.amazon.com/CodePipeline/latest/userguide/list-webhooks.html) in the AWS *CodePipeline User Guide*. 
poll-for-jobs

The following code example shows how to use `poll-for-jobs`.

**AWS CLI**

**To view any available jobs**

This example returns information about any jobs for a job worker to act upon. This example uses a pre-defined JSON file (MyActionTypeInfo.json) to supply information about the action type for which the job worker processes jobs. This command is only used for custom actions. When this command is called, AWS CodePipeline returns temporary credentials for the Amazon S3 bucket used to store artifacts for the pipeline. This command will also return any secret values defined for the action, if any are defined.

Command:

```
aws codepipeline poll-for-jobs --cli-input-json file://MyActionTypeInfo.json
```

JSON file sample contents:

```
{
   "actionTypeId": {
      "category": "Test",
      "owner": "Custom",
      "provider": "MyJenkinsProviderName",
      "version": "1"
   },
   "maxBatchSize": 5,
   "queryParam": {
      "ProjectName": "MyJenkinsTestProject"
   }
}
```

Output:

```
{
   "jobs": [
      {
```
"accountId": "111111111111",
"data": {
  "actionConfiguration": {
    "__type": "ActionConfiguration",
    "configuration": {
      "ProjectName": "MyJenkinsExampleTestProject"
    }
  },
  "actionTypeId": {
    "__type": "ActionTypeId",
    "category": "Test",
    "owner": "Custom",
    "provider": "MyJenkinsProviderName",
    "version": "1"
  },
  "artifactCredentials": {
    "__type": "AWSSessionCredentials",
    "accessKeyId": "AKIAIOSFODNN7EXAMPLE",
    "secretAccessKey": "wJalrXUttnFEMI/K7MDENG/bPxRfiCYEXAMPLEKEY",
    "sessionToken": "fICCQD6m7oRw0uX0jANBgkqhkiG9w0BAQUFADCBiDELMAkGA1UEBhMCVVMx
CzAJBgNVBAgTAldBMRAwDgYDVQQHEwdTZWF0dGxlMQ8wDQYDVQQKEwZBbWF6b2…25zb2xlMRIwEAYDVQQDEwlUZXN0Q2lsYWMxHzAdBgkqhkiG9w0BCQEWEG5vb25lQGFtYXpvbi5jb20wgZ8wDQYJKoZIhvcNAQEBBQADgY0AMIGJAoGBAMaK0dn+a4GmWJl21uUSfwfEvysWtcZ2ADZ4nB+BLyvIw60CpiwsZ3G93vUEI03IyNoH/f0wYK8m9TrDHudUZg3qX4waLG5M43q7Wgc/MBqITxOU5Q7c7ugFFDzQGBzZswY6786m86gpE1bb30hjZnzcvQAaRHhdIqWImm2nrAgMBAAEwDQYJKoZIhvcNAQEFBQc+auNKyExzyLwax1Aoo7TJHidbtS4J5iNmZgLX0FkbFFBjv5fpJIlJ00zbhNYS5f6GuoEDmFJ10ZxBHjJnyp3780D8uTs"
  },
  "inputArtifacts": [
    {
      "__type": "Artifact",
      "location": {
        "s3Location": {
          "bucketName": "codepipeline-us-east-1-11EXAMPLE11",
          "objectKey": "MySecondPipeline/MyAppBuild/EXAMPLE"
        },
        "type": "S3"
      },
      "name": "MyAppBuild"
    }
  ],
  "outputArtifacts": [],
  "pipelineContext": {
    "__type": "PipelineContext",
    "action": {
      "name": "MyJenkinsTest-Action"
    }
  }
}
For API details, see `PollForJobs` in *AWS CLI Command Reference*.

**put-webhook**

The following code example shows how to use `put-webhook`.

**AWS CLI**

To create a webhook

The following `put-webhook` example creates a webhook for a GitHub version 1 source action. After you create the webhook, you must use the `register-webhook-with-third-party` command to register it.

```
aws codepipeline put-webhook \
   --cli-input-json file://webhook_json.json \
   --region "eu-central-1"
```

Contents of `webhook_json.json`:

```json
{
    "webhook": {
        "name": "my-webhook",
        "targetPipeline": "pipeline_name",
        "targetAction": "source_action_name",
        "filters": [
            {
                "jsonPath": "$.ref",
```
Output:

```json
{
  "webhook": {
    "url": "https://webhooks.domain.com/trigger111111111EXAMPLE11111111111111111",
    "definition": {
      "authenticationConfiguration": {
        "SecretToken": "secret"
      },
      "name": "my-webhook",
      "authentication": "GITHUB_HMAC",
      "targetPipeline": "pipeline_name",
      "targetAction": "Source",
      "filters": [
        {
          "jsonPath": "$\.ref",
          "matchEquals": "refs/heads/\{Branch\}"
        }
      ],
      "arn": "arn:aws:codepipeline:eu-central-1:123456789012:webhook:my-webhook"
    },
    "tags": [
      {
        "key": "Project",
        "value": "ProjectA"
      }
    ]
  }
}
```

For more information, see [Create a webhook for a GitHub source](https://aws.amazon.com/codepipeline/docs/userguide/) in the *AWS CodePipeline User Guide*. 
retry-stage-execution

The following code example shows how to use retry-stage-execution.

AWS CLI

To retry a failed action

The following retry-stage-execution example retries a stage that has a failed action.

```
aws codepipeline retry-stage-execution \
   --pipeline-name MyPipeline \
   --stage-name Deploy \
   --pipeline-execution-id b59babff-5f34-EXAMPLE \
   --retry-mode FAILED_ACTIONS
```

Output:

```
{
   "pipelineExecutionId": "b59babff-5f34-EXAMPLE"
}
```

For more information, see Retry failed actions (CLI) in the AWS CodePipeline User Guide.

start-pipeline-execution

The following code example shows how to use start-pipeline-execution.

AWS CLI

To run the latest revision through a pipeline

This example runs the latest revision present in the source stage of a pipeline through the pipeline named "MyFirstPipeline".

Command:
aws codepipeline start-pipeline-execution --name MyFirstPipeline

Output:

```
{
   "pipelineExecutionId": "3137f7cb-7cf7-EXAMPLE"
}
```

- For API details, see StartPipelineExecution in AWS CLI Command Reference.

stop-pipeline-execution

The following code example shows how to use stop-pipeline-execution.

AWS CLI

To stop a pipeline execution

The following stop-pipeline-execution example defaults to waiting until in-progress actions finish, and then stops the pipeline. You cannot choose to stop and wait if the execution is already in a Stopping state. You can choose to stop and abandon an execution that is already in a Stopping state.

```
aws codepipeline stop-pipeline-execution \\
   --pipeline-name MyFirstPipeline \\
   --pipeline-execution-id d-EXAMPLE \\
   --reason "Stopping pipeline after the build action is done"
```

This command returns no output.

For more information, see Stop a pipeline execution (CLI) in the AWS CodePipeline User Guide.
- For API details, see StopPipelineExecution in AWS CLI Command Reference.

tag-resource

The following code example shows how to use tag-resource.

AWS CLI

To tag a resource
The following tag-resource example associates a set of provided tags with a pipeline. Use this command to add or edit tags.

```bash
aws codepipeline tag-resource \
  --resource-arn arn:aws:codepipeline:us-east-1:123456789012:MyPipeline \
  --tags key=Project,value=ProjectA key=IscontainerBased,value=true
```

This command produces no output.

For more information, see Add tags to a pipeline (CLI) in the AWS CodePipeline User Guide.

• For API details, see TagResource in AWS CLI Command Reference.

untag-resource

The following code example shows how to use untag-resource.

AWS CLI

To remove AWS tags from a connections resource

The following untag-resource example removes a tag from the specified resource.

```bash
aws codepipeline untag-resource \
  --resource-arn arn:aws:codepipeline:us-east-1:123456789012:MyPipeline \
  --tag-keys Project IscontainerBased
```

This command produces no output.

For more information, see Remove tags from a pipeline (CLI) in the AWS CodePipeline User Guide.

• For API details, see UntagResource in AWS CLI Command Reference.

update-pipeline

The following code example shows how to use update-pipeline.

AWS CLI

To update the structure of a pipeline
This example uses the update-pipeline command with the --cli-input-json argument. This example uses a pre-defined JSON file (MyFirstPipeline.json) to update the structure of a pipeline. AWS CodePipeline recognizes the pipeline name contained in the JSON file, and then applies any changes from modified fields in the pipeline structure to update the pipeline.

Use the following guidelines when creating the pre-defined JSON file:

If you are working with a pipeline structure retrieved using the get-pipeline command, you must remove the metadata section from the pipeline structure in the JSON file (the "metadata": {} lines and the "created," "pipelineARN," and "updated" fields within). The pipeline name cannot be changed.

Command:

```bash
aws codepipeline update-pipeline --cli-input-json file://MyFirstPipeline.json
```

Sample JSON file contents:

```json
{
    "pipeline": {
        "roleArn": "arn:aws:iam::111111111111:role/AWS-CodePipeline-Service",
        "stages": [
            {
                "name": "Source",
                "actions": [
                    {
                        "inputArtifacts": [],
                        "name": "Source",
                        "actionTypeId": {
                            "category": "Source",
                            "owner": "AWS",
                            "version": "1",
                            "provider": "S3"
                        },
                        "outputArtifacts": [
                            {
                                "name": "MyApp"
                            }
                        ],
                        "configuration": {
                            "S3Bucket": "awscodepipeline-demo-bucket2",
                            "S3ObjectKey": "aws-codepipeline-s3-aws-codedeploy_linux.zip"
                        }
                    }
                ]
            }
        ]
    }
}
```
Output:

```json
{

}
```
"pipeline": {
  "artifactStore": {
    "location": "codepipeline-us-east-1-11EXAMPLE11",
    "type": "S3"
  },
  "name": "MyFirstPipeline",
  "roleArn": "arn:aws:iam::111111111111:role/AWS-CodePipeline-Service",
  "stages": [
    {
      "actions": [
        {
          "actionTypeId": {
            "__type": "ActionTypeId",
            "category": "Source",
            "owner": "AWS",
            "provider": "S3",
            "version": "1"
          },
          "configuration": {
            "S3Bucket": "awscodepipeline-demo-bucket2",
            "S3ObjectKey": "aws-codepipeline-s3-aws-codedeploy_linux.zip"
          },
          "inputArtifacts": [],
          "name": "Source",
          "outputArtifacts": [
            {
              "name": "MyApp"
            }
          ],
          "runOrder": 1
        }
      ],
      "name": "Source"
    },
    {
      "actions": [
        {
          "actionTypeId": {
            "__type": "ActionTypeId",
            "category": "Deploy",
            "owner": "AWS",
            "provider": "CodeDeploy",
            "version": "1"
          },
          "configuration": {
            "resourceId": "aws-codepipeline-resource-id",
            "deploymentType": "CODE_DEPLOY",
            "deploymentConfig": "aws-codepipeline-deployment-configuration"
          },
          "inputArtifacts": [
            {
              "name": "MyApp"
            }
          ],
          "name": "Deploy"
        }
      ],
      "name": "Deploy"
    }
  ]
},

Actions and scenarios

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For API details, see UpdatePipeline in AWS CLI Command Reference.

AWS CodeStar examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS CodeStar.

**Actions** are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

**Scenarios** are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**
- **Actions**
Actions

associate-team-member

The following code example shows how to use associate-team-member.

AWS CLI

**To add a team member to a project**

The following `associate-team-member` example makes the `intern` user a viewer on the project with the specified ID.

```bash
aws codestar associate-team-member \
   --project-id my-project \
   --user-arn arn:aws:iam::123456789012:user/intern \
   --project-role Viewer
```

This command produces no output.

- For API details, see [AssociateTeamMember](#) in *AWS CLI Command Reference*.

create-project

The following code example shows how to use create-project.

AWS CLI

**To create a project**

The following `create-project` example uses a JSON input file to create a CodeStar project.

```bash
aws codestar create-project \
   --cli-input-json file://create-project.json
```

Contents of `create-project.json`:

```json
{
   "name": "Custom Project",
   "id": "custom-project",
   "sourceCode": [
      {
         "source": {
```
Output:

```json
{
  "id": "my-project",
  "arn": "arn:aws:codestar:us-east-2:123456789012:project/custom-project"
}
```

For a tutorial that includes sample code and templates for a custom project, see Create a Project in AWS CodeStar with the AWS CLI<https://docs.aws.amazon.com/codestar/latest/userguide/cli-tutorial.html> in the AWS CodeStar User Guide.

- For API details, see CreateProject in AWS CLI Command Reference.

create-user-profile

The following code example shows how to use create-user-profile.
AWS CLI

**To create a user profile**

The following `create-user-profile` example creates a user profile for the IAM user with the specified ARN.

```bash
aws codestar create-user-profile \
   --user-arn arn:aws:iam::123456789012:user/intern \
   --display-name Intern \
   --email-address intern@example.com
```

Output:

```json
{
   "userArn": "arn:aws:iam::123456789012:user/intern",
   "displayName": "Intern",
   "emailAddress": "intern@example.com",
   "sshPublicKey": "",
   "createdTimestamp": 1572552308.607,
   "lastModifiedTimestamp": 1572552308.607
}
```

- For API details, see [CreateUserProfile](#) in *AWS CLI Command Reference*.

**delete-project**

The following code example shows how to use `delete-project`.

```
aws codestar delete-project \
   --project-id my-project
```

Output:

```json
{

}
```
delete-user-profile

The following code example shows how to use delete-user-profile.

AWS CLI

To delete a user profile

The following delete-user-profile example deletes the user profile for the user with the specified ARN.

```bash
aws codestar delete-user-profile \
   --user-arn arn:aws:iam::123456789012:user/intern
```

Output:

```json
{
   "userArn": "arn:aws:iam::123456789012:user/intern"
}
```

For API details, see DeleteUserProfile in AWS CLI Command Reference.

describe-project

The following code example shows how to use describe-project.

AWS CLI

To view a project

The following describe-project example retrieves details about the specified project.

```bash
aws codestar describe-project \
   --id my-project
```
Output:

```
{
   "name": "my project",
   "id": "my-project",
   "arn": "arn:aws:codestar:us-west-2:123456789012:project/my-project",
   "description": "My first CodeStar project.",
   "createdTimeStamp": 1572547510.128,
   "status": {
       "state": "CreateComplete"
   }
}
```

• For API details, see [DescribeProject](#) in [AWS CLI Command Reference](#).

**describe-user-profile**

The following code example shows how to use describe-user-profile.

**AWS CLI**

**To view a user profile**

The following describe-user-profile example retrieves details about the user profile for
the user with the specified ARN.

```
aws codestar describe-user-profile \
   --user-arn arn:aws:iam::123456789012:user/intern
```

Output:

```
{
   "userArn": "arn:aws:iam::123456789012:user/intern",
   "displayName": "Intern",
   "emailAddress": "intern@example.com",
   "sshPublicKey": "intern",
   "createdTimestamp": 1572552308.607,
   "lastModifiedTimestamp": 1572553495.47
}
```

• For API details, see [DescribeUserProfile](#) in [AWS CLI Command Reference](#).
**disassociate-team-member**

The following code example shows how to use `disassociate-team-member`.

**AWS CLI**

To remove a team member

The following `disassociate-team-member` example removes the user with the specified ARN from the project `my-project`.

```
aws codestar disassociate-team-member \
  --project-id my-project \
  --user-arn arn:aws:iam::123456789012:user/intern
```

This command produces no output.

- For API details, see [DisassociateTeamMember](https://docs.aws.amazon.com/cli/latest/reference/codestar/disassociate-team-member.html) in *AWS CLI Command Reference*.

**list-projects**

The following code example shows how to use `list-projects`.

**AWS CLI**

To view projects

The following `list-projects` example retrieves a list of projects in the current Region.

```
aws codestar list-projects
```

Output:

```json
{
  "projects": [
    {
      "projectId": "intern-projects",
      "projectArn": "arn:aws:codestar:us-west-2:123456789012:project/intern-projects"
    },
    {
      "projectId": "my-project",
```
For API details, see ListProjects in AWS CLI Command Reference.

**list-resources**

The following code example shows how to use list-resources.

**AWS CLI**

**To view resources**

The following list-resources example retrieves a list of resources for the specified project.

```bash/aws codestar list-resources \
--id my-project
```

**Output:**

```json
{
  "resources": [
    {
      "id": "arn:aws:execute-api:us-east-2:123456789012:r3wxmplbv8"
    },
    {
      "id": "arn:aws:codedeploy:us-east-2:123456789012:application:awscodestar-my-project-lambda-ServerlessDeploymentApplication-PF0LXMP1KA0"
    },
    {
      "id": "arn:aws:s3:::aws-codestar-us-east-2-123456789012-my-project-pipe"
    },
    {
      "id": "arn:aws:lambda:us-east-2:123456789012:function:awscodestar-my-project-lambda-GetHelloWorld-16W3LVXMP1NNNS"
    },
    {
      "id": "arn:aws:cloudformation:us-east-2:123456789012:stack/awscodestar-my-project-lambda/b4904ea0-fc20-xmpl-bec6-029123b1cc42"
    }
  ]
}
```
• For API details, see [ListResources](#) in [AWS CLI Command Reference](#).
list-tags-for-project

The following code example shows how to use list-tags-for-project.

AWS CLI

To view tags for a project

The following list-tags-for-project example retrieves the tags attached to the specified project.

aws codestar list-tags-for-project \
   --id my-project

Output:

```
{
   "tags": {
       "Department": "Marketing",
       "Team": "Website"
   }
}
```

- For API details, see ListTagsForProject in AWS CLI Command Reference.

list-team-members

The following code example shows how to use list-team-members.

AWS CLI

To view a list of team members

The following list-team-members example retrieves a list of users associated with the specified project.

aws codestar list-team-members \
   --project-id my-project

Output:
For API details, see ListTeamMembers in AWS CLI Command Reference.

```
list-user-profiles
```

The following code example shows how to use list-user-profiles.

AWS CLI

**To view a list of user profiles**

The following list-user-profiles example retrieves a list of all user profiles in the current Region.

```
aws codestar list-user-profiles
```

Output:

```
{
    "userProfiles": [ 
    {
        "userArn": "arn:aws:iam::123456789012:user/admin",
        "displayName": "me",
        "emailAddress": "me@example.com",
        "sshPublicKey": ""
    },
    {
        "userArn": "arn:aws:iam::123456789012:user/intern",
        "projectRole": "Contributor",
        "remoteAccessAllowed": false
    }
    ]
}
```
For API details, see ListUserProfiles in AWS CLI Command Reference.

**tag-project**

The following code example shows how to use tag-project.

**AWS CLI**

To attach a tag to a project

The following tag-project example adds a tag named Department and a value of Marketing to the specified project.

```bash
aws codestar tag-project \
  --id my-project \
  --tags Department=Marketing
```

Output:

```json
{
  "tags": {
    "Department": "Marketing"
  }
}
```

For API details, see TagProject in AWS CLI Command Reference.

**untag-project**

The following code example shows how to use untag-project.

**AWS CLI**

To remove a tag from a project
The following untag-project example removes any tag with a key name of Team from the specified project.

```
aws codestar untag-project \
--id my-project \
--tags Team
```

This command produces no output.

- For API details, see UntagProject in AWS CLI Command Reference.

**update-project**

The following code example shows how to use update-project.

**AWS CLI**

**To update a project**

The following update-project example adds a description to the specified project.

```
aws codestar update-project \
--id my-project \
--description "My first CodeStar project"
```

This command produces no output.

- For API details, see UpdateProject in AWS CLI Command Reference.

**update-team-member**

The following code example shows how to use update-team-member.

**AWS CLI**

**To modify a team member**

The following update-team-member example makes the specified user a contributor on a project and grants them remote access to project resources.

```
aws codestar update-team-member \
--project-id my-project \
```
update-user-profile

The following code example shows how to use update-user-profile.

AWS CLI

To modify a user profile

The following update-user-profile example adds the specified SSH key to the specified user.

```
aws codestar update-user-profile \
   --ssh-public-key intern \
   --user-arn arn:aws:iam::123456789012:user/intern
```

Output:

```
{
   "userArn": "arn:aws:iam::123456789012:user/intern",
   "displayName": "Intern",
   "emailAddress": "intern@example.com",
   "sshPublicKey": "intern",
   "createdTimestamp": 1572552308.607,
   "lastModifiedTimestamp": 1572553495.47
}
```

• For API details, see UpdateUserProfile in AWS CLI Command Reference.
AWS CodeStar Notifications examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS CodeStar Notifications.

**Actions** are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

**Scenarios** are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**
- [Actions](#)

**Actions**

**create-notification-rule**

The following code example shows how to use `create-notification-rule`.

**AWS CLI**

To create a notification rule

The following `create-notification-rule` example uses a JSON file named `rule.json` to create a notification rule named `MyNotificationRule` for a repository named `MyDemoRepo` in the specified AWS account. Notifications with the FULL detail type are sent to the specified target Amazon SNS topic when branches and tags are created.

```bash
aws codestar-notifications create-notification-rule \
--cli-input-json file://rule.json
```

Contents of `rule.json`:

```json
{
    "Name": "MyNotificationRule",
```
"EventTypeIds": ["codecommit-repository-branches-and-tags-created"],
"Targets": [
   {
      "TargetType": "SNS",
      "TargetAddress": "arn:aws:sns:us-east-1:123456789012:MyNotificationTopic"
   }
],
"Status": "ENABLED",
"DetailType": "FULL"
}

Output:

{
   "Arn": "arn:aws:codestar-notifications:us-east-1:123456789012:notificationrule/dc82df7a-EXAMPLE"
}

For more information, see Create a Notification rule in the AWS Developer Tools Console User Guide.
- For API details, see CreateNotificationRule in AWS CLI Command Reference.

**delete-notification-rule**

The following code example shows how to use delete-notification-rule.

**AWS CLI**

**To delete a notification rule**

The following delete-notification-rule example deletes the specified notification rule.

```bash
aws codestar-notifications delete-notification-rule \
   --arn arn:aws:codestar-notifications:us-east-1:123456789012:notificationrule/dc82df7a-EXAMPLE
```

Output:
For more information, see Delete a Notification Rule in the AWS Developer Tools Console User Guide.

- For API details, see DeleteNotificationRule in AWS CLI Command Reference.

delete-target

The following code example shows how to use delete-target.

AWS CLI

To delete a notification rule target

The following delete-target example removes the specified target from all notification rules configured to use it as a target, and then deletes the target.

```
aws codestar-notifications delete-target \
   --target-address arn:aws:sns:us-east-1:123456789012:MyNotificationTopic \
   --force-unsubscribe-all
```

This command produces no output.

For more information, see Delete a Notification Rule Target in the AWS Developer Tools Console User Guide.

- For API details, see DeleteTarget in AWS CLI Command Reference.

describe-notification-rule

The following code example shows how to use describe-notification-rule.

AWS CLI

To retrieve details of a notification rule

The following describe-notification-rule example retrieves the details of the specified notification rule.
aws codestar-notifications describe-notification-rule \
   --arn arn:aws:codestar-notifications:us-west-2:123456789012:notificationrule/dc82df7a-EXAMPLE

Output:

```json
{
   "LastModifiedTimestamp": 1569199844.857,
   "EventTypes": [
      {
         "ServiceName": "CodeCommit",
         "EventTypeName": "Branches and tags: Created",
         "ResourceType": "Repository",
         "EventTypeId": "codecommit-repository-branches-and-tags-created"
      }
   ],
   "Status": "ENABLED",
   "DetailType": "FULL",
   "Arn": "arn:aws:codestar-notifications:us-west-w:123456789012:notificationrule/dc82df7a-EXAMPLE",
   "Targets": [
      {
         "TargetStatus": "ACTIVE",
         "TargetType": "SNS"
      }
   ],
   "Name": "MyNotificationRule",
   "CreatedTimestamp": 1569199844.857,
   "CreatedBy": "arn:aws:iam::123456789012:user/Mary_Major"
}
```

For more information, see View Notification Rules in the AWS Developer Tools Console User Guide.

- For API details, see DescribeNotificationRule in AWS CLI Command Reference.

list-event-types

The following code example shows how to use list-event-types.
AWS CLI

To get a list of event types for a notification rule

The following list-event-types example retrieves a filtered list of all available notification event types for CodeDeploy applications. If instead you use no filter, the command returns all notification event types for all resource types.

```bash
aws codestar-notifications list-event-types \
   --filters Name=SERVICE_NAME,Value=CodeDeploy
```

Output:

```json
{
  "EventTypes": [
    {
      "EventTypeId": "codedeploy-application-deployment-succeeded",
      "ServiceName": "CodeDeploy",
      "EventTypeName": "Deployment: Succeeded",
      "ResourceType": "Application"
    },
    {
      "EventTypeId": "codedeploy-application-deployment-failed",
      "ServiceName": "CodeDeploy",
      "EventTypeName": "Deployment: Failed",
      "ResourceType": "Application"
    },
    {
      "EventTypeId": "codedeploy-application-deployment-started",
      "ServiceName": "CodeDeploy",
      "EventTypeName": "Deployment: Started",
      "ResourceType": "Application"
    }
  ]
}
```

For more information, see [Create a Notification Rule](https://docs.aws.amazon.com/codestar-notifications/latest/userguide/creating-notification-rule.html) in the *AWS Developer Tools Console User Guide*.

- For API details, see [ListEventTypes](https://docs.aws.amazon.com/cli/latest/reference/codestar-notifications/list-event-types.html) in *AWS CLI Command Reference*. 
list-notification-rules

The following code example shows how to use list-notification-rules.

AWS CLI

To retrieve a list of notification rules

The following list-notification-rules example retrieves a list of all notification rules in the specified AWS Region.

```aws
codestar-notifications list-notification-rules --region us-east-1
```

Output:

```json
{
    "NotificationRules": [
        {
            "Id": "dc82df7a-EXAMPLE",
            "Arn": "arn:aws:codestar-notifications:us-east-1:123456789012:notificationrule/dc82df7a-EXAMPLE"
        },
        {
            "Id": "8d1f0983-EXAMPLE",
            "Arn": "arn:aws:codestar-notifications:us-east-1:123456789012:notificationrule/8d1f0983-EXAMPLE"
        }
    ]
}
```

For more information, see View Notification Rules in the AWS Developer Tools Console User Guide.

- For API details, see ListNotificationRules in AWS CLI Command Reference.

list-tags-for-resource

The following code example shows how to use list-tags-for-resource.

AWS CLI

To get a list of tags attached to a notification rule
The following `list-tags-for-resource` example retrieves a list of all tags attached to the specified notification rule. In this example, the notification rule currently has no tags associated with it.

```
aws codestar-notifications list-tags-for-resource \
   --arn arn:aws:codestar-notifications:us-east-1:123456789012:notificationrule/fe1efd35-EXAMPLE
```

Output:

```
{
   "Tags": {}
}
```

For more information, see Create a Notification Rule in the AWS Developer Tools Console User Guide.

- For API details, see ListTagsForResource in AWS CLI Command Reference.

**list-targets**

The following code example shows how to use `list-targets`.

**AWS CLI**

**To retrieve a list of notification rule targets**

The following `list-targets` example retrieves a list of all notification rule targets in the specified AWS Region.

```
aws codestar-notifications list-targets \
   --region us-east-1
```

Output:

```
{
   "Targets": [
      {
         "TargetAddress": "arn:aws:sns:us-east-1:123456789012:MySNSTopicForNotificationRules",
         "TargetType": "SNS",
      }]
}
```
"TargetStatus": "ACTIVE"
},
{
  "TargetAddress": "arn:aws:sns:us-east-1:123456789012:MySNSTopicForNotificationsAboutMyDemoRepo",
  "TargetType": "SNS",
  "TargetStatus": "ACTIVE"
}
]}

For more information, see View Notification Rule Targets in the AWS Developer Tools Console User Guide.

- For API details, see ListTargets in AWS CLI Command Reference.

subscribe

The following code example shows how to use subscribe.

AWS CLI

To add a target to a notification rule

The following subscribe example adds an Amazon SNS topic as a target for the specified notification rule.

```bash
aws codestar-notifications subscribe \
  --arn arn:aws:codestar-notifications:us-east-1:123456789012:notificationrule/dc82df7a-EXAMPLE \ 
  --target TargetType=SNS,TargetAddress=arn:aws:sns:us-east-1:123456789012:MyNotificationTopic
```

Output:

```json
{
  "Arn": "arn:aws:codestar-notifications:us-east-1:123456789012:notificationrule/dc82df7a-EXAMPLE"
}
```

For more information, see Add or Remove an Amazon SNS Topic as a Target for a Notification Rule in the AWS Developer Tools Console User Guide.
- For API details, see Subscribe in AWS CLI Command Reference.

**tag-resource**

The following code example shows how to use tag-resource.

**AWS CLI**

*To add a tag to a notification rule*

The following `tag-resource` example adds a tag with the key name of Team and the value of Li_Juan to the specified notification rule.

```bash
aws codestar-notifications tag-resource \
   --arn arn:aws:codestar-notifications:us-east-1:123456789012:notificationrule/fe1efd35-EXAMPLE \
   --tags Team=Li_Juan
```

Output:

```json
{
   "Tags": {
      "Team": "Li_Juan"
   }
}
```

For more information, see Create a Notification Rule in the AWS Developer Tools Console User Guide.

- For API details, see TagResource in AWS CLI Command Reference.

**unsubscribe**

The following code example shows how to use unsubscribe.

**AWS CLI**

*To remove a target from a notification rule*

The following `unsubscribe` example removes an Amazon SNS topic as a target from the specified notification rule.
aws codestar-notifications unsubscribe \
   --arn arn:aws:codestar-notifications:us-east-1:123456789012:notificationrule/dc82df7a-EXAMPLE \
   --target TargetType=SNS,TargetAddress=arn:aws:sns:us-east-1:123456789012:MyNotificationTopic

Output:

{
   "Arn": "arn:aws:codestar-notifications:us-east-1:123456789012:notificationrule/dc82df7a-EXAMPLE"
   "TargetAddress": "arn:aws:sns:us-east-1:123456789012:MyNotificationTopic"
}

For more information, see Add or Remove an Amazon SNS Topic as a Target for a Notification Rule in the AWS Developer Tools Console User Guide.

• For API details, see Unsubscribe in AWS CLI Command Reference.

untag-resource

The following code example shows how to use untag-resource.

AWS CLI

To remove a tag from a notification rule

The following untag-resource example removes the tag with the key name Team from the specified notification rule.

aws codestar-notifications untag-resource \
   --arn arn:aws:codestar-notifications:us-east-1:123456789012:notificationrule/fe1efd35-EXAMPLE \
   --tag-keys Team

This command produces no output.

For more information, see Edit a Notification Rule in the AWS Developer Tools Console User Guide.

• For API details, see UntagResource in AWS CLI Command Reference.
update-notification-rule

The following code example shows how to use update-notification-rule.

AWS CLI

To update a notification rule

The following update-notification-rule example updates a notification rule named MyNotificationRule in the AWS account 123456789012 using a JSON file named update.json.

```
aws codestar-notifications update-notification-rule \
   --cli-input-json file://update.json
```

Contents of update.json:

```json
{
  "Name": "MyUpdatedNotificationRule",
  "EventTypeIds": [
    "codecommit-repository-branches-and-tags-created"
  ],
  "Targets": [
    {
      "TargetType": "SNS",
      "TargetAddress": "arn:aws:sns:us-east-1:123456789012:MyNotificationTopic"
    }
  ],
  "Status": "ENABLED",
  "DetailType": "FULL"
}
```

Output:

```json
{
  "Arn": "arn:aws:codestar-notifications:us-east-1:123456789012:notificationrule/dc82df7a-EXAMPLE"
}
```

For more information, see Edit a notification rule in the AWS Developer Tools Console User Guide.
AWS CodeStar Connections examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS CodeStar Connections.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics

- Actions

Actions

create-connection

The following code example shows how to use create-connection.

AWS CLI

To create a connection

The following create-connection example shows how to create a connection to a third-party repository. This example creates a connection where the third-party provider is Bitbucket.

A connection created through the AWS CLI or AWS CloudFormation is in Pending status by default. After you create a connection with the CLI or AWS CloudFormation, use the console to edit the connection to make its status Available.

```
aws codestar-connections create-connection \
   --provider-type Bitbucket \
```
Output:

```json
{
   "ConnectionArn": "arn:aws:codestar-connections:us-east-1:123456789012:connection/aEXAMPLE-8aad-4d5d-8878-dfcab0bc441f"
}
```

For more information, see Create a connection in the Developer Tools console User Guide.

- For API details, see CreateConnection in AWS CLI Command Reference.

create-host

The following code example shows how to use create-host.

**AWS CLI**

**To create a host**

The following create-host example shows how to create a host to represent the endpoint for the infrastructure where your third-party provider is installed. This example creates a host where the third-party installed provider is GitHub Enterprise Server.

A host created through the AWS CLI is in Pending status by default. After you create a host with the CLI, use the console or the CLI to set up the host to make its status Available.

```bash
aws codestar-connections create-host \
   --name MyHost \
   --provider-type GitHubEnterpriseServer \
   --provider-endpoint "https://my-instance.dev"
```

Output:

```json
{
   "HostArn": "arn:aws:codestar-connections:us-east-1:123456789012:host/MyHost-28aef605"
}
```

For more information, see Create a host (CLI) in the Developer Tools console User Guide.
For API details, see `CreateHost` in *AWS CLI Command Reference*.

**delete-connection**

The following code example shows how to use `delete-connection`.

**AWS CLI**

To delete a connection

The following `delete-connection` example shows how to delete a connection.

```
aws codestar-connections delete-connection \\
    --connection-arn arn:aws:codestar-connections:us-west-2:123456789012:connection/aEXAMPLE-8aad-4d5d-8878-dfcab0bc441f
```

This command produces no output.

For more information, see [Delete a connection (CLI)](developer-tools-console-user-guide) in the *Developer Tools console User Guide*.

For API details, see `DeleteConnection` in *AWS CLI Command Reference*.

**delete-host**

The following code example shows how to use `delete-host`.

**AWS CLI**

To delete a host

The following `delete-host` example shows how to delete a host. Before you can delete a host, you must delete all connections associated with the host.

```
aws codestar-connections delete-host \\
    --host-arn "arn:aws:codestar-connections:us-east-1:123456789012:host/My-Host-28aef605"
```

This command produces no output.

For more information, see [Delete a host (CLI)](developer-tools-console-user-guide) in the *Developer Tools console User Guide*.
• For API details, see DeleteHost in AWS CLI Command Reference.

get-connection

The following code example shows how to use get-connection.

AWS CLI

To get information about a connection

The following get-connection example shows details about a connection.

```
aws codestar-connections get-connection \\
   --connection-arn arn:aws:codestar-connections:us-east-1:123456789012:connection/aEXAMPLE-8aad-4d5d-8878-dfcab0bc441f
```

Output:

```
{
    "Connection": {
        "ConnectionName": "MyConnection",
        "ConnectionArn": "arn:aws:codestar-connections:us-east-1:123456789012:connection/aEXAMPLE-8aad-4d5d-8878-dfcab0bc441f",
        "ProviderType": "Bitbucket",
        "OwnerAccountId": "123456789012",
        "ConnectionStatus": "AVAILABLE"
    }
}
```

For more information, see View connection details in the Developer Tools console User Guide.

• For API details, see GetConnection in AWS CLI Command Reference.

get-host

The following code example shows how to use get-host.

AWS CLI

To get information about a host

The following get-host example shows details about a host:
aws codestar-connections get-host \
   --host-arn arn:aws:codestar-connections:us-east-1:123456789012:host/MyHost-28aef605

Output:

```json
{
    "Name": "MyHost",
    "Status": "AVAILABLE",
    "ProviderType": "GitHubEnterpriseServer",
    "ProviderEndpoint": "https://test-instance-1.dev/"
}
```

For more information, see View host details (CLI) in the Developer Tools console User Guide.

- For API details, see GetHost in AWS CLI Command Reference.

**list-connections**

The following code example shows how to use list-connections.

### AWS CLI

**To list connections**

The following list-connections example retrieves a list of all connections in your account for the Bitbucket provider type.

```bash
aws codestar-connections list-connections \
--provider-type Bitbucket \
--max-results 5 \
--next-token: next-token
```

Output:

```json
{
    "Connections": [
        {
            "ConnectionName": "my-connection",
            "ProviderType": "Bitbucket",
            "Status": "PENDING",
```
For more information, see List connections (CLI) in the Developer Tools console User Guide.

- For API details, see ListConnections in AWS CLI Command Reference.

list-hosts

The following code example shows how to use list-hosts.

AWS CLI

To list hosts

The following list-hosts example retrieves a list of all hosts in your account.

```
aws codestar-connections list-hosts
```

Output:

```
{
    "Hosts": [
        {
            "Name": "My-Host",
            "HostArn": "arn:aws:codestar-connections:us-east-1:123456789012:host/My-Host-28aef605",
            "ProviderType": "GitHubEnterpriseServer",
            "ProviderEndpoint": "https://my-instance.test.dev",
            "Status": "AVAILABLE"
        }
    ],
    "NextToken": "next-token"
}
```
For more information, see List hosts (CLI) in the Developer Tools console User Guide.

- For API details, see ListHosts in AWS CLI Command Reference.

list-tags-for-resource

The following code example shows how to use list-tags-for-resource.

AWS CLI

To list tags

The following list-tags-for-resource example retrieves a list of all tags attached to the specified connections resource.

```
aws codestar-connections list-tags-for-resource \
   aEXAMPLE-8aad-4d5d-8878-df cab0bc441f
```

Output:

```
{
   "Tags": [
      {
         "Key": "Project",
         "Value": "ProjectA"
      },
      {
         "Key": "ReadOnly",
         "Value": "true"
      }
   ]
}
```

For more information, see View tags for a connections resource in the Developer Tools console User Guide.

- For API details, see ListTagsForResource in AWS CLI Command Reference.
**tag-resource**

The following code example shows how to use `tag-resource`.

**AWS CLI**

**To tag a resource**

The following `tag-resource` example associates a set of provided tags with a connection. Use this command to add or edit tags.

```
aws codestar-connections tag-resource \
--resource-arn arn:aws:codestar-connections:us-east-1:123456789012:connection/aEXAMPLE-8aad-4d5d-8878-dfcab0bc441f \
--tags Key=Project,Value=ProjectA Key=IscontainerBased,Value=true
```

This command produces no output.

For more information, see [Add tags to a connections resource](https://aws.amazon.com/documentation/codestar-connections/user-guide/) in the Developer Tools console User Guide.

- For API details, see [TagResource](https://docs.aws.amazon.com/cli/latest/reference/codestar-connections/tag-resource.html) in *AWS CLI Command Reference*.

**untag-resource**

The following code example shows how to use `untag-resource`.

**AWS CLI**

**To remove AWS tags from a connections resource**

The following `untag-resource` removes a tag from the specified resource.

```
aws codestar-connections untag-resource \
--resource-arn arn:aws:codestar-connections:us-east-1:123456789012:connection/aEXAMPLE-8aad-4d5d-8878-dfcab0bc441f \
--tag-keys Project ReadOnly
```

Output:

```
{
}
```
For more information, see Remove tags from a connections resource in the Developer Tools console User Guide.

- For API details, see UntagResource in AWS CLI Command Reference.

Amazon Cognito Identity examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon Cognito Identity.

**Actions** are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

**Scenarios** are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- **Actions**

**Actions**

**Create an identity pool**

The following code example shows how to create an Amazon Cognito identity pool.

**AWS CLI**

**To create an identity pool with Cognito identity pool provider**

This example creates an identity pool named MyIdentityPool. It has a Cognito identity pool provider. Unauthenticated identities are not allowed.

**Command:**

Output:

```json
{
    "IdentityPoolId": "us-west-2:11111111-1111-1111-1111-111111111111",
    "IdentityPoolName": "MyIdentityPool",
    "AllowUnauthenticatedIdentities": false,
    "CognitoIdentityProviders": [
        {
            "ProviderName": "cognito-idp.us-west-2.amazonaws.com/us-west-2_111111111",
            "ClientId": "3n4b5urk1ft4f13mg5e62d9ado",
            "ServerSideTokenCheck": false
        }
    ]
}
```

- For API details, see the following topics in *AWS CLI Command Reference*.
  - CreateIdentityPool
  - ListIdentityPools

Delete an identity pool

The following code example shows how to delete an Amazon Cognito identity pool.

**AWS CLI**

To delete identity pool

The following delete-identity-pool example deletes the specified identity pool.

Command:

```bash
aws cognito-identity delete-identity-pool \ 
   --identity-pool-id "us-west-2:11111111-1111-1111-1111-111111111111"
```

This command produces no output.

- For API details, see *DeleteIdentityPool* in *AWS CLI Command Reference*. 
List identity pools

The following code example shows how to get a list of Amazon Cognito identity pools.

AWS CLI

To list identity pools

This example lists identity pools. There's a maximum of 20 identities listed.

Command:

```bash
aws cognito-identity list-identity-pools --max-results 20
```

Output:

```json
{
   "IdentityPools": [
      {
         "IdentityPoolId": "us-west-2:1111111-1111-1111-1111-111111111111",
         "IdentityPoolName": "MyIdentityPool"
      },
      {
         "IdentityPoolId": "us-west-2:1111111-1111-1111-1111-111111111111",
         "IdentityPoolName": "AnotherIdentityPool"
      },
      {
         "IdentityPoolId": "us-west-2:1111111-1111-1111-1111-111111111111",
         "IdentityPoolName": "IdentityPoolRegionA"
      }
   ]
}
```

- For API details, see the following topics in AWS CLI Command Reference.
  - CreateIdentityPool
  - ListIdentityPools

delete-identities

The following code example shows how to use delete-identities.
AWS CLI

To delete identity pool

This example deletes an identity pool.

Command:

```bash
```

Output:

```json
{
  "UnprocessedIdentityIds": []
}
```

- For API details, see DeleteIdentities in AWS CLI Command Reference.

describe-identity-pool

The following code example shows how to use describe-identity-pool.

AWS CLI

To describe an identity pool

This example describes an identity pool.

Command:

```bash
```

Output:

```json
{
  "IdentityPoolId": "us-west-2:11111111-1111-1111-1111-111111111111",
  "IdentityPoolName": "MyIdentityPool",
  "AllowUnauthenticatedIdentities": false,
  "CognitoIdentityProviders": [
    
```
get-identity-pool-roles

The following code example shows how to use get-identity-pool-roles.

**AWS CLI**

**To get identity pool roles**

This example gets identity pool roles.

**Command:**

```bash
```

**Output:**

```json
{
   "IdentityPoolId": "us-west-2:11111111-1111-1111-1111-111111111111",
   "Roles": {
      "authenticated": "arn:aws:iam::111111111111:role/Cognito_MyIdentityPoolAuth_Role",
      "unauthenticated": "arn:aws:iam::111111111111:role/Cognito_MyIdentityPoolUnauth_Role"
   }
}
```


set-identity-pool-roles

The following code example shows how to use set-identity-pool-roles.
AWS CLI

**To set identity pool roles**

The following set-identity-pool-roles example sets an identity pool role.

```bash
aws cognito-identity set-identity-pool-roles \
   --identity-pool-id "us-west-2:11111111-1111-1111-1111-111111111111" \
   --roles authenticated="arn:aws:iam::111111111111:role/\n     Cognito_MyIdentityPoolAuth_Role"
```


**update-identity-pool**

The following code example shows how to use update-identity-pool.

AWS CLI

**To update an identity pool**

This example updates an identity pool. It sets the name to MyIdentityPool. It adds Cognito as an identity provider. It disallows unauthenticated identities.

Command:

```bash
```

Output:

```json
{
   "IdentityPoolId": "us-west-2:11111111-1111-1111-1111-111111111111",
   "IdentityPoolName": "MyIdentityPool",
   "AllowUnauthenticatedIdentities": false,
   "CognitoIdentityProviders": [
      {
         "ProviderName": "cognito-idp.us-west-2.amazonaws.com/us-west-2_111111111",
         "ClientId": "3n4b5urk1ft4f13mg5e62d9ado",
```
Amazon Cognito Identity Provider examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon Cognito Identity Provider.

**Actions** are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

**Scenarios** are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- **Actions**

**Actions**

**Confirm a user**

The following code example shows how to confirm an Amazon Cognito user.

**AWS CLI**

**To confirm sign-up**

This example confirms sign-up for username diego@example.com.

**Command:**

```
aws cognito-idp confirm-sign-up --client-id 3n4b5urk1ft4f13mg5e62d9ado --username=diego@example.com --confirmation-code CONF_CODE
```
Create a user pool

The following code example shows how to create an Amazon Cognito user pool.

AWS CLI

To create a minimally configured user pool

This example creates a user pool named MyUserPool using default values. There are no required attributes and no application clients. MFA and advanced security is disabled.

Command:

```bash
aws cognito-idp create-user-pool --pool-name MyUserPool
```

Output:

```json
{
   "UserPool": {
      "SchemaAttributes": [
         {
            "Name": "sub",
            "StringAttributeConstraints": {
               "MinLength": "1",
               "MaxLength": "2048"
            },
            "DeveloperOnlyAttribute": false,
            "Required": true,
            "AttributeDataType": "String",
            "Mutable": false
         },
         {
            "Name": "name",
            "StringAttributeConstraints": {
               "MinLength": "0",
               "MaxLength": "2048"
            },
            "DeveloperOnlyAttribute": false,
            "Required": false,
            "AttributeDataType": "String",
            "Mutable": true
         }
      ]
   }
}
```
{
  "Name": "given_name",
  "StringAttributeConstraints": {
    "MinLength": "0",
    "MaxLength": "2048"
  },
  "DeveloperOnlyAttribute": false,
  "Required": false,
  "AttributeDataType": "String",
  "Mutable": true
},
{
  "Name": "family_name",
  "StringAttributeConstraints": {
    "MinLength": "0",
    "MaxLength": "2048"
  },
  "DeveloperOnlyAttribute": false,
  "Required": false,
  "AttributeDataType": "String",
  "Mutable": true
},
{
  "Name": "middle_name",
  "StringAttributeConstraints": {
    "MinLength": "0",
    "MaxLength": "2048"
  },
  "DeveloperOnlyAttribute": false,
  "Required": false,
  "AttributeDataType": "String",
  "Mutable": true
},
{
  "Name": "nickname",
  "StringAttributeConstraints": {
    "MinLength": "0",
    "MaxLength": "2048"
  },
  "DeveloperOnlyAttribute": false,
  "Required": false,
  "AttributeDataType": "String",
  "Mutable": true
}
{
    "Name": "preferred_username",
    "StringAttributeConstraints": {
        "MinLength": "0",
        "MaxLength": "2048"
    },
    "DeveloperOnlyAttribute": false,
    "Required": false,
    "AttributeDataType": "String",
    "Mutable": true
},
{
    "Name": "profile",
    "StringAttributeConstraints": {
        "MinLength": "0",
        "MaxLength": "2048"
    },
    "DeveloperOnlyAttribute": false,
    "Required": false,
    "AttributeDataType": "String",
    "Mutable": true
},
{
    "Name": "picture",
    "StringAttributeConstraints": {
        "MinLength": "0",
        "MaxLength": "2048"
    },
    "DeveloperOnlyAttribute": false,
    "Required": false,
    "AttributeDataType": "String",
    "Mutable": true
},
{
    "Name": "website",
    "StringAttributeConstraints": {
        "MinLength": "0",
        "MaxLength": "2048"
    },
    "DeveloperOnlyAttribute": false,
    "Required": false,
    "AttributeDataType": "String",
    "Mutable": true
}
{
  "Name": "email",
  "StringAttributeConstraints": {
    "MinLength": "0",
    "MaxLength": "2048"
  },
  "DeveloperOnlyAttribute": false,
  "Required": false,
  "AttributeDataType": "String",
  "Mutable": true
},
{
  "AttributeDataType": "Boolean",
  "DeveloperOnlyAttribute": false,
  "Required": false,
  "Name": "email_verified",
  "Mutable": true
},
{
  "Name": "gender",
  "StringAttributeConstraints": {
    "MinLength": "0",
    "MaxLength": "2048"
  },
  "DeveloperOnlyAttribute": false,
  "Required": false,
  "AttributeDataType": "String",
  "Mutable": true
},
{
  "Name": "birthdate",
  "StringAttributeConstraints": {
    "MinLength": "10",
    "MaxLength": "10"
  },
  "DeveloperOnlyAttribute": false,
  "Required": false,
  "AttributeDataType": "String",
  "Mutable": true
},
{
  "Name": "zoneinfo",
  "StringAttributeConstraints": {
  "MinLength": "0",
  "MaxLength": "2048"
  },
  "DeveloperOnlyAttribute": false,
  "Required": false,
  "AttributeDataType": "String",
  "Mutable": true
}
"MinLength": "0",
"MaxLength": "2048"
},
"DeveloperOnlyAttribute": false,
"Required": false,
"AttributeDataType": "String",
"Mutable": true
},
{
"Name": "locale",
"StringAttributeConstraints": {
 "MinLength": "0",
 "MaxLength": "2048"
 },
"DeveloperOnlyAttribute": false,
"Required": false,
"AttributeDataType": "String",
"Mutable": true
},
{
"Name": "phone_number",
"StringAttributeConstraints": {
 "MinLength": "0",
 "MaxLength": "2048"
 },
"DeveloperOnlyAttribute": false,
"Required": false,
"AttributeDataType": "String",
"Mutable": true
},
{
"AttributeDataType": "Boolean",
"DeveloperOnlyAttribute": false,
"Required": false,
"Name": "phone_number_verified",
"Mutable": true
},
{
"Name": "address",
"StringAttributeConstraints": {
 "MinLength": "0",
 "MaxLength": "2048"
 },
"DeveloperOnlyAttribute": false,
To create a user pool with two required attributes
This example creates a user pool MyUserPool. The pool is configured to accept email as a username attribute. It also sets the email source address to a validated address using Amazon Simple Email Service.

Command:

```
aws cognito-idp create-user-pool --pool-name MyUserPool --username-attributes "email" --email-configuration=SourceArn="arn:aws:ses:us-east-1:111111111111:identity/jane@example.com",ReplyToEmailAddress="jane@example.com"
```

Output:

```
{
    "UserPool": {
        "SchemaAttributes": [
            {
                "Name": "sub",
                "StringAttributeConstraints": {
                    "MinLength": "1",
                    "MaxLength": "2048"
                },
                "DeveloperOnlyAttribute": false,
                "Required": true,
                "AttributeDataType": "String",
                "Mutable": false
            },
            {
                "Name": "name",
                "StringAttributeConstraints": {
                    "MinLength": "0",
                    "MaxLength": "2048"
                },
                "DeveloperOnlyAttribute": false,
                "Required": false,
                "AttributeDataType": "String",
                "Mutable": true
            },
            {
                "Name": "given_name",
                "StringAttributeConstraints": {
                    "MinLength": "0",
                    "MaxLength": "2048"
                }
            }
        ]
    }
}
```
},
    "DeveloperOnlyAttribute": false,
    "Required": false,
    "AttributeDataType": "String",
    "Mutable": true
},
{
    "Name": "family_name",
    "StringAttributeConstraints": {
        "MinLength": "0",
        "MaxLength": "2048"
    },
    "DeveloperOnlyAttribute": false,
    "Required": false,
    "AttributeDataType": "String",
    "Mutable": true
},
{
    "Name": "middle_name",
    "StringAttributeConstraints": {
        "MinLength": "0",
        "MaxLength": "2048"
    },
    "DeveloperOnlyAttribute": false,
    "Required": false,
    "AttributeDataType": "String",
    "Mutable": true
},
{
    "Name": "nickname",
    "StringAttributeConstraints": {
        "MinLength": "0",
        "MaxLength": "2048"
    },
    "DeveloperOnlyAttribute": false,
    "Required": false,
    "AttributeDataType": "String",
    "Mutable": true
},
{
    "Name": "preferred_username",
    "StringAttributeConstraints": {
        "MinLength": "0",
        "MaxLength": "2048"
    }
}
},
  "DeveloperOnlyAttribute": false,
  "Required": false,
  "AttributeDataType": "String",
  "Mutable": true
},
  {
    "Name": "profile",
    "StringAttributeConstraints": {
      "MinLength": "0",
      "MaxLength": "2048"
    },
    "DeveloperOnlyAttribute": false,
    "Required": false,
    "AttributeDataType": "String",
    "Mutable": true
  },
  {
    "Name": "picture",
    "StringAttributeConstraints": {
      "MinLength": "0",
      "MaxLength": "2048"
    },
    "DeveloperOnlyAttribute": false,
    "Required": false,
    "AttributeDataType": "String",
    "Mutable": true
  },
  {
    "Name": "website",
    "StringAttributeConstraints": {
      "MinLength": "0",
      "MaxLength": "2048"
    },
    "DeveloperOnlyAttribute": false,
    "Required": false,
    "AttributeDataType": "String",
    "Mutable": true
  },
  {
    "Name": "email",
    "StringAttributeConstraints": {
      "MinLength": "0",
      "MaxLength": "2048"
    },
    "DeveloperOnlyAttribute": false,
    "Required": false,
    "AttributeDataType": "String",
    "Mutable": true
  }
}
},
  "DeveloperOnlyAttribute": false,
  "Required": false,
  "AttributeDataType": "String",
  "Mutable": true
},
{
  "AttributeDataType": "Boolean",
  "DeveloperOnlyAttribute": false,
  "Required": false,
  "Name": "email_verified",
  "Mutable": true
},
{
  "Name": "gender",
  "StringAttributeConstraints": {
    "MinLength": "0",
    "MaxLength": "2048"
  },
  "DeveloperOnlyAttribute": false,
  "Required": false,
  "AttributeDataType": "String",
  "Mutable": true
},
{
  "Name": "birthdate",
  "StringAttributeConstraints": {
    "MinLength": "10",
    "MaxLength": "10"
  },
  "DeveloperOnlyAttribute": false,
  "Required": false,
  "AttributeDataType": "String",
  "Mutable": true
},
{
  "Name": "zoneinfo",
  "StringAttributeConstraints": {
    "MinLength": "0",
    "MaxLength": "2048"
  },
  "DeveloperOnlyAttribute": false,
  "Required": false,
  "AttributeDataType": "String",}
"Mutable": true
},
{
  "Name": "locale",
  "StringAttributeConstraints": {
    "MinLength": "0",
    "MaxLength": "2048"
  },
  "DeveloperOnlyAttribute": false,
  "Required": false,
  "AttributeDataType": "String",
  "Mutable": true
},
{
  "Name": "phone_number",
  "StringAttributeConstraints": {
    "MinLength": "0",
    "MaxLength": "2048"
  },
  "DeveloperOnlyAttribute": false,
  "Required": false,
  "AttributeDataType": "String",
  "Mutable": true
},
{
  "AttributeDataType": "Boolean",
  "DeveloperOnlyAttribute": false,
  "Required": false,
  "Name": "phone_number_verified",
  "Mutable": true
},
{
  "Name": "address",
  "StringAttributeConstraints": {
    "MinLength": "0",
    "MaxLength": "2048"
  },
  "DeveloperOnlyAttribute": false,
  "Required": false,
  "AttributeDataType": "String",
  "Mutable": true
},
{
  "Name": "updated_at",

• For API details, see CreateUserPool in AWS CLI Command Reference.
Delete a user

The following code example shows how to delete an Amazon Cognito user.

AWS CLI

To delete a user

This example deletes a user.

Command:

```bash
aws cognito-idp delete-user --access-token ACCESS_TOKEN
```

- For API details, see [DeleteUser](#) in AWS CLI Command Reference.

Get information about a user

The following code example shows how to get information about an Amazon Cognito user.

AWS CLI

To get a user

This example gets information about username jane@example.com.

Command:

```bash
aws cognito-idp admin-get-user --user-pool-id us-west-2_aaaaaaaaa --username jane@example.com
```

Output:

```json
{
    "Username": "4320de44-2322-4620-999b-5e2e1c8df013",
    "Enabled": true,
    "UserStatus": "FORCE_CHANGE_PASSWORD",
    "UserCreateDate": 1548108509.537,
    "UserAttributes": [
        {
            "Name": "sub",
            "Value": "4320de44-2322-4620-999b-5e2e1c8df013"
        }
    ]
}
```
For API details, see AdminGetUser in AWS CLI Command Reference.

List the user pools

The following code example shows how to list the Amazon Cognito user pools.

AWS CLI

To list user pools

This example lists up to 20 user pools.

Command:

```
aws cognito-idp list-user-pools --max-results 20
```

Output:

```
{
    "UserPools": [
    
```
• For API details, see `ListUserPools` in *AWS CLI Command Reference*.

**List users**

The following code example shows how to list Amazon Cognito users.

**AWS CLI**

**To list users**

This example lists up to 20 users.

Command:

```
aws cognito-idp list-users --user-pool-id us-west-2_aaaaaaaa --limit 20
```

Output:

```
{
    "Users": [
        {
            "Username": "22704aa3-fc10-479a-97eb-2af5806bd327",
            "Enabled": true,
            "UserStatus": "FORCE_CHANGE_PASSWORD",
            "UserCreateDate": 1548089817.683,
            "UserLastModifiedDate": 1548089817.683,
            "Attributes": [
                {
                    "Name": "sub",
                    "Value": "22704aa3-fc10-479a-97eb-2af5806bd327"
                },
                {
                    "Name": "email_verified",
                    "Value": "true"
                }
            ]
        }
    ]
}
```
Resend a confirmation code

The following code example shows how to resend an Amazon Cognito confirmation code.

AWS CLI

**To resend a confirmation code**

The following `resend-confirmation-code` example sends a confirmation code to the user jane.

```
aws cognito-idp resend-confirmation-code \
   --client-id 12a3b456c7de890f11g123hijk \
   --username jane
```

Output:

```
{
   "CodeDeliveryDetails": {
      "Destination": "j***@e***.com",
      "DeliveryMedium": "EMAIL",
      "AttributeName": "email"
   }
}
```

For more information, see [Signing up and confirming user accounts](#) in the Amazon Cognito Developer Guide.

- For API details, see [ResendConfirmationCode](#) in AWS CLI Command Reference.
Respond to SRP authentication challenges

The following code example shows how to respond to Amazon Cognito SRP authentication challenges.

AWS CLI

To respond to an authorization challenge

This example responds to an authorization challenge initiated with initiate-auth. It is a response to the NEW_PASSWORD_REQUIRED challenge. It sets a password for user jane@example.com.

Command:

```bash
aws cognito-idp respond-to-auth-challenge --client-id 3n4b5urk1ft4fl3mg5e62d9ado
--challenge-name NEW_PASSWORD_REQUIRED --challenge-responses
USERNAME=jane@example.com,NEW_PASSWORD="password" --session "SESSION_TOKEN"
```

Output:

```json
{
    "ChallengeParameters": {},
    "AuthenticationResult": {
        "AccessToken": "ACCESS_TOKEN",
        "ExpiresIn": 3600,
        "TokenType": "Bearer",
        "RefreshToken": "REFRESH_TOKEN",
        "IdToken": "ID_TOKEN",
        "NewDeviceMetadata": {
            "DeviceKey": "us-west-2_fec070d2-fa88-424a-8ec8-b26d7198eb23",
            "DeviceGroupKey": "-wt2ha1Zd"
        }
    }
}
```

- For API details, see [RespondToAuthChallenge](http://awscli.amazonaws.com/%23RespondToAuthChallenge) in [AWS CLI Command Reference](http://awscli.amazonaws.com/%23AWSCLICommandReference).

Sign up a user

The following code example shows how to sign up a user with Amazon Cognito.
AWS CLI

To sign up a user

This example signs up jane@example.com.

Command:

```bash
aws cognito-idp sign-up --client-id 3n4b5urk1ft4f13mg5e62d9ado --username jane@example.com --password PASSWORD --user-attributes Name="email",Value="jane@example.com" Name="name",Value="Jane"
```

Output:

```json
{
   "UserConfirmed": false,
   "UserSub": "e04d60a6-45dc-441c-a40b-e25a787d4862"
}
```

For API details, see `SignUp` in *AWS CLI Command Reference*.

Start authentication with administrator credentials

The following code example shows how to start authentication with Amazon Cognito and administrator credentials.

AWS CLI

To initiate authorization

This example initiates authorization using the ADMIN_NO_SRP_AUTH flow for username jane@example.com.

The client must have sign-in API for server-based authentication (ADMIN_NO_SRP_AUTH) enabled.

Use the session information in the return value to call admin-respond-to-auth-challenge.

Command:
aws cognito-idp admin-initiate-auth --user-pool-id us-west-2_aaaaaaaaa --client-id 3n4b5urk1ft4fl3mg5e62d9ado --auth-flow ADMIN_NO_SRP_AUTH --auth-parameters USERNAME=jane@example.com, PASSWORD=password

Output:

```json
{
  "ChallengeName": "NEW_PASSWORD_REQUIRED",
  "Session": "SESSION",
  "ChallengeParameters": {
    "USER_ID_FOR_SRP": "84514837-dc06-4af1-abff-f3c109334894",
    "requiredAttributes": "[]",
    "userAttributes": "{\"email\":\"jane@example.com\",\"phone_number\":\"+01xxx5550100\",\"email\":\"jane@example.com\"}
  }
}
```

- For API details, see [AdminInitiateAuth](https://docs.aws.amazon.com/cli/latest/reference/cognito-idp/admin-initiate-auth.html) in *AWS CLI Command Reference*.

### add-custom-attributes

The following code example shows how to use add-custom-attributes.

**AWS CLI**

1. **To add a custom attribute**

   This example adds a custom attribute CustomAttr1 to a user pool. It is a String type, and requires a minimum of 1 character and a maximum of 15. It is not required.

   **Command:**

   ```bash
   aws cognito-idp add-custom-attributes --user-pool-id us-west-2_aaaaaaaaa --custom-attributes Name="CustomAttr1",AttributeDataType="String",DeveloperOnlyAttribute=false,Required=false,StringAttributeConstraints="MinLength=1,MaxLength=15"
   ```

   - For API details, see [AddCustomAttributes](https://docs.aws.amazon.com/cli/latest/reference/cognito-idp/add-custom-attributes.html) in *AWS CLI Command Reference*.

### admim-disable-user

The following code example shows how to use admim-disable-user.

Actions and scenarios
AWS CLI

To disable a user

This example disables user jane@example.com.

Command:

```
aws cognito-idp admin-disable-user --user-pool-id us-west-2_aaaaaaaaa --username jane@example.com
```

- For API details, see AdmimDisableUser in AWS CLI Command Reference.

admim-enable-user

The following code example shows how to use admim-enable-user.

AWS CLI

To enable a user

This example enables username jane@example.com.

Command:

```
aws cognito-idp admin-enable-user --user-pool-id us-west-2_aaaaaaaaa --username jane@example.com
```

- For API details, see AdmimEnableUser in AWS CLI Command Reference.

admin-add-user-to-group

The following code example shows how to use admin-add-user-to-group.

AWS CLI

To add a user to a group

This example adds user Jane to group MyGroup.

Command:
aws cognito-idp admin-add-user-to-group --user-pool-id us-west-2_aaaaaaaaa --username Jane --group-name MyGroup

- For API details, see AdminAddUserToGroup in AWS CLI Command Reference.

admin-confirm-sign-up

The following code example shows how to use admin-confirm-sign-up.

AWS CLI

To confirm user registration

This example confirms user jane@example.com.

Command:

aws cognito-idp admin-confirm-sign-up --user-pool-id us-west-2_aaaaaaaaa --username jane@example.com

- For API details, see AdminConfirmSignUp in AWS CLI Command Reference.

admin-create-user

The following code example shows how to use admin-create-user.

AWS CLI

To create a user

The following admin-create-user example creates a user with the specified settings email address and phone number.

aws cognito-idp admin-create-user
  --user-pool-id us-west-2_aaaaaaaaa
  --username diego
  --user-attributes Name=email,Value=diego@example.com
  Name=phone_number,Value="+15555551212"
  --message-action SUPPRESS

Output:
For API details, see AdminCreateUser in AWS CLI Command Reference.

**admin-delete-user**

The following code example shows how to use admin-delete-user.

**AWS CLI**

**To delete a user**

This example deletes a user.

**Command:**

```
aws cognito-idp admin-delete-user --user-pool-id us-west-2_aaaaaaaaa --username diego@example.com
```

For API details, see AdminDeleteUser in AWS CLI Command Reference.
admin-delete-user-attributes

The following code example shows how to use `admin-delete-user-attributes`.

**AWS CLI**

**To delete a user attribute**

This example deletes a custom attribute `CustomAttr1` for user `diego@example.com`.

Command:

```bash
aws cognito-idp admin-delete-user-attributes --user-pool-id us-west-2_aaaaaaaaa --username diego@example.com --user-attribute-names "custom:CustomAttr1"
```

- For API details, see [AdminDeleteUserAttributes](#) in *AWS CLI Command Reference*.

admin-forget-device

The following code example shows how to use `admin-forget-device`.

**AWS CLI**

**To forget a device**

This example forgets device for username `jane@example.com`.

Command:

```bash
aws cognito-idp admin-forget-device --user-pool-id us-west-2_aaaaaaaaa --username jane@example.com --device-key us-west-2_abcd_1234-5678
```

- For API details, see [AdminForgetDevice](#) in *AWS CLI Command Reference*.

admin-get-device

The following code example shows how to use `admin-get-device`.

**AWS CLI**

**To get a device**
This example gets a device for username jane@example.com

Command:

```bash
aws cognito-idp admin-get-device --user-pool-id us-west-2_aaaaaaaaa --username jane@example.com --device-key us-west-2_abcd_1234-5678
```

- For API details, see [AdminGetDevice](https://docs.aws.amazon.com/cli/latest/reference/cognito-idp/admin-get-device.html) in *AWS CLI Command Reference*.

**admin-list-devices**

The following code example shows how to use admin-list-devices.

**AWS CLI**

**To list devices for a user**

This example lists devices for username jane@example.com.

Command:

```bash
aws cognito-idp admin-list-devices --user-pool-id us-west-2_aaaaaaaaa --username jane@example.com
```

- For API details, see [AdminListDevices](https://docs.aws.amazon.com/cli/latest/reference/cognito-idp/admin-list-devices.html) in *AWS CLI Command Reference*.

**admin-list-groups-for-user**

The following code example shows how to use admin-list-groups-for-user.

**AWS CLI**

**To list groups for a user**

This example lists groups for username jane@example.com.

Command:

```bash
aws cognito-idp admin-list-groups-for-user --user-pool-id us-west-2_aaaaaaaaa --username diego@example.com
```
Output:

```
{
  "Groups": [
    {
      "Description": "Sample group",
      "Precedence": 1,
      "LastModifiedDate": 1548097827.125,
      "RoleArn": "arn:aws:iam::1111111111:role/SampleRole",
      "GroupName": "SampleGroup",
      "UserPoolId": "us-west-2_aaaaaaaaa",
      "CreationDate": 1548097827.125
    }
  ]
}
```

- For API details, see `AdminListGroupsForUser` in *AWS CLI Command Reference*.

**admin-list-user-auth-events**

The following code example shows how to use `admin-list-user-auth-events`.

**AWS CLI**

**To list authorization events for a user**

This example lists authorization events for username diego@example.com.

Command:

```
aws cognito-idp admin-list-user-auth-events --user-pool-id us-west-2_aaaaaaaaa --username diego@example.com
```

- For API details, see `AdminListUserAuthEvents` in *AWS CLI Command Reference*.

**admin-remove-user-from-group**

The following code example shows how to use `admin-remove-user-from-group`.

**AWS CLI**

**To remove a user from a group**
This example removes jane@example.com from SampleGroup.

Command:

```bash
aws cognito-idp admin-remove-user-from-group --user-pool-id us-west-2_aaaaaaaaa --username jane@example.com --group-name SampleGroup
```

- For API details, see `AdminRemoveUserFromGroup` in *AWS CLI Command Reference*.

**admin-reset-user-password**

The following code example shows how to use `admin-reset-user-password`.

**AWS CLI**

**To reset a user password**

This example resets the password for diego@example.com.

Command:

```bash
aws cognito-idp admin-reset-user-password --user-pool-id us-west-2_aaaaaaaaa --username diego@example.com
```

- For API details, see `AdminResetUserPassword` in *AWS CLI Command Reference*.

**admin-set-user-mfa-preference**

The following code example shows how to use `admin-set-user-mfa-preference`.

**AWS CLI**

**To set the user MFA preference**

This example sets the SMS MFA preference for username diego@example.com.

Command:

```bash
aws cognito-idp admin-set-user-mfa-preference --user-pool-id us-west-2_aaaaaaaaa --username diego@example.com --sms-mfa-settings Enabled=false,PreferredMfa=false
```

- For API details, see `AdminSetUserMfaPreference` in *AWS CLI Command Reference*. 

admin-set-user-settings

The following code example shows how to use `admin-set-user-settings`.

**AWS CLI**

**To set user settings**

This example sets the MFA delivery preference for username diego@example.com to EMAIL.

Command:

```
aws cognito-idp admin-set-user-settings --user-pool-id us-west-2_aaaaaaaaa --username diego@example.com --mfa-options DeliveryMedium=EMAIL
```

- For API details, see [AdminSetUserSettings](#) in **AWS CLI Command Reference**.

admin-update-auth-event-feedback

The following code example shows how to use `admin-update-auth-event-feedback`.

**AWS CLI**

**To provide feedback for an authorization event**

This example sets the feedback value for an authorization event identified by event-id to Valid.

Command:

```
aws cognito-idp admin-update-auth-event-feedback --user-pool-id us-west-2_aaaaaaaaa --username diego@example.com --event-id c2c2cf89-c0d3-482d-aba6-99d78a5b0bfe --feedback-value Valid
```

- For API details, see [AdminUpdateAuthEventFeedback](#) in **AWS CLI Command Reference**.

admin-update-device-status

The following code example shows how to use `admin-update-device-status`.

**AWS CLI**

**To update device status**
This example sets the device remembered status for the device identified by device-key to not_remembered.

Command:

```
aws cognito-idp admin-update-device-status --user-pool-id us-west-2_aaaaaaaa --username diego@example.com --device-key xxxx --device-remembered-status not_remembered
```

- For API details, see AdminUpdateDeviceStatus in AWS CLI Command Reference.

admin-update-user-attributes

The following code example shows how to use admin-update-user-attributes.

AWS CLI

To update user attributes

This example updates a custom user attribute CustomAttr1 for user diego@example.com.

Command:

```
aws cognito-idp admin-update-user-attributes --user-pool-id us-west-2_aaaaaaaa --username diego@example.com --user-attributes Name="custom:CustomAttr1",Value="Purple"
```

- For API details, see AdminUpdateUserAttributes in AWS CLI Command Reference.

change-password

The following code example shows how to use change-password.

AWS CLI

To change a password

This example changes a password.

Command:
aws cognito-idp change-password --previous-password OldPassword --proposed-password NewPassword --access-token ACCESS_TOKEN

- For API details, see ChangePassword in AWS CLI Command Reference.

confirm-forgot-password

The following code example shows how to use confirm-forgot-password.

AWS CLI

To confirm a forgotten password

This example confirms a forgotten password for username diego@example.com.

Command:

```bash
aws cognito-idp confirm-forgot-password --client-id 3n4b5urk1ft4fl3mg5e62d9ado --username=diego@example.com --password PASSWORD --confirmation-code CONF_CODE
```

- For API details, see ConfirmForgotPassword in AWS CLI Command Reference.

create-group

The following code example shows how to use create-group.

AWS CLI

To create a group

This example creates a group with a description.

Command:

```bash
aws cognito-idp create-group --user-pool-id us-west-2_aaaaaaaaa --group-name MyNewGroup --description "New group."
```

Output:

```json
{
}
```
"Group": {
    "GroupName": "MyNewGroup",
    "UserPoolId": "us-west-2aaaaaaaaa",
    "Description": "New group.",
    "LastModifiedDate": 1548270073.795,
    "CreationDate": 1548270073.795
}
}

To create a group with a role and precedence

This example creates a group with a description. It also includes a role and precedence.

Command:

```bash
aws cognito-idp create-group --user-pool-id us-west-2aaaaaaaaa --group-name MyNewGroupWithRole --description "New group with a role." --role-arn arn:aws:iam::111111111111:role/MyNewGroupRole --precedence 2
```

Output:

```json
{
    "Group": {
        "GroupName": "MyNewGroupWithRole",
        "UserPoolId": "us-west-2aaaaaaaaa",
        "Description": "New group with a role.",
        "RoleArn": "arn:aws:iam::111111111111:role/MyNewGroupRole",
        "Precedence": 2,
        "LastModifiedDate": 1548270211.761,
        "CreationDate": 1548270211.761
    }
}
```

- For API details, see `CreateGroup` in *AWS CLI Command Reference*.

### create-user-import-job

The following code example shows how to use `create-user-import-job`.

### AWS CLI

To create a user import job
This example creates a user import job named MyImportJob.

For more information about importing users, see Importing Users into User Pools From a CSV File.

Command:

```
aws cognito-idp create-user-import-job --user-pool-id us-west-2_aaaaaaaaa --
job-name MyImportJob --cloud-watch-logs-role-arn arn:aws:iam::111111111111:role/
CognitoCloudWatchLogsRole
```

Output:

```
{
    "UserImportJob": {
        "JobName": "MyImportJob",
        "JobId": "import-qDctZfRh",
        "UserPoolId": "us-west-2_aaaaaaaaa",
        "PreSignedUrl": "PRE_SIGNED_URL",
        "CreationDate": 1548271795.471,
        "Status": "Created",
        "CloudWatchLogsRoleArn": "arn:aws:iam::111111111111:role/
CognitoCloudWatchLogsRole",
        "ImportedUsers": 0,
        "SkippedUsers": 0,
        "FailedUsers": 0
    }
}
```

Upload the .csv file with curl using the pre-signed URL:

Command:

```
curl -v -T "PATH_TO_CSV_FILE" -H "x-amz-server-side-encryption:aws:kms"
"PRE_SIGNED_URL"
```

- For API details, see CreateUserImportJob in AWS CLI Command Reference.

create-user-pool-client

The following code example shows how to use create-user-pool-client.
AWS CLI

To create a user pool client

This example creates a new user pool client with two explicit authorization flows: USER_PASSWORD_AUTH and ADMIN_NO_SRP_AUTH.

Command:

```
aws cognito-idp create-user-pool-client --user-pool-id us-west-2_aaaaaaaaa
--client-name MyNewClient --no-generate-secret --explicit-auth-flows
"USER_PASSWORD_AUTH" "ADMIN_NO_SRP_AUTH"
```

Output:

```
{
  "UserPoolClient": {
    "UserPoolId": "us-west-2_aaaaaaaaa",
    "ClientName": "MyNewClient",
    "ClientId": "6p3bs000no6a4ue1idruvd05ad",
    "LastModifiedDate": 1548697449.497,
    "CreationDate": 1548697449.497,
    "RefreshTokenValidity": 30,
    "ExplicitAuthFlows": [
      "USER_PASSWORD_AUTH",
      "ADMIN_NO_SRP_AUTH"
    ],
    "AllowedOAuthFlowsUserPoolClient": false
  }
}
```

• For API details, see CreateUserPoolClient in AWS CLI Command Reference.

create-user-pool-domain

The following code example shows how to use create-user-pool-domain.

AWS CLI

To create a user pool domain

This example creates a new user pool domain with two explicit authorization flows: USER_PASSWORD_AUTH and ADMIN_NO_SRP_AUTH.
Command:

```
aws cognito-idp create-user-pool-domain --user-pool-id us-west-2_aaaaaaaa --domain my-new-domain
```

- For API details, see CreateUserPoolDomain in AWS CLI Command Reference.

**delete-group**

The following code example shows how to use delete-group.

**AWS CLI**

**To delete a group**

This example deletes a group.

Command:

```
aws cognito-idp delete-group --user-pool-id us-west-2_aaaaaaaa --group-name MyGroupName
```

- For API details, see DeleteGroup in AWS CLI Command Reference.

**delete-identity-provider**

The following code example shows how to use delete-identity-provider.

**AWS CLI**

**To delete an identity provider**

This example deletes an identity provider.

Command:

```
aws cognito-idp delete-identity-provider --user-pool-id us-west-2_aaaaaaaa --provider-name Facebook
```

- For API details, see DeleteIdentityProvider in AWS CLI Command Reference.
**delete-resource-server**

The following code example shows how to use `delete-resource-server`.

**AWS CLI**

To delete a resource server

This example deletes a resource server named weather.example.com.

Command:

```bash
aws cognito-idp delete-resource-server --user-pool-id us-west-2_aaaaaaaaaa --identifier weather.example.com
```

• For API details, see [DeleteResourceServer](#) in *AWS CLI Command Reference*.

**delete-user-attributes**

The following code example shows how to use `delete-user-attributes`.

**AWS CLI**

To delete user attributes

This example deletes the user attribute "FAVORITE_ANIMAL".

Command:

```bash
aws cognito-idp delete-user-attributes --access-token ACCESS_TOKEN --user-attribute-names "FAVORITE_ANIMAL"
```

• For API details, see [DeleteUserAttributes](#) in *AWS CLI Command Reference*.

**delete-user-pool**

The following code example shows how to use `delete-user-pool`.

**AWS CLI**

To delete a user pool
This example deletes a user pool using the user pool id, us-west-2_aaaaaaaaa.

Command:

```bash
aws cognito-idp delete-user-pool --user-pool-id us-west-2_aaaaaaaaa
```

- For API details, see DeleteUserPool in AWS CLI Command Reference.

**delete-user-pool-client**

The following code example shows how to use delete-user-pool-client.

**AWS CLI**

**To delete a user pool client**

This example deletes a user pool client.

Command:

```bash
aws cognito-idp delete-user-pool-client --user-pool-id us-west-2_aaaaaaaaa --client-id 38fjsnc484p94kpqsnet7mpld0
```

- For API details, see DeleteUserPoolClient in AWS CLI Command Reference.

**delete-user-pool-domain**

The following code example shows how to use delete-user-pool-domain.

**AWS CLI**

**To delete a user pool domain**

The following delete-user-pool-domain example deletes a user pool domain named my-domain

```bash
aws cognito-idp delete-user-pool-domain \
  --user-pool-id us-west-2_aaaaaaaaa \
  --domain my-domain
```
For API details, see DeleteUserPoolDomain in AWS CLI Command Reference.

**describe-identity-provider**

The following code example shows how to use describe-identity-provider.

**AWS CLI**

**To describe an identity provider**

This example describes an identity provider named Facebook.

**Command:**

```
aws cognito-idp describe-identity-provider --user-pool-id us-west-2_aaaaaaaa --provider-name Facebook
```

**Output:**

```
{
   "IdentityProvider": {
      "UserPoolId": "us-west-2_aaaaaaaa",
      "ProviderName": "Facebook",
      "ProviderType": "Facebook",
      "ProviderDetails": {
         "attributes_url": "https://graph.facebook.com/me?fields=",
         "attributes_url_add_attributes": "true",
         "authorize_scopes": "myscope",
         "authorize_url": "https://www.facebook.com/v2.9/dialog/oauth",
         "client_id": "11111",
         "client_secret": "11111",
         "token_request_method": "GET",
         "token_url": "https://graph.facebook.com/v2.9/oauth/access_token"
      },
      "AttributeMapping": {
         "username": "id"
      },
      "IdpIdentifiers": [],
      "LastModifiedDate": 1548105901.736,
      "CreationDate": 1548105901.736
   }
}
```
For API details, see DescribeIdentityProvider in AWS CLI Command Reference.

describe-resource-server

The following code example shows how to use describe-resource-server.

AWS CLI

To describe a resource server

This example describes the resource server weather.example.com.

Command:

```
aws cognito-idp describe-resource-server --user-pool-id us-west-2_aaaaaaaaa --identifier weather.example.com
```

Output:

```
{
    "ResourceServer": {
        "UserPoolId": "us-west-2_aaaaaaaaa",
        "Identifier": "weather.example.com",
        "Name": "Weather",
        "Scopes": [
            {
                "ScopeName": "weather.update",
                "ScopeDescription": "Update weather forecast"
            },
            {
                "ScopeName": "weather.read",
                "ScopeDescription": "Read weather forecasts"
            },
            {
                "ScopeName": "weather.delete",
                "ScopeDescription": "Delete a weather forecast"
            }
        ]
    }
}
```

For API details, see DescribeResourceServer in AWS CLI Command Reference.
describe-risk-configuration

The following code example shows how to use describe-risk-configuration.

AWS CLI

To describe a risk configuration

This example describes the risk configuration associated with pool us-west-2_aaaaaaaaa.

Command:

```bash
aws cognito-idp describe-risk-configuration --user-pool-id us-west-2_aaaaaaaaa
```

Output:

```json
{
    "RiskConfiguration": {
        "UserPoolId": "us-west-2_aaaaaaaaa",
        "CompromisedCredentialsRiskConfiguration": {
            "EventFilter": [
                "SIGN_IN",
                "SIGN_UP",
                "PASSWORD_CHANGE"
            ],
            "Actions": {
                "EventAction": "BLOCK"
            }
        },
        "AccountTakeoverRiskConfiguration": {
            "NotifyConfiguration": {
                "From": "diego@example.com",
                "ReplyTo": "diego@example.com",
                "SourceArn": "arn:aws:ses:us-east-1:111111111111:identity/diego@example.com",
                "BlockEmail": {
                    "Subject": "Blocked sign-in attempt",
                    "HtmlBody": "\n                    <p>We blocked an unrecognized sign-in to your account with this information: 
                    <ul>
                        <li>Time: {login-time}</li>
                        <li>Device: {device-name}</li>
                        <li>Location: {city}, {country}</li>
                    </ul>
                    If this sign-in was not by you, you should change your password and notify us by clicking on <a href={one-click-link-invalid}>this link</a>
                    </p>"
                }
            }
        }
    }
}
```
If this sign-in was by you, you can follow <a href="{one-click-link-valid}">this link</a> to let us know.

"TextBody": "We blocked an unrecognized sign-in to your account with this information:
Time: {login-time}
Device: {device-name}
Location: {city}, {country}
If this sign-in was not by you, you should change your password and notify us by clicking on {one-click-link-invalid}
If this sign-in was by you, you can follow {one-click-link-valid} to let us know"},

"NoActionEmail": {
  "Subject": "New sign-in attempt",
  "HtmlBody": "<!DOCTYPE html>
<html>
<head>
	<title>HTML email context</title>
	<meta charset="utf-8">
</head>
<body>
<pre>We observed an unrecognized sign-in to your account with this information:
<ul>
<li>Time: {login-time}</li>
<li>Device: {device-name}</li>
<li>Location: {city}, {country}</li>
</ul>
If this sign-in was not by you, you should change your password and notify us by clicking on <a href="{one-click-link-invalid}" this link</a>
If this sign-in was by you, you can follow <a href="{one-click-link-valid}" this link</a> to let us know</pre>
</body>
</html>

"TextBody": "We observed an unrecognized sign-in to your account with this information:
Time: {login-time}
Device: {device-name}
Location: {city}, {country}
If this sign-in was not by you, you should change your password and notify us by clicking on {one-click-link-invalid}
If this sign-in was by you, you can follow {one-click-link-valid} to let us know"},

"MfaEmail": {
  "Subject": "New sign-in attempt",
  "HtmlBody": "<!DOCTYPE html>
<html>
<head>
	<title>HTML email context</title>
	<meta charset="utf-8">
</head>
<body>
<pre>We required you to use multi-factor authentication for the following sign-in attempt:
<ul>
<li>Time: {login-time}</li>
<li>Device: {device-name}</li>
<li>Location: {city}, {country}</li>
</ul>
If this sign-in was not by you, you should change your password and notify us by clicking on {one-click-link-invalid}
If this sign-in was by you, you can follow {one-click-link-valid} to let us know</pre>
</body>
</html>

"TextBody": "We required you to use multi-factor authentication for the following sign-in attempt:
Time: {login-time}
Device: {device-name}
Location: {city}, {country}
If this sign-in was not by you, you should change your password and notify us by clicking on {one-click-link-invalid}
If this sign-in was by you, you can follow {one-click-link-valid} to let us know"},

"Actions": {
  "LowAction": {
    "Notify": true,
describe-user-import-job

The following code example shows how to use describe-user-import-job.

AWS CLI

To describe a user import job

This example describes a user input job.

For more information about importing users, see Importing Users into User Pools From a CSV File.

Command:

```
aws cognito-idp describe-user-import-job --user-pool-id us-west-2_aaaaaaaa --job-id import-TZqNQvDRnW
```

Output:

```
{
   "UserImportJob": {
      "JobName": "import-Test1",
      "JobId": "import-TZqNQvDRnW",
      "UserPoolId": "us-west-2_aaaaaaaa",
      "PreSignedUrl": "PRE_SIGNED URL",
   }
}
```
For API details, see [DescribeUserImportJob](#) in [AWS CLI Command Reference](#).

describe-user-pool

The following code example shows how to use describe-user-pool.

**AWS CLI**

**To describe a user pool**

This example describes a user pool with the user pool id us-west-2_aaaaaaaaa.

**Command:**

```bash
aws cognito-idp describe-user-pool --user-pool-id us-west-2_aaaaaaaaa
```

**Output:**

```
{
    "UserPool": {
        "SmsVerificationMessage": "Your verification code is ####. ",
        "SchemaAttributes": [
            {
                "Name": "sub",
                "StringAttributeConstraints": {
                    "MinLength": "1",
                    "MaxLength": "2048"
                },
                "DeveloperOnlyAttribute": false,
                "Required": true,
                "AttributeDataType": "String",
                "Mutable": false
            }
        }
    }
}
```
Actions and scenarios

```json
{
    "Name": "name",
    "StringAttributeConstraints": {
        "MinLength": "0",
        "MaxLength": "2048"
    },
    "DeveloperOnlyAttribute": false,
    "Required": false,
    "AttributeDataType": "String",
    "Mutable": true
},
{
    "Name": "given_name",
    "StringAttributeConstraints": {
        "MinLength": "0",
        "MaxLength": "2048"
    },
    "DeveloperOnlyAttribute": false,
    "Required": false,
    "AttributeDataType": "String",
    "Mutable": true
},
{
    "Name": "family_name",
    "StringAttributeConstraints": {
        "MinLength": "0",
        "MaxLength": "2048"
    },
    "DeveloperOnlyAttribute": false,
    "Required": false,
    "AttributeDataType": "String",
    "Mutable": true
},
{
    "Name": "middle_name",
    "StringAttributeConstraints": {
        "MinLength": "0",
        "MaxLength": "2048"
    },
    "DeveloperOnlyAttribute": false,
    "Required": false,
    "AttributeDataType": "String",
    "Mutable": true
}
{
    "Name": "nickname",
    "StringAttributeConstraints": {
        "MinLength": "0",
        "MaxLength": "2048"
    },
    "DeveloperOnlyAttribute": false,
    "Required": false,
    "AttributeDataType": "String",
    "Mutable": true
},
{
    "Name": "preferred_username",
    "StringAttributeConstraints": {
        "MinLength": "0",
        "MaxLength": "2048"
    },
    "DeveloperOnlyAttribute": false,
    "Required": false,
    "AttributeDataType": "String",
    "Mutable": true
},
{
    "Name": "profile",
    "StringAttributeConstraints": {
        "MinLength": "0",
        "MaxLength": "2048"
    },
    "DeveloperOnlyAttribute": false,
    "Required": false,
    "AttributeDataType": "String",
    "Mutable": true
},
{
    "Name": "picture",
    "StringAttributeConstraints": {
        "MinLength": "0",
        "MaxLength": "2048"
    },
    "DeveloperOnlyAttribute": false,
    "Required": false,
    "AttributeDataType": "String",
    "Mutable": true
}
{  "Name": "website",  "StringAttributeConstraints": {    "MinLength": "0",    "MaxLength": "2048"  },  "DeveloperOnlyAttribute": false,  "Required": false,  "AttributeDataType": "String",  "Mutable": true},
{
  "Name": "email",  "StringAttributeConstraints": {    "MinLength": "0",    "MaxLength": "2048"  },  "DeveloperOnlyAttribute": false,  "Required": true,  "AttributeDataType": "String",  "Mutable": true},
{
  "AttributeDataType": "Boolean",  "DeveloperOnlyAttribute": false,  "Required": false,  "Name": "email_verified",  "Mutable": true},
{
  "Name": "gender",  "StringAttributeConstraints": {    "MinLength": "0",    "MaxLength": "2048"  },  "DeveloperOnlyAttribute": false,  "Required": false,  "AttributeDataType": "String",  "Mutable": true},
{
  "Name": "birthdate",  "StringAttributeConstraints": {    "MinLength": "10",      

"MaxLength": "10",
],
"DeveloperOnlyAttribute": false,
"Required": false,
"AttributeDataType": "String",
"Mutable": true
},
{
"Name": "zoneinfo",
"StringAttributeConstraints": {
   "MinLength": "0",
   "MaxLength": "2048"
},
"DeveloperOnlyAttribute": false,
"Required": false,
"AttributeDataType": "String",
"Mutable": true
},
{
   "Name": "locale",
   "StringAttributeConstraints": {
      "MinLength": "0",
      "MaxLength": "2048"
   },
   "DeveloperOnlyAttribute": false,
   "Required": false,
   "AttributeDataType": "String",
   "Mutable": true
},
{
   "Name": "phone_number",
   "StringAttributeConstraints": {
      "MinLength": "0",
      "MaxLength": "2048"
   },
   "DeveloperOnlyAttribute": false,
   "Required": false,
   "AttributeDataType": "String",
   "Mutable": true
},
{
   "AttributeDataType": "Boolean",
   "DeveloperOnlyAttribute": false,
   "Required": false,
   "AttributeDataType": "String",
   "Mutable": true
},

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"Name": "phone_number_verified",
"Mutable": true
},
{
  "Name": "address",
  "StringAttributeConstraints": {
    "MinLength": "0",
    "MaxLength": "2048"
  },
  "DeveloperOnlyAttribute": false,
  "Required": false,
  "AttributeDataType": "String",
  "Mutable": true
},
{
  "Name": "updated_at",
  "NumberAttributeConstraints": {
    "MinValue": "0"
  },
  "DeveloperOnlyAttribute": false,
  "Required": false,
  "AttributeDataType": "Number",
  "Mutable": true
}
],
"EmailVerificationSubject": "Your verification code",
"MfaConfiguration": "OFF",
"Name": "MyUserPool",
"EmailVerificationMessage": "Your verification code is {####}. ",
"SmsAuthenticationMessage": "Your authentication code is {####}. ",
"LastModifiedDate": 1547763720.822,
"AdminCreateUserConfig": {
  "InviteMessageTemplate": {
    "EmailMessage": "Your username is {username} and temporary password is {####}. ",
    "EmailSubject": "Your temporary password",
    "SMSMessage": "Your username is {username} and temporary password is {####}. ",
  },
  "UnusedAccountValidityDays": 7,
  "AllowAdminCreateUserOnly": false
},
"EmailConfiguration": {
  "ReplyToEmailAddress": "myemail@mydomain.com"
For API details, see `DescribeUserPool` in *AWS CLI Command Reference*.

**describe-user-pool-client**

The following code example shows how to use `describe-user-pool-client`.

**AWS CLI**

To describe a user pool client

This example describes a user pool client.

Command:

```bash/aws cognito-idp describe-user-pool-client --user-pool-id us-west-2_aaaaaaaa --client-id 38fjsnc484p94kpqsnet7mpld0```

• For API details, see `DescribeUserPool` in *AWS CLI Command Reference*. 


Output:

```json
{
    "UserPoolClient": {
        "UserPoolId": "us-west-2_aaaaaaaaa",
        "ClientName": "MyApp",
        "ClientId": "38fjsnc484p94kpsnet7mpl1d0",
        "ClientSecret": "CLIENT_SECRET",
        "LastModifiedDate": 1548108676.163,
        "CreationDate": 1548108676.163,
        "RefreshTokenValidity": 30,
        "ReadAttributes": [
            "address",
            "birthdate",
            "custom:CustomAttr1",
            "custom:CustomAttr2",
            "email",
            "email_verified",
            "family_name",
            "gender",
            "given_name",
            "locale",
            "middle_name",
            "name",
            "nickname",
            "phone_number",
            "phone_number_verified",
            "picture",
            "preferred_username",
            "profile",
            "updated_at",
            "website",
            "zoneinfo"
        ],
        "WriteAttributes": [
            "address",
            "birthdate",
            "custom:CustomAttr1",
            "custom:CustomAttr2",
            "email",
            "family_name",
            "gender",
            "given_name",
            "locale",
            "middle_name",
            "name",
            "nickname",
            "phone_number",
            "phone_number_verified",
            "picture",
            "preferred_username",
            "profile",
            "updated_at",
            "website",
            "zoneinfo"
        ]
    }
}
```
"middle_name",
"name",
"nickname",
"phone_number",
"picture",
"preferred_username",
"profile",
"updated_at",
"website",
"zoneinfo"
]
"ExplicitAuthFlows": [
  "ADMIN_NO_SRP_AUTH",
  "USER_PASSWORD_AUTH"
],
"AllowedOAuthFlowsUserPoolClient": false
}
}

- For API details, see `DescribeUserPoolClient` in *AWS CLI Command Reference*.

**describe-user-pool-domain**

The following code example shows how to use `describe-user-pool-domain`.

**AWS CLI**

To describe a user pool client

This example describes a user pool domain named my-domain.

Command:

```
aws cognito-idp describe-user-pool-domain --domain my-domain
```

Output:

```json
{
  "DomainDescription": {
    "UserPoolId": "us-west-2_aaaaaaaa",
    "AWSAccountId": "111111111111",
    "Domain": "my-domain",
    "S3Bucket": "aws-cognito-prod-pdx-assets",
```
• For API details, see DescribeUserPoolDomain in AWS CLI Command Reference.

forget-device

The following code example shows how to use forget-device.

AWS CLI

To forget a device

This example forgets device a device.

Command:

```bash
aws cognito-idp forget-device --device-key us-west-2_abcd_1234-5678
```

• For API details, see ForgetDevice in AWS CLI Command Reference.

forgot-password

The following code example shows how to use forgot-password.

AWS CLI

To force a password change

The following forgot-password example sends a message to jane@example.com to change their password.

```bash
aws cognito-idp forgot-password --client-id 38fjsnc484p94kpqsnet7mpld0 --username jane@example.com
```

Output:

```json
{
```
For API details, see [ForgotPassword](#) in *AWS CLI Command Reference*.

### get-csv-header

The following code example shows how to use `get-csv-header`.

**AWS CLI**

**To create a csv header**

This example creates a csv header.

For more information about importing users, see [Importing Users into User Pools From a CSV File](#).

**Command:**

```bash
aws cognito-idp get-csv-header --user-pool-id us-west-2_aaaaaaaaa
```

**Output:**

```json
{
   "UserPoolId": "us-west-2_aaaaaaaaa",
   "CSVHeader": [
      "name",
      "given_name",
      "family_name",
      "middle_name",
      "nickname",
      "preferred_username",
      "profile",
      "picture",
      "website",
      "email",
      "email_verified",
      "gender",
      ...
   ]
}
```
... Importing Users into User Pools From a CSV File: https://docs.aws.amazon.com/cognito/latest/developerguide/cognito-user-pools-using-import-tool.html

- For API details, see GetCsvHeader in AWS CLI Command Reference.

**get-group**

The following code example shows how to use get-group.

**AWS CLI**

To get information about a group

This example gets information about a group named MyGroup.

Command:

```bash
aws cognito-idp get-group --user-pool-id us-west-2_aaaaaaaa --group-name MyGroup
```

Output:

```json
{
   "Group": {
       "GroupName": "MyGroup",
       "UserPoolId": "us-west-2_aaaaaaaa",
       "Description": "A sample group.",
       "LastModifiedDate": 1548270073.795,
       "CreationDate": 1548270073.795
   }
}
```
get-signing-certificate

The following code example shows how to use get-signing-certificate.

AWS CLI

To get a signing certificate

This example gets a signing certificate for a user pool.

Command:

```
aws cognito-idp get-signing-certificate --user-pool-id us-west-2_aaaaaaaaa
```

Output:

```
{
    "Certificate": "CERTIFICATE_DATA"
}
```

For API details, see GetSigningCertificate in AWS CLI Command Reference.

get-ui-customization

The following code example shows how to use get-ui-customization.

AWS CLI

To get UI customization information

This example gets UI customization information for a user pool.

Command:

```
aws cognito-idp get-ui-customization --user-pool-id us-west-2_aaaaaaaaa
```

Output:

```
{
}
```
For API details, see [GetUiCustomization](https://aws.amazon.com/cli/) in *AWS CLI Command Reference*.

**list-user-import-jobs**

The following code example shows how to use `list-user-import-jobs`.

### AWS CLI

**To list user import jobs**

This example lists user import jobs.
For more information about importing users, see Importing Users into User Pools From a CSV File.

Command:

```bash
aws cognito-idp list-user-import-jobs --user-pool-id us-west-2_aaaaaaaaa --max-results 20
```

Output:

```json
{
    "UserImportJobs": [
        {
            "JobName": "Test2",
            "JobId": "import-d00nwGA3mV",
            "UserPoolId": "us-west-2_aaaaaaaaa",
            "PreSignedUrl": "PRE_SIGNED_URL",
            "CreationDate": 1548272793.069,
            "Status": "Created",
            "CloudWatchLogsRoleArn": "arn:aws:iam::111111111111:role/
CognitoCloudWatchLogsRole",
            "ImportedUsers": 0,
            "SkippedUsers": 0,
            "FailedUsers": 0
        },
        {
            "JobName": "Test1",
            "JobId": "import-q0Dct2fRh",
            "UserPoolId": "us-west-2_aaaaaaaaa",
            "PreSignedUrl": "PRE_SIGNED_URL",
            "CreationDate": 1548271795.471,
            "Status": "Created",
            "CloudWatchLogsRoleArn": "arn:aws:iam::111111111111:role/
CognitoCloudWatchLogsRole",
            "ImportedUsers": 0,
            "SkippedUsers": 0,
            "FailedUsers": 0
        },
        {
            "JobName": "import-Test1",
            "JobId": "import-TZqNvDRnW",
            "UserPoolId": "us-west-2_aaaaaaaaa",
            "PreSignedUrl": "PRE_SIGNED_URL",
            "CreationDate": 1548272793.069,
            "Status": "Created",
            "CloudWatchLogsRoleArn": "arn:aws:iam::111111111111:role/
CognitoCloudWatchLogsRole",
            "ImportedUsers": 0,
            "SkippedUsers": 0,
            "FailedUsers": 0
        }
    ]
}
```
For API details, see ListUserImportJobs in AWS CLI Command Reference.

list-users-in-group

The following code example shows how to use list-users-in-group.

AWS CLI

To list users in a group

This example lists users in group MyGroup.

Command:

```
aws cognito-idp list-users-in-group --user-pool-id us-west-2_aaaaaaaaa --group-name MyGroup
```

Output:

```
{
   "Users": [
      {
         "Username": "acf10624-80bb-401a-ac61-607bee2110ec",
         "Attributes": [
            {
              "Name": "sub",
              "Value": "acf10624-80bb-401a-ac61-607bee2110ec"
            }
         ]
      }
   ]
}
```
{  
    "Name": "custom:CustomAttr1",  
    "Value": "New Value!"
},  
{  
    "Name": "email",  
    "Value": "jane@example.com"
}
],  
"UserCreateDate": 1548102770.284,
"UserLastModifiedDate": 1548103204.893,
"Enabled": true,
"UserStatus": "CONFIRMED"
},  
{  
    "Username": "22704aa3-fc10-479a-97eb-2af5806bd327",
    "Attributes": [
        
    ],  
    "UserCreateDate": 1548089817.683,
    "UserLastModifiedDate": 1548089817.683,
    "Enabled": true,
    "UserStatus": "FORCE_CHANGE_PASSWORD"
}
}  

• For API details, see ListUsersInGroup in AWS CLI Command Reference.

set-risk-configuration

The following code example shows how to use set-risk-configuration.
AWS CLI

To set risk configuration

This example sets the risk configuration for a user pool. It sets the sign-up event action to NO_ACTION.

Command:

```bash
aws cognito-idp set-risk-configuration --user-pool-id us-west-2_aaaaaaaaa --compromised-credentials-risk-configuration EventFilter=SIGN_UP,Actions={EventAction=NO_ACTION}
```

Output:

```json
{
    "RiskConfiguration": {
        "UserPoolId": "us-west-2_aaaaaaaaa",
        "CompromisedCredentialsRiskConfiguration": {
            "EventFilter": [
                "SIGN_UP"
            ],
            "Actions": {
                "EventAction": "NO_ACTION"
            }
        }
    }
}
```

For API details, see SetRiskConfiguration in AWS CLI Command Reference.

set-ui-customization

The following code example shows how to use set-ui-customization.

AWS CLI

To set UI customization

This example customizes the CSS setting for a user pool.

Command:
aws cognito-idp set-ui-customization --user-pool-id us-west-2_aaaaaaaaaa --css
".logo-customizable {\n	max-width: 60%;\n	max-height: 30%;\n}\n.banner-customizable {\n\tpadding: 25px 0px 25px 10px;\n\tbodyground-color: lightgray;\n}\n.label-customizable {\n\tfont-weight: 300;\n}\n.textDescription-customizable {\n\tpadding-top: 10px;\n\tfont-size: 16px;\n}\n.idpDescription-customizable {\n\tpadding-top: 10px;\n\tpadding-bottom: 10px;\n\tdisplay: block;\n\tfont-size: 16px;\n}\n.legalText-customizable {\n\tc\ncolor: #747474;\n}\n.submitButton-customizable {\n\tfont-size: 14px;\n\tbackground: lightgray;\n}\n.submitButton-customizable:hover {\n\tc\ncolor: lightgray;\n}\n.errorMessage-customizable {\n\tfont-size: 14px;\n\tbodyground: #F5F5F5;\n\tborder: 2px solid #D64958;\n\tc\ncolor: #D64958;\n}\n.inputField-customizable {\n\twidth: 100%;\n\tbodyground-color: #fff;\n\tbodyground-color: #337ab7;\n}\n.inputField-customizable:focus {\n\tbodyground-color: #66afe9;\n\toutline: 0;\n}\n.idpButton-customizable {\n\thead: 40px;\n\tbodyground: 100%;\n\tdisplay: block;\n\tfont-size: 16px;\n}\n.idpButton-customizable:hover {\n\tc\ncolor: #31b0d5;\n}\n.socialButton-customizable {\n\thead: 100%;\n\tbodyground-bottom: 15px;\n\tfont-size: 14px;\n}\n.redirect-customizable {\n\thead: center;\n}\n.passwordCheck-notValid-customizable {\n\tc\ncolor: #DF3312;\n}\n.passwordCheck-valid-customizable {\n\tc\ncolor: #19BF00;\n}\n.background-customizable {\n\tbodyground-color: #f8f;\n}

Output:

{
    "UICustomization": {
        "UserPoolId": "us-west-2_aaaaaaaaaa",
        "ClientId": "ALL",
        "CSS": ".logo-customizable {\n	max-width: 60%;\n\tbodyground-color: lightgray;\n}\n.banner-customizable {\n\tpadding: 25px 0px 25px 10px;\n\tbodyground-color: lightgray;\n}\n.label-customizable {\n\tfont-weight: 300;\n}\n.textDescription-customizable {\n\tpadding-top: 10px;\n\tbodyground-color: lightgray;\n}\n.idpDescription-customizable {\n\tpadding-top: 10px;\n\tbodyground-bottom: 10px;\n\tdisplay: block;\n\tbodyground-color: lightgray;\n}\n.legalText-customizable {\n\tbodyground-color: #747474;\n}\n.submitButton-customizable {\n\tfont-size: 14px;\n\tbodyground-color: lightgray;\n}\n.submitButton-customizable:hover {\n\tbodyground-color: lightgray;\n}\n.errorMessage-customizable {\n\tbodyground: #F5F5F5;\n\tbodyground-color: lightgray;\n}\n.inputField-customizable {\n\tbodyground-color: #fff;\n\tbodyground-color: #337ab7;\n}\n.inputField-customizable:focus {\n\tbodyground-color: #66afe9;\n\toutline: 0;\n}\n.idpButton-customizable {\n\thead: 40px;\n\tbodyground: 100%;\n\tdisplay: block;\n\tbodyground-color: lightgray;\n}\n.idpButton-customizable:hover {\n\tbodyground-color: #31b0d5;\n}\n.socialButton-customizable {\n\thead: center;\n}\n.redirect-customizable {\n\tbodyground-color: lightgray;\n}\n.passwordCheck-notValid-customizable {\n\tbodyground-color: #DF3312;\n}\n.passwordCheck-valid-customizable {\n\tbodyground-color: #19BF00;\n}\n.background-customizable {\n\tbodyground-color: lightgray;\n}"
For API details, see SetUiCustomization in AWS CLI Command Reference.

**set-user-mfa-preference**

The following code example shows how to use set-user-mfa-preference.

**AWS CLI**

To set user MFA settings

The following set-user-mfa-preference example modifies the MFA delivery options. It changes the MFA delivery medium to SMS.

```bash
aws cognito-idp set-user-mfa-preference 
   --access-token "eyJra12345EXAMPLE" 
   --software-token-mfa-settings Enabled=true,PreferredMfa=true 
   --sms-mfa-settings Enabled=false,PreferredMfa=false
```

This command produces no output.

For more information, see Adding MFA to a user pool in the Amazon Cognito Developer Guide.

For API details, see SetUserMfaPreference in AWS CLI Command Reference.

**set-user-settings**

The following code example shows how to use set-user-settings.
AWS CLI

To set user settings

This example sets the MFA delivery preference to EMAIL.

Command:

```bash
aws cognito-idp set-user-settings --access-token ACCESS_TOKEN --mfa-options DeliveryMedium=EMAIL
```

- For API details, see [SetUserSettings](https://docs.aws.amazon.com/cli/latest/reference/cognito-idp/set-user-settings.html) in *AWS CLI Command Reference*.

start-user-import-job

The following code example shows how to use `start-user-import-job`.

AWS CLI

To start a user import job

This example starts a user input job.

For more information about importing users, see Importing Users into User Pools From a CSV File.

Command:

```bash
aws cognito-idp start-user-import-job --user-pool-id us-west-2_aaaaaaaaa --job-id import-TZqNQvDRnW
```

Output:

```
{
  "UserImportJob": {
    "JobName": "import-Test10",
    "JobId": "import-lmpxSOuIzH",
    "UserPoolId": "us-west-2_aaaaaa1a",
    "PreSignedUrl": "PRE_SIGNED_URL",
    "CreationDate": 1548278378.928,
    "StartDate": 1548278397.334,
    "Status": "Pending",
  }
}```
"CloudWatchLogsRoleArn": "arn:aws:iam::111111111111:role/CognitoCloudWatchLogsRole",
  "ImportedUsers": 0,
  "SkippedUsers": 0,
  "FailedUsers": 0
}]

For API details, see StartUserImportJob in AWS CLI Command Reference.

stop-user-import-job

The following code example shows how to use stop-user-import-job.

AWS CLI

To stop a user import job

This example stops a user input job.

For more information about importing users, see Importing Users into User Pools From a CSV File.

Command:

```
aws cognito-idp stop-user-import-job --user-pool-id us-west-2_aaaaaaaaa --job-id import-TZqNQvDRnW
```

Output:

```
{
  "UserImportJob": {
    "JobName": "import-Test5",
    "JobId": "import-Fx0kARISFL",
    "UserPoolId": "us-west-2_aaaaaaaaa",
    "PreSignedUrl": "PRE_SIGNED_URL",
    "CreationDate": 1548278576.259,
    "StartDate": 1548278623.366,
    "CompletionDate": 1548278626.741,
    "Status": "Stopped",
    "CloudWatchLogsRoleArn": "arn:aws:iam::111111111111:role/CognitoCloudWatchLogsRole",
  }
}
```
• For API details, see StopUserImportJob in AWS CLI Command Reference.

update-auth-event-feedback

The following code example shows how to use update-auth-event-feedback.

AWS CLI

To update auth event feedback

This example updates authorization event feedback. It marks the event "Valid".

Command:

```bash
aws cognito-idp update-auth-event-feedback --user-pool-id us-west-2_aaaaaaaaa --username diego@example.com --event-id EVENT_ID --feedback-token FEEDBACK_TOKEN --feedback-value "Valid"
```

• For API details, see UpdateAuthEventFeedback in AWS CLI Command Reference.

update-device-status

The following code example shows how to use update-device-status.

AWS CLI

To update device status

This example updates the status for a device to "not_remembered".

Command:

```bash
aws cognito-idp update-device-status --access-token ACCESS_TOKEN --device-key DEVICE_KEY --device-remembered-status "not_remembered"
```
update-group

The following code example shows how to use update-group.

AWS CLI

To update a group

This example updates the description and precedence for MyGroup.

Command:

```bash
aws cognito-idp update-group --user-pool-id us-west-2_aaaaaaaaa --group-name MyGroup --description "New description" --precedence 2
```

Output:

```
{
   "Group": {
      "GroupName": "MyGroup",
      "UserPoolId": "us-west-2_aaaaaaaaa",
      "Description": "New description",
      "RoleArn": "arn:aws:iam::111111111111:role/MyRole",
      "Precedence": 2,
      "LastModifiedDate": 1548800862.812,
      "CreationDate": 1548097827.125
   }
}
```

For API details, see UpdateGroup in AWS CLI Command Reference.

update-resource-server

The following code example shows how to use update-resource-server.

AWS CLI

To update a resource server
This example updates the resource server Weather. It adds a new scope.

Command:

```bash
aws cognito-idp update-resource-server --user-pool-id us-west-2_aaaaaaaaaa
--identifier weather.example.com --name Weather --scopes
ScopeName=NewScope,ScopeDescription="New scope description"
```

Output:

```json
{
   "ResourceServer": {
      "UserPoolId": "us-west-2_aaaaaaaaaa",
      "Identifier": "weather.example.com",
      "Name": "Happy",
      "Scopes": [
         {
            "ScopeName": "NewScope",
            "ScopeDescription": "New scope description"
         }
      ]
   }
}
```

- For API details, see [UpdateResourceServer](#) in *AWS CLI Command Reference*.

**update-user-attributes**

The following code example shows how to use `update-user-attributes`.

**AWS CLI**

**To update user attributes**

This example updates the user attribute "nickname".

Command:

```bash
aws cognito-idp update-user-attributes --access-token ACCESS_TOKEN --user-attributes
Name="nickname",Value="Dan"
```

- For API details, see [UpdateUserAttributes](#) in *AWS CLI Command Reference*.
update-user-pool

The following code example shows how to use update-user-pool.

AWS CLI

To update a user pool

This example adds tags to a user pool.

Command:

```
aws cognito-idp update-user-pool --user-pool-id us-west-2_aaaaaaaa --user-pool-tags Team=Blue,Area=West
```

- For API details, see [UpdateUserPool](#) in *AWS CLI Command Reference*.

update-user-pool-client

The following code example shows how to use update-user-pool-client.

AWS CLI

To update a user pool client

This example updates the name of a user pool client. It also adds a writeable attribute "nickname".

Command:

```
aws cognito-idp update-user-pool-client --user-pool-id us-west-2_aaaaaaaa --client-id 3n4b5urk1ft4fl3mg5e62d9ado --client-name "NewClientName" --write-attributes "nickname"
```

Output:

```
{
    "UserPoolClient": {
        "UserPoolId": "us-west-2_aaaaaaaa",
        "ClientName": "NewClientName",
        "ClientId": "3n4b5urk1ft4fl3mg5e62d9ado",
        "LastModifiedDate": 1548802761.334,
    }
}
```
Amazon Comprehend examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon Comprehend.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- **Actions**

**Actions**

**Create a document classifier**

The following code example shows how to create an Amazon Comprehend document classifier.

**AWS CLI**

To create a document classifier to categorize documents

The following `create-document-classifier` example begins the training process for a document classifier model. The training data file, `training.csv`, is located at the --
input-data-config tag. training.csv is a two column document where the labels, or, classifications are provided in the first column and the documents are provided in the second column.

```bash
aws comprehend create-document-classifier \
  --document-classifier-name example-classifier \
  --data-access-arn arn:aws:comprehend:us-west-2:111122223333:pii-entities-detection-job/123456abcdef0e11022f22a11EXAMPLE \
  --input-data-config "S3Uri=s3://DOC-EXAMPLE-BUCKET/" \
  --language-code en
```

Output:

```json
{
}
```

For more information, see [Custom Classification](https://docs.aws.amazon.com/AmazonComprehend/latest/guides/custom-classification.html) in the *Amazon Comprehend Developer Guide*.

- For API details, see [CreateDocumentClassifier](https://docs.aws.amazon.com/cli/latest/reference/comprehend/create-document-classifier.html) in *AWS CLI Command Reference*.

**Delete a document classifier**

The following code example shows how to delete an Amazon Comprehend document classifier.

**AWS CLI**

**To delete a custom document classifier**

The following delete-document-classifier example deletes a custom document classifier model.

```bash
aws comprehend delete-document-classifier \
```

This command produces no output.

For more information, see [Managing Amazon Comprehend endpoints](https://docs.aws.amazon.com/AmazonComprehend/latest/guides/endpoint-management.html) in the *Amazon Comprehend Developer Guide*.
For API details, see DeleteDocumentClassifier in AWS CLI Command Reference.

Describe a document classification job

The following code example shows how to describe an Amazon Comprehend document classification job.

AWS CLI

To describe a document classification job

The following describe-document-classification-job example gets the properties of an asynchronous document classification job.

```
aws comprehend describe-document-classification-job \
  --job-id 123456abcdef0e11022f22a11EXAMPLE
```

Output:

```
{
    "DocumentClassificationJobProperties": {
        "JobId": "123456abcdef0e11022f22a11EXAMPLE",
        "JobName": "exampleclassificationjob",
        "JobStatus": "COMPLETED",
        "SubmitTime": "2023-06-14T17:09:51.788000+00:00",
        "EndTime": "2023-06-14T17:15:58.582000+00:00",
        "InputDataConfig": {
            "S3Uri": "s3://DOC-EXAMPLE-BUCKET/jobdata/",
            "InputFormat": "ONE_DOC_PER_LINE"
        },
        "OutputDataConfig": {
            "S3Uri": "s3://DOC-EXAMPLE-DESTINATION-BUCKET/testfolder/111122223333-CLN-123456abcdef0e11022f22a11EXAMPLE/output/output.tar.gz"
        },
        "DataAccessRoleArn": "arn:aws:iam::111122223333:role/service-role/AmazonComprehendServiceRole-servicerole"
    }
}
```
For more information, see Custom Classification in the Amazon Comprehend Developer Guide.

- For API details, see DescribeDocumentClassificationJob in AWS CLI Command Reference.

**Describe a document classifier**

The following code example shows how to describe an Amazon Comprehend document classifier.

**AWS CLI**

**To describe a document classifier**

The following `describe-document-classifier` example gets the properties of a custom document classifier model.

```
aws comprehend describe-document-classifier \\
```

**Output:**

```json
{
    "DocumentClassifierProperties": {
        "LanguageCode": "en",
        "Status": "TRAINED",
        "SubmitTime": "2023-06-13T19:04:15.735000+00:00",
        "EndTime": "2023-06-13T19:42:31.752000+00:00",
        "TrainingStartTime": "2023-06-13T19:08:20.114000+00:00",
        "TrainingEndTime": "2023-06-13T19:41:35.080000+00:00",
        "InputDataConfig": {
            "DataFormat": "COMPREHEND_CSV",
            "S3Uri": "s3://DOC-EXAMPLE-BUCKET/trainingdata"
        },
        "OutputDataConfig": {},
        "ClassifierMetadata": {
            "NumberOfLabels": 3,
            "NumberOfTrainedDocuments": 5016,
            "NumberOfTestDocuments": 557,
            "EvaluationMetrics": {
                "Accuracy": 0.9856,
                "Precision": 0.9919,
            }
        }
    }
}```
Describe a topic modeling job

The following code example shows how to describe an Amazon Comprehend topic modeling job.

AWS CLI

To describe a topics detection job

The following describe-topics-detection-job example gets the properties of an asynchronous topics detection job.

```bash
aws comprehend describe-topics-detection-job \
    --job-id 123456abcdeb0e11022f22a11EXAMPLE
```

Output:

```json
{
    "TopicsDetectionJobProperties": {
        "JobId": "123456abcdeb0e11022f22a11EXAMPLE",
        "JobName": "example_topics_detection",
        "JobStatus": "IN_PROGRESS",
    }
}
```
For more information, see Async analysis for Amazon Comprehend insights in the Amazon Comprehend Developer Guide.

- For API details, see DescribeTopicsDetectionJob in AWS CLI Command Reference.

Detect entities in a document

The following code example shows how to detect entities in a document with Amazon Comprehend.

AWS CLI

To detect named entities in input text

The following detect-entities example analyzes the input text and returns the named entities. The pre-trained model's confidence score is also output for each prediction.

```bash
aws comprehend detect-entities
  --language-code en
  --text "Hello Zhang Wei, I am John. Your AnyCompany Financial Services, LLC credit card account 1111-XXXX-1111-XXXX has a minimum payment of $24.53 that is due by July 31st. Based on your autopay settings, we will withdraw your payment on the due date from your bank account number XXXXXX1111 with the routing number XXXXXXX0000. Customer feedback for Sunshine Spa, 123 Main St, Anywhere. Send comments to Alice at AnySpa@example.com."
```
Actions and scenarios
For more information, see Entities in the Amazon Comprehend Developer Guide.

- For API details, see DetectEntities in AWS CLI Command Reference.

## Detect key phrases in a document

The following code example shows how to detect key phrases in a document with Amazon Comprehend.

### AWS CLI

#### To detect key phrases in input text

The following detect-key-phrases example analyzes the input text and identifies the key noun phrases. The pre-trained model's confidence score is also output for each prediction.

```
aws comprehend detect-key-phrases \
    --language-code en \ 
    --text "Hello Zhang Wei, I am John. Your AnyCompany Financial Services, LLC credit card account 1111-XXXX-1111-XXXX has a minimum payment of $24.53 that is due by July 31st. Based on your autopay settings, \ we will withdraw your payment on the due date from your bank account number XXXXX1111 with the routing number XXXXX0000. \ Customer feedback for Sunshine Spa, 123 Main St, Anywhere. Send comments to Alice at AnySpa@example.com."
```

Output:

```
{
    "KeyPhrases": [
    {
        "Score": 0.8996376395225525,
        "Text": "Zhang Wei",
        "BeginOffset": 6,
        "EndOffset": 15
    },
    {
        "Score": 0.9992469549179077,
        "Text": "John",
    }
}
```
Your AnyCompany Financial Services

LLC credit card account 1111-XXXX-1111-XXXX

a minimum payment

.53

July 31st

your autopay settings

your payment
Detect personally identifiable information in a document

The following code example shows how to detect personally identifiable information (PII) in a document with Amazon Comprehend.

AWS CLI

To detect pii entities in input text

The following detect-pii-entities example analyzes the input text and identifies entities that contain personally identifiable information (PII). The pre-trained model's confidence score is also output for each prediction.

```
aws comprehend detect-pii-entities 
  --language-code en 
  --text "Hello Zhang Wei, I am John. Your AnyCompany Financial Services, LLC credit card account 1111-XXXX-1111-XXXX has a minimum payment of $24.53 that is due by July 31st. Based on your autopay settings, we will withdraw your payment on the due date from your bank account number XXXXXX1111 with the routing number XXXXX0000. Customer feedback for Sunshine Spa, 123 Main St, Anywhere. Send comments to Alice at AnySpa@example.com."
```

Output:

```
{
  "Entities": [
    {
      "Score": 0.9998322129249573,
      "Type": "NAME",
      "Score": 0.8376792669296265,
      "Text": "AnySpa@example.com",
      "BeginOffset": 400,
      "EndOffset": 415
    }
  ]
}
```

For more information, see [Key Phrases](#) in the *Amazon Comprehend Developer Guide*.

- For API details, see [DetectKeyPhrases](#) in *AWS CLI Command Reference*. 

[Key Phrases](#) in the *Amazon Comprehend Developer Guide*.

[DetectKeyPhrases](#) in *AWS CLI Command Reference*.
Actions and scenarios
Detect syntactical elements of a document

The following code example shows how to detect syntactial elements of a document with Amazon Comprehend.

AWS CLI

To detect the parts of speech in an input text

The following detect-syntax example analyzes the syntax of the input text and returns the different parts of speech. The pre-trained model's confidence score is also output for each prediction.

```
aws comprehend detect-syntax 
   --language-code en 
   --text "It is a beautiful day in Seattle."
```

Output:

```
{
   "SyntaxTokens": [
      {
         "TokenId": 1,
         "Text": "It",
         "BeginOffset": 0,
         "EndOffset": 2,
         "PartOfSpeech": {
            "Score": 0.9994171857833862,
            "Type": "EMAIL",
            "BeginOffset": 403,
            "EndOffset": 418
         }
      }
   ]
}
```

For more information, see [Personally Identifiable Information (PII)](https://aws.amazon.com) in the *Amazon Comprehend Developer Guide*.

- For API details, see [DetectPiiEntities](https://aws.amazon.com) in *AWS CLI Command Reference*. 

Actions and scenarios
is a beautiful day
Detect the dominant language in a document

The following code example shows how to detect the dominant language in a document with Amazon Comprehend.

AWS CLI

To detect the dominant language of input text

The following detect-dominant-language analyzes the input text and identifies the dominant language. The pre-trained model's confidence score is also output.

```bash
aws comprehend detect-dominant-language --text "It is a beautiful day in Seattle."
```

Output:
Detect the sentiment of a document

The following code example shows how to detect the sentiment of a document with Amazon Comprehend.

AWS CLI

To detect the sentiment of an input text

The following detect-sentiment example analyzes the input text and returns an inference of the prevailing sentiment (POSITIVE, NEUTRAL, MIXED, or NEGATIVE).

```
aws comprehend detect-sentiment \
  --language-code en \
  --text "It is a beautiful day in Seattle"
```

Output:

```
{
   "Sentiment": "POSITIVE",
   "SentimentScore": {
      "Positive": 0.9976957440376282,
      "Negative": 9.653854067437351e-05,
      "Neutral": 0.002169104292988777,
      "Mixed": 3.857641786453314e-05
   }
}
```

For more information, see Sentiment in the Amazon Comprehend Developer Guide.
List document classification jobs

The following code example shows how to list Amazon Comprehend document classification jobs.

AWS CLI

**To list of all document classification jobs**

The following `list-document-classification-jobs` example lists all document classification jobs.

```
aws comprehend list-document-classification-jobs
```

Output:

```
{
   "DocumentClassificationJobPropertiesList": [
   {
      "JobId": "123456abcdefe11022f22a11EXAMPLE",
      "JobArn": "arn:aws:comprehend:us-west-2:1234567890101:document-
                  classification-job/123456abcdefe11022f22a11EXAMPLE",
      "JobName": "exampleclassificationjob",
      "JobStatus": "COMPLETED",
      "SubmitTime": "2023-06-14T17:09:51.788000+00:00",
      "EndTime": "2023-06-14T17:15:58.582000+00:00",
      "DocumentClassifierArn": "arn:aws:comprehend:us-
                               west-2:1234567890101:document-classifier/mymodel/version/12",
      "InputDataConfig": {
         "S3Uri": "s3://DOC-EXAMPLE-BUCKET/jobdata/",
         "InputFormat": "ONE_DOC_PER_LINE"
      },
      "OutputDataConfig": {
         "S3Uri": "s3://DOC-EXAMPLE-DESTINATION-BUCKET/thefolder/1234567890101-CLN-e758dd56b824aa717ceab551f11749fb/output/output.tar.gz"
      },
      "DataAccessRoleArn": "arn:aws:iam::1234567890101:role/service-role/AmazonComprehendServiceRole-example-role"
   },
   {
      "JobId": "123456abcdef0e11022f22a11EXAMPLE2",
      "JobArn": "arn:aws:comprehend:us-west-2:1234567890101:document-
                  classification-job/123456abcdef0e11022f22a11EXAMPLE2",
      "JobName": "exampleclassificationjob2",
      "JobStatus": "COMPLETED",
      "SubmitTime": "2023-06-14T17:09:51.788000+00:00",
      "EndTime": "2023-06-14T17:15:58.582000+00:00",
      "DocumentClassifierArn": "arn:aws:comprehend:us-
                               west-2:1234567890101:document-classifier/mymodel/version/12",
      "InputDataConfig": {
         "S3Uri": "s3://DOC-EXAMPLE-BUCKET/jobdata/",
         "InputFormat": "ONE_DOC_PER_LINE"
      },
      "OutputDataConfig": {
         "S3Uri": "s3://DOC-EXAMPLE-DESTINATION-BUCKET/thefolder/1234567890101-CLN-e758dd56b824aa717ceab551f11749fb/output/output.tar.gz"
      },
      "DataAccessRoleArn": "arn:aws:iam::1234567890101:role/service-role/AmazonComprehendServiceRole-example-role"
   }
   ]
```

For API details, see [DetectSentiment](https://docs.aws.amazon.com/cli/latest/reference/comprehend/detect-sentiment.html) in *AWS CLI Command Reference*. 
"JobArn": "arn:aws:comprehend:us-west-2:1234567890101:document-classification-job/123456abcdef0e11022f22a1EXAMPLE2",
"JobName": "exampleclassificationjob2",
"JobStatus": "COMPLETED",
"SubmitTime": "2023-06-14T17:22:39.829000+00:00",
"EndTime": "2023-06-14T17:28:46.107000+00:00",
  "InputDataConfig": {
    "S3Uri": "s3://DOC-EXAMPLE-BUCKET/jobdata/",
    "InputFormat": "ONE_DOC_PER_LINE"
  },
  "OutputDataConfig": {
    "S3Uri": "s3://DOC-EXAMPLE-DESTINATION-BUCKET/thefolder/1234567890101-CLN-123456abcdef0e11022f22a1EXAMPLE2/output/output.tar.gz"
  },
  "DataAccessRoleArn": "arn:aws:iam::1234567890101:role/service-role/AmazonComprehendServiceRole-example-role"
}
"

For more information, see [Custom Classification](https://docs.aws.amazon.com/comprehend/latest/dg/custom-classification.html) in the *Amazon Comprehend Developer Guide*.

- For API details, see [ListDocumentClassificationJobs](https://docs.aws.amazon.com/cli/latest/reference/comprehend/list-document-classification-jobs.html) in *AWS CLI Command Reference*.

## List document classifiers

The following code example shows how to list Amazon Comprehend document classifiers.

### AWS CLI

**To list of all document classifiers**

The following `list-document-classifiers` example lists all trained and in-training document classifier models.

```bash
aws comprehend list-document-classifiers
```

**Output:**

```json
{
  "DocumentClassifierPropertiesList": [
```

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[JSON code]

```json
{
   "LanguageCode": "en",
   "Status": "TRAINED",
   "SubmitTime": "2023-06-13T19:04:15.735000+00:00",
   "EndTime": "2023-06-13T19:42:31.752000+00:00",
   "TrainingStartTime": "2023-06-13T19:08:20.114000+00:00",
   "TrainingEndTime": "2023-06-13T19:41:35.080000+00:00",
   "InputDataConfig": {
      "DataFormat": "COMPREHEND_CSV",
      "S3Uri": "s3://DOC-EXAMPLE-BUCKET/trainingdata"
   },
   "OutputDataConfig": {},
   "ClassifierMetadata": {
      "NumberOfLabels": 3,
      "NumberOfTrainedDocuments": 5016,
      "NumberOfTestDocuments": 557,
      "EvaluationMetrics": {
         "Accuracy": 0.9856,
         "Precision": 0.9919,
         "Recall": 0.9459,
         "F1Score": 0.9673,
         "MicroPrecision": 0.9856,
         "MicroRecall": 0.9856,
         "MicroF1Score": 0.9856,
         "HammingLoss": 0.0144
      }
   },
   "DataAccessRoleArn": "arn:aws:iam::111122223333:role/service-role/AmazonComprehendServiceRole-testorle",
   "Mode": "MULTI_CLASS"
}
{
   "LanguageCode": "en",
   "Status": "TRAINING",
   "SubmitTime": "2023-06-13T21:20:28.690000+00:00",
   "InputDataConfig": {
      "DataFormat": "COMPREHEND_CSV",
      "S3Uri": "s3://DOC-EXAMPLE-BUCKET/trainingdata"
   },
   "OutputDataConfig": {};
```
For more information, see [Creating and managing custom models](#) in the *Amazon Comprehend Developer Guide.*

- For API details, see [ListDocumentClassifiers](#) in *AWS CLI Command Reference.*

### List topic modeling jobs

The following code example shows how to list Amazon Comprehend topic modeling jobs.

**AWS CLI**

**To list all topic detection jobs**

The following `list-topics-detection-jobs` example lists all in-progress and completed asynchronous topics detection jobs.

```bash
aws comprehend list-topics-detection-jobs
```

**Output:**

```json
{
   "TopicsDetectionJobPropertiesList": [
      {
         "JobId": "123456abcdefb0e11022f22a11EXAMPLE",
         "JobName": "topic-analysis-1",
         "JobStatus": "IN_PROGRESS",
         "SubmitTime": "2023-06-09T18:40:35.384000+00:00",
         "EndTime": "2023-06-09T18:46:41.936000+00:00",
         "InputDataConfig": {
            "S3Uri": "s3://DOC-EXAMPLE-BUCKET",
            "InputFormat": "ONE_DOC_PER_LINE"
         },
         "OutputDataConfig": {
```
"S3Uri": "s3://DOC-EXAMPLE-DESTINATION-BUCKET/thefolder/111122223333-TOPICS-123456abcdef0e11022f22a11EXAMPLE/output/output.tar.gz",
      },
      "NumberOfTopics": 10,
      "DataAccessRoleArn": "arn:aws:iam::111122223333:role/service-role/
AmazonComprehendServiceRole-example-role"
    },
    {
      "JobId": "123456abcdef0e11022f22a1EXAMPLE2",
      "JobArn": "arn:aws:comprehend:us-west-2:111122223333:topics-detection-
job/123456abcdef0e11022f22a1EXAMPLE2",
      "JobName": "topic-analysis-2",
      "JobStatus": "COMPLETED",
      "SubmitTime": "2023-06-09T18:44:43.414000+00:00",
      "EndTime": "2023-06-09T18:50:50.872000+00:00",
      "InputDataConfig": {
        "S3Uri": "s3://DOC-EXAMPLE-BUCKET",
        "InputFormat": "ONE_DOC_PER_LINE"
      },
      "OutputDataConfig": {
        "S3Uri": "s3://DOC-EXAMPLE-DESTINATION-Bucket/thefolder/111122223333-TOPICS-123456abcdef0e11022f22a1EXAMPLE2/output/output.tar.gz"
      },
      "NumberOfTopics": 10,
      "DataAccessRoleArn": "arn:aws:iam::111122223333:role/service-role/
AmazonComprehendServiceRole-example-role"
    },
    {
      "JobId": "123456abcdef0e11022f22a1EXAMPLE3",
      "JobArn": "arn:aws:comprehend:us-west-2:111122223333:topics-detection-
job/123456abcdef0e11022f22a1EXAMPLE3",
      "JobName": "topic-analysis-2",
      "JobStatus": "IN_PROGRESS",
      "SubmitTime": "2023-06-09T18:50:56.737000+00:00",
      "InputDataConfig": {
        "S3Uri": "s3://DOC-EXAMPLE-BUCKET",
        "InputFormat": "ONE_DOC_PER_LINE"
      },
      "OutputDataConfig": {
        "S3Uri": "s3://DOC-EXAMPLE-DESTINATION-BUCKET/thefolder/111122223333-TOPICS-123456abcdef0e11022f22a1EXAMPLE3/output/output.tar.gz"
      },
      "NumberOfTopics": 10,
"DataAccessRoleArn": "arn:aws:iam::111122223333:role/service-role/AmazonComprehendServiceRole-example-role"
}"
}

For more information, see Async analysis for Amazon Comprehend insights in the Amazon Comprehend Developer Guide.

- For API details, see ListTopicsDetectionJobs in AWS CLI Command Reference.

Start a document classification job

The following code example shows how to start an Amazon Comprehend document classification job.

AWS CLI

To start document classification job

The following start-document-classification-job example starts a document classification job with a custom model on all of the files at the address specified by the --input-data-config tag. In this example, the input S3 bucket contains SampleSMStext1.txt, SampleSMStext2.txt, and SampleSMStext3.txt. The model was previously trained on document classifications of spam and non-spam, or, "ham", SMS messages. When the job is complete, output.tar.gz is put at the location specified by the --output-data-config tag. output.tar.gz contains predictions.jsonl which lists the classification of each document. The Json output is printed on one line per file, but is formatted here for readability.

```bash
aws comprehend start-document-classification-job \
   --job-name exampleclassificationjob \
   --input-data-config "S3Uri=s3://DOC-EXAMPLE-BUCKET-INPUT/jobdata/" \
   --output-data-config "S3Uri=s3://DOC-EXAMPLE-DESTINATION-BUCKET/testfolder/" \
   --data-access-role-arn arn:aws:iam::111122223333:role/service-role/AmazonComprehendServiceRole-example-role \

Contents of SampleSMStext1.txt:

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"CONGRATULATIONS! TXT 2155550100 to win $5000"

Contents of SampleSMText2.txt:

"Hi, when do you want me to pick you up from practice?"

Contents of SampleSMText3.txt:

"Plz send bank account # to 2155550100 to claim prize!!"

Output:

```json
{
   "JobId": "e758dd56b824aa717ceab551fEXAMPLE",
   "JobStatus": "SUBMITTED"
}
```

Contents of predictions.jsonl:

```json
{"File": "SampleSMSText1.txt", "Line": "0", "Classes": [{"Name": "spam", "Score": 0.9999}, {"Name": "ham", "Score": 0.0001}]}
{"File": "SampleSMSText2.txt", "Line": "0", "Classes": [{"Name": "ham", "Score": 0.9994}, {"Name": "spam", "Score": 0.0006}]}
{"File": "SampleSMSText3.txt", "Line": "0", "Classes": [{"Name": "spam", "Score": 0.9999}, {"Name": "ham", "Score": 0.0001}]}
```

For more information, see Custom Classification in the Amazon Comprehend Developer Guide.

- For API details, see StartDocumentClassificationJob in AWS CLI Command Reference.

Start a topic modeling job

The following code example shows how to start an Amazon Comprehend topic modeling job.

AWS CLI

To start a topics detection analysis job
The following `start-topics-detection-job` example starts an asynchronous topics detection job for all files located at the address specified by the `--input-data-config` tag. When the job is complete, the folder, output, is placed at the location specified by the `--output-data-config` tag. Output contains `topic-terms.csv` and `doc-topics.csv`. The first output file, `topic-terms.csv`, is a list of topics in the collection. For each topic, the list includes, by default, the top terms by topic according to their weight. The second file, `doc-topics.csv`, lists the documents associated with a topic and the proportion of the document that is concerned with the topic.

```bash
aws comprehend start-topics-detection-job \
   --job-name example_topics_detection_job \
   --language-code en \
   --input-data-config "S3Uri=s3://DOC-EXAMPLE-BUCKET/" \
   --output-data-config "S3Uri=s3://DOC-EXAMPLE-DESTINATION-BUCKET/testfolder/" \
   --data-access-role-arn arn:aws:iam::111122223333:role/service-role/AmazonComprehendServiceRole-example-role \
   --language-code en
```

Output:

```json
{
   "JobId": "123456abcdeb0e11022f22a11EXAMPLE",
   "JobArn": "arn:aws:comprehend:us-west-2:111122223333:key-phrases-detection-job/123456abcdeb0e11022f22a11EXAMPLE",
   "JobStatus": "SUBMITTED"
}
```

For more information, see [Topic Modeling](https://docs.aws.amazon.com/AmazonComprehend/latest/dg/topic-modeling.html) in the *Amazon Comprehend Developer Guide*.

- For API details, see [StartTopicsDetectionJob](https://docs.aws.amazon.com/cli/latest/reference/comprehend/start-topics-detection-job.html) in *AWS CLI Command Reference*.

### batch-detect-dominant-language

The following code example shows how to use `batch-detect-dominant-language`.

AWS CLI

To detect the dominant language of multiple input texts
The following batch-detect-dominant-language example analyzes multiple input texts and returns the dominant language of each. The pre-trained models confidence score is also output for each prediction.

```
aws comprehend batch-detect-dominant-language \
   --text-list "Physics is the natural science that involves the study of matter and its motion and behavior through space and time, along with related concepts such as energy and force."
```

Output:

```
{
   "ResultList": [
      {
         "Index": 0,
         "Languages": [
            {
               "LanguageCode": "en",
               "Score": 0.9986501932144165
            }
         ]
      }
   ],
   "ErrorList": []
}
```

For more information, see [Dominant Language](https://docs.aws.amazon.com/comprehend/latest/dg/dominant-language.html) in the Amazon Comprehend Developer Guide.


### batch-detect-entities

The following code example shows how to use batch-detect-entities.

#### AWS CLI

**To detect entities from multiple input texts**

The following batch-detect-entities example analyzes multiple input texts and returns the named entities of each. The pre-trained model's confidence score is also output for each prediction.
```bash
aws comprehend batch-detect-entities \
   --language-code en \ 
   --text-list "Dear Jane, Your AnyCompany Financial Services LLC credit card account 1111-XXXX-1111-XXXX has a minimum payment of $24.53 that is due by July 31st." "Please send customer feedback to Sunshine Spa, 123 Main St, Anywhere or to Alice at AnySpa@example.com."
```

Output:

```json
{
   "ResultList": [
      {
         "Index": 0,
         "Entities": [
            {
               "Score": 0.9985517859458923,
               "Type": "PERSON",
               "Text": "Jane",
               "BeginOffset": 5,
               "EndOffset": 9
            },
            {
               "Score": 0.9767839312553406,
               "Type": "ORGANIZATION",
               "Text": "AnyCompany Financial Services, LLC",
               "BeginOffset": 16,
               "EndOffset": 50
            },
            {
               "Score": 0.9856694936752319,
               "Type": "OTHER",
               "Text": "1111-XXXX-1111-XXXX",
               "BeginOffset": 71,
               "EndOffset": 90
            },
            {
               "Score": 0.9652159810066223,
               "Type": "QUANTITY",
               "Text": ".53",
               "BeginOffset": 116,
               "EndOffset": 119
            }
         ]
      }
   ]
}
```
"Score": 0.9986667037010193,
"Type": "DATE",
"Text": "July 31st",
"BeginOffset": 135,
"EndOffset": 144
}
],
{
"Index": 1,
"Entities": [
{
"Score": 0.720084547996521,
"Type": "ORGANIZATION",
"Text": "Sunshine Spa",
"BeginOffset": 33,
"EndOffset": 45
},
{
"Score": 0.9865870475769043,
"Type": "LOCATION",
"Text": "123 Main St",
"BeginOffset": 47,
"EndOffset": 58
},
{
"Score": 0.5895616412162781,
"Type": "LOCATION",
"Text": "Anywhere",
"BeginOffset": 60,
"EndOffset": 68
},
{
"Score": 0.6809214353561401,
"Type": "PERSON",
"Text": "Alice",
"BeginOffset": 75,
"EndOffset": 80
},
{
"Score": 0.9979087114334106,
"Type": "OTHER",
"Text": "AnySpa@example.com",
"BeginOffset": 84,
For more information, see [Entities](#) in the *Amazon Comprehend Developer Guide*.

- For API details, see [BatchDetectEntities](#) in *AWS CLI Command Reference*.

**batch-detect-key-phrases**

The following code example shows how to use `batch-detect-key-phrases`.

**AWS CLI**

**To detect key phrases of multiple text inputs**

The following `batch-detect-key-phrases` example analyzes multiple input texts and returns the key noun phrases of each. The pre-trained model's confidence score for each prediction is also output.

```bash
aws comprehend batch-detect-key-phrases \
   --language-code en \n   --text-list "Hello Zhang Wei, I am John, writing to you about the trip for next Saturday." "Dear Jane, Your AnyCompany Financial Services LLC credit card account 1111-XXXX-1111-XXXX has a minimum payment of $24.53 that is due by July 31st." "Please send customer feedback to Sunshine Spa, 123 Main St, Anywhere or to Alice at AnySpa@example.com."
```

**Output:**

```json
{
    "ResultList": [
        {
            "Index": 0,
            "KeyPhrases": [
                {
                    "Score": 0.99700927734375,
                    "Text": "Zhang Wei",
                    "BeginOffset": 6,
                },
            ],
        },
    ],
    "ErrorList": []
}
```
"Score": 0.9929308891296387,
"Text": "John",
"BeginOffset": 22,
"EndOffset": 26
},

{  
"Score": 0.9997230172157288,
"Text": "the trip",
"BeginOffset": 49,
"EndOffset": 57
},

{  
"Score": 0.9999470114707947,
"Text": "next Saturday",
"BeginOffset": 62,
"EndOffset": 75
}
]  
},

{  
"Index": 1,
"KeyPhrases": [
  
  {  
    "Score": 0.8358274102210999,
    "Text": "Dear Jane",
    "BeginOffset": 0,
    "EndOffset": 9
  },
  
  {  
    "Score": 0.989359974861145,
    "Text": "Your AnyCompany Financial Services",
    "BeginOffset": 11,
    "EndOffset": 45
  },
  
  {  
    "Score": 0.8812323808670044,
    "Text": "LLC credit card account 1111-XXXX-1111-XXXX",
    "BeginOffset": 47,
    "EndOffset": 90
  },
  
  
}  
}
Actions and scenarios
For more information, see Key Phrases in the Amazon Comprehend Developer Guide.

- For API details, see BatchDetectKeyPhrases in AWS CLI Command Reference.

**batch-detect-sentiment**

The following code example shows how to use batch-detect-sentiment.

**AWS CLI**

To detect the prevailing sentiment of multiple input texts

The following batch-detect-sentiment example analyzes multiple input texts and returns the prevailing sentiment (POSITIVE, NEUTRAL, MIXED, or NEGATIVE, of each one).

```
aws comprehend batch-detect-sentiment \
    --text-list "That movie was very boring, I can't believe it was over four hours long." "It is a beautiful day for hiking today." "My meal was okay, I'm excited to try other restaurants." \
    --language-code en
```

Output:

```
{
    "ResultList": [
        {
            "Index": 0,
            "Sentiment": "NEGATIVE",
        }
    ],
    "ErrorList": []
}
```
"SentimentScore": {
   "Positive": 0.00011316669406360328,
   "Negative": 0.9995445609092712,
   "Neutral": 0.0001472271833359808,
   "Mixed": 0.00019498742767609656
}
},
{
   "Index": 1,
   "Sentiment": "POSITIVE",
   "SentimentScore": {
      "Positive": 0.9981263279914856,
      "Negative": 0.00015240783977787942,
      "Neutral": 0.0013876151060685515,
      "Mixed": 0.00033366199932061136
   }
},
{
   "Index": 2,
   "Sentiment": "MIXED",
   "SentimentScore": {
      "Positive": 0.15930435061454773,
      "Negative": 0.11471917480230331,
      "Neutral": 0.26897063851356506,
      "Mixed": 0.45700588822364807
   }
},
"ErrorList":[]

For more information, see Sentiment in the Amazon Comprehend Developer Guide.

- For API details, see BatchDetectSentiment in AWS CLI Command Reference.

**batch-detect-syntax**

The following code example shows how to use batch-detect-syntax.

**AWS CLI**

To inspect the syntax and parts of speech of words in multiple input texts
The following `batch-detect-syntax` example analyzes the syntax of multiple input texts and returns the different parts of speech. The pre-trained model's confidence score is also output for each prediction.

```bash
aws comprehend batch-detect-syntax \\
   --text-list "It is a beautiful day." "Can you please pass the salt?" "Please pay the bill before the 31st." \\
   --language-code en
```

Output:

```json
{
   "ResultList": [
      {
         "Index": 0,
         "SyntaxTokens": [
            {
               "TokenId": 1,
               "Text": "It",
               "BeginOffset": 0,
               "EndOffset": 2,
               "PartOfSpeech": {
                  "Tag": "PRON",
                  "Score": 0.9999740719795227
               }
            },
            {
               "TokenId": 2,
               "Text": "is",
               "BeginOffset": 3,
               "EndOffset": 5,
               "PartOfSpeech": {
                  "Tag": "VERB",
                  "Score": 0.999937117099762
               }
            },
            {
               "TokenId": 3,
               "Text": "a",
               "BeginOffset": 6,
               "EndOffset": 7,
               "PartOfSpeech": {
                  "Tag": "DET",
                  "Score": 0.999937117099762
               }
            }
         ]
      },
      {
         "Index": 1,
         "SyntaxTokens": [
            {
               "TokenId": 4,
               "Text": "Can",
               "BeginOffset": 6,
               "EndOffset": 10,
               "PartOfSpeech": {
                  "Tag": "VERB",
                  "Score": 0.999937117099762
               }
            },
            {
               "TokenId": 5,
               "Text": "you",
               "BeginOffset": 11,
               "EndOffset": 14,
               "PartOfSpeech": {
                  "Tag": "PRON",
                  "Score": 0.999937117099762
               }
            },
            {
               "TokenId": 6,
               "Text": "please",
               "BeginOffset": 15,
               "EndOffset": 21,
               "PartOfSpeech": {
                  "Tag": "VERB",
                  "Score": 0.999937117099762
               }
            },
            {
               "TokenId": 7,
               "Text": "pass",
               "BeginOffset": 22,
               "EndOffset": 25,
               "PartOfSpeech": {
                  "Tag": "VERB",
                  "Score": 0.999937117099762
               }
            },
            {
               "TokenId": 8,
               "Text": "the",
               "BeginOffset": 26,
               "EndOffset": 29,
               "PartOfSpeech": {
                  "Tag": "DET",
                  "Score": 0.999937117099762
               }
            },
            {
               "TokenId": 9,
               "Text": "salt",
               "BeginOffset": 30,
               "EndOffset": 34,
               "PartOfSpeech": {
                  "Tag": "NOUN",
                  "Score": 0.999937117099762
               }
            }
         ]
      },
      {
         "Index": 2,
         "SyntaxTokens": [
            {
               "TokenId": 10,
               "Text": "Please",
               "BeginOffset": 35,
               "EndOffset": 41,
               "PartOfSpeech": {
                  "Tag": "VERB",
                  "Score": 0.999937117099762
               }
            },
            {
               "TokenId": 11,
               "Text": "pay",
               "BeginOffset": 42,
               "EndOffset": 46,
               "PartOfSpeech": {
                  "Tag": "VERB",
                  "Score": 0.999937117099762
               }
            },
            {
               "TokenId": 12,
               "Text": "the",
               "BeginOffset": 47,
               "EndOffset": 50,
               "PartOfSpeech": {
                  "Tag": "DET",
                  "Score": 0.999937117099762
               }
            },
            {
               "TokenId": 13,
               "Text": "bill",
               "BeginOffset": 51,
               "EndOffset": 55,
               "PartOfSpeech": {
                  "Tag": "NOUN",
                  "Score": 0.999937117099762
               }
            },
            {
               "TokenId": 14,
               "Text": "before",
               "BeginOffset": 56,
               "EndOffset": 63,
               "PartOfSpeech": {
                  "Tag": "ADVERB",
                  "Score": 0.999937117099762
               }
            },
            {
               "TokenId": 15,
               "Text": "the",
               "BeginOffset": 64,
               "EndOffset": 67,
               "PartOfSpeech": {
                  "Tag": "DET",
                  "Score": 0.999937117099762
               }
            },
            {
               "TokenId": 16,
               "Text": "31st",
               "BeginOffset": 68,
               "EndOffset": 72,
               "PartOfSpeech": {
                  "Tag": "NOUN",
                  "Score": 0.999937117099762
               }
            }
         ]
      }
   ]
}
```
Actions and scenarios
"Tag": "AUX",
"Score": 0.9999770522117615
},
{
  "TokenId": 2,
  "Text": "you",
  "BeginOffset": 4,
  "EndOffset": 7,
  "PartOfSpeech": {
    "Tag": "PRON",
    "Score": 0.9999986886978149
  }
},
{
  "TokenId": 3,
  "Text": "please",
  "BeginOffset": 8,
  "EndOffset": 14,
  "PartOfSpeech": {
    "Tag": "INTJ",
    "Score": 0.9681622385978699
  }
},
{
  "TokenId": 4,
  "Text": "pass",
  "BeginOffset": 15,
  "EndOffset": 19,
  "PartOfSpeech": {
    "Tag": "VERB",
    "Score": 0.9999874830245972
  }
},
{
  "TokenId": 5,
  "Text": "the",
  "BeginOffset": 20,
  "EndOffset": 23,
  "PartOfSpeech": {
    "Tag": "DET",
    "Score": 0.9999827146530151
  }
},
}
{ 
    "TokenId": 6,  
    "Text": "salt",  
    "BeginOffset": 24,  
    "EndOffset": 28,  
    "PartOfSpeech": {  
        "Tag": "NOUN",  
        "Score": 0.9995040893554688  
    }  
},  
{ 
    "TokenId": 7,  
    "Text": "?",  
    "BeginOffset": 28,  
    "EndOffset": 29,  
    "PartOfSpeech": {  
        "Tag": "PUNCT",  
        "Score": 0.999998152256012  
    }  
}  
},  
{  
    "Index": 2,  
    "SyntaxTokens": [  
        {  
            "TokenId": 1,  
            "Text": "Please",  
            "BeginOffset": 0,  
            "EndOffset": 6,  
            "PartOfSpeech": {  
                "Tag": "INTJ",  
                "Score": 0.9997857809066772  
            }  
        },  
        {  
            "TokenId": 2,  
            "Text": "pay",  
            "BeginOffset": 7,  
            "EndOffset": 10,  
            "PartOfSpeech": {  
                "Tag": "VERB",  
                "Score": 0.9999252557754517  
            }  
        }  
    ]  
}


},
{
   "TokenId": 3,
   "Text": "the",
   "BeginOffset": 11,
   "EndOffset": 14,
   "PartOfSpeech": {
      "Tag": "DET",
      "Score": 0.9999842643737793
   }
},
{
   "TokenId": 4,
   "Text": "bill",
   "BeginOffset": 15,
   "EndOffset": 19,
   "PartOfSpeech": {
      "Tag": "NOUN",
      "Score": 0.9999588131904602
   }
},
{
   "TokenId": 5,
   "Text": "before",
   "BeginOffset": 20,
   "EndOffset": 26,
   "PartOfSpeech": {
      "Tag": "ADP",
      "Score": 0.9958304762840271
   }
},
{
   "TokenId": 6,
   "Text": "the",
   "BeginOffset": 27,
   "EndOffset": 30,
   "PartOfSpeech": {
      "Tag": "DET",
      "Score": 0.9999947547912598
   }
},
{
   "TokenId": 7,
   "Text": "31st",
   "BeginOffset": 31,
For more information, see Syntax Analysis in the Amazon Comprehend Developer Guide.

- For API details, see BatchDetectSyntax in AWS CLI Command Reference.

**batch-detect-targeted-sentiment**

The following code example shows how to use batch-detect-targeted-sentiment.

**AWS CLI**

**To detect the sentiment and each named entity for multiple input texts**

The following batch-detect-targeted-sentiment example analyzes multiple input texts and returns the named entities along with the prevailing sentiment attached to each entity. The pre-trained model's confidence score is also output for each prediction.

```bash
aws comprehend batch-detect-targeted-sentiment \
   --language-code en \
   --text-list "That movie was really boring, the original was way more entertaining" "The trail is extra beautiful today." "My meal was just okay."
```
Output:

```json
{
  "ResultList": [
    {
      "Index": 0,
      "Entities": [
        {
          "DescriptiveMentionIndex": [0],
          "Mentions": [
            {
              "Score": 0.9999009966850281,
              "GroupScore": 1.0,
              "Text": "movie",
              "Type": "MOVIE",
              "MentionSentiment": {
                "Sentiment": "NEGATIVE",
                "SentimentScore": {
                  "Positive": 0.13887299597263336,
                  "Negative": 0.8057460188865662,
                  "Neutral": 0.05525200068950653,
                  "Mixed": 0.0001279999967683107
                }
              }
            }
          ],
          "BeginOffset": 5,
          "EndOffset": 10
        }
      ],
      "BeginOffset": 12,
      "EndOffset": 17
    },
    {
      "DescriptiveMentionIndex": [0],
      "Mentions": [
        {
          "Score": 0.9921110272407532,
          "GroupScore": 1.0,
          "Text": "original",
          "Type": "MOVIE",
          "MentionSentiment": {
            "Sentiment": "POSITIVE",
            "SentimentScore": {
          ...
```
"Positive": 0.99999989867210388,
"Negative": 9.99999974752427e-07,
"Neutral": 0.0,
"Mixed": 0.0
},

"BeginOffset": 34,
"EndOffset": 42
},

"Index": 1,
"Entities": [
{
    "DescriptiveMentionIndex": [
        0
    ],
    "Mentions": [
        {
            "Score": 0.7545599937438965,
            "GroupScore": 1.0,
            "Text": "trail",
            "Type": "OTHER",
            "MentionSentiment": {
                "Sentiment": "POSITIVE",
                "SentimentScore": {
                    "Positive": 1.0,
                    "Negative": 0.0,
                    "Neutral": 0.0,
                    "Mixed": 0.0
                }
            },
            "BeginOffset": 4,
            "EndOffset": 9
        }
    ]
},

"Index": 1,
"Entities": [
{
    "DescriptiveMentionIndex": [
        0
    ],
    "Mentions": [
        {
            "Score": 0.7545599937438965,
            "GroupScore": 1.0,
            "Text": "trail",
            "Type": "OTHER",
            "MentionSentiment": {
                "Sentiment": "POSITIVE",
                "SentimentScore": {
                    "Positive": 1.0,
                    "Negative": 0.0,
                    "Neutral": 0.0,
                    "Mixed": 0.0
                }
            },
            "BeginOffset": 4,
            "EndOffset": 9
        }
    ]
},

"Index": 1,
"Entities": [
{
    "DescriptiveMentionIndex": [
        0
    ],
    "Mentions": [
        {
            "Score": 0.7545599937438965,
            "GroupScore": 1.0,
            "Text": "trail",
            "Type": "OTHER",
            "MentionSentiment": {
                "Sentiment": "POSITIVE",
                "SentimentScore": {
                    "Positive": 1.0,
                    "Negative": 0.0,
                    "Neutral": 0.0,
                    "Mixed": 0.0
                }
            },
            "BeginOffset": 4,
            "EndOffset": 9
        }
    ]
},

"Index": 1,
"Entities": [
{
    "DescriptiveMentionIndex": [
        0
    ],
    "Mentions": [
        {
            "Score": 0.7545599937438965,
            "GroupScore": 1.0,
            "Text": "trail",
            "Type": "OTHER",
            "MentionSentiment": {
                "Sentiment": "POSITIVE",
                "SentimentScore": {
                    "Positive": 1.0,
                    "Negative": 0.0,
                    "Neutral": 0.0,
                    "Mixed": 0.0
                }
            },
            "BeginOffset": 4,
            "EndOffset": 9
        }
    ]
},

"Index": 1,
"Entities": [
{
    "DescriptiveMentionIndex": [
        0
    ],
    "Mentions": [
        {
            "Score": 0.7545599937438965,
            "GroupScore": 1.0,
            "Text": "trail",
            "Type": "OTHER",
            "MentionSentiment": {
                "Sentiment": "POSITIVE",
                "SentimentScore": {
                    "Positive": 1.0,
                    "Negative": 0.0,
                    "Neutral": 0.0,
                    "Mixed": 0.0
                }
            },
            "BeginOffset": 4,
            "EndOffset": 9
        }
    ]
}
"Mentions": [
    {
        "Score": 0.9999960064888,
        "GroupScore": 1.0,
        "Text": "today",
        "Type": "DATE",
        "MentionSentiment": {
            "Sentiment": "NEUTRAL",
            "SentimentScore": {
                "Positive": 9.000000318337698e-06,
                "Negative": 1.999999949504854e-06,
                "Neutral": 0.9999859929084778,
                "Mixed": 3.999999889900971e-06
            }
        },
        "BeginOffset": 29,
        "EndOffset": 34
    }
],
"Entities": [
    {
        "Index": 2,
        "Entities": [
            {
                "DescriptiveMentionIndex": [0],
                "Mentions": [
                    {
                        "Score": 0.9999880194664001,
                        "GroupScore": 1.0,
                        "Text": "My",
                        "Type": "PERSON",
                        "MentionSentiment": {
                            "Sentiment": "NEUTRAL",
                            "SentimentScore": {
                                "Positive": 0.0,
                                "Negative": 0.0,
                                "Neutral": 1.0,
                                "Mixed": 0.0
                            }
                        }
                    }
                ]
            }
        ]
    }
]
For more information, see `Targeted Sentiment` in the `Amazon Comprehend Developer Guide`.

- For API details, see `BatchDetectTargetedSentiment` in `AWS CLI Command Reference`.

classify-document

The following code example shows how to use classify-document.
To classify document with model-specific endpoint

The following classify-document example classifies a document with an endpoint of a custom model. The model in this example was trained on a dataset containing SMS messages labeled as spam or non-spam, or, "ham".

```
aws comprehend classify-document
   --text "CONGRATULATIONS! TXT 123550100 to win $5000"
```

Output:

```
{
   "Classes": [
       {
           "Name": "spam",
           "Score": 0.9998599290847778
       },
       {
           "Name": "ham",
           "Score": 0.00014001205272506922
       }
   ]
}
```

For more information, see [Custom Classification](https://docs.aws.amazon.com/comprehend/latest/dg/custom-classification.html) in the *Amazon Comprehend Developer Guide*.

- For API details, see [ClassifyDocument](https://docs.aws.amazon.com/cli/latest/reference/comprehend/classify-document.html) in *AWS CLI Command Reference*.

contains-pii-entities

The following code example shows how to use contains-pii-entities.

AWS CLI

To analyze the input text for the presence of PII information
The following contains-pii-entities example analyzes the input text for the presence of personally identifiable information (PII) and returns the labels of identified PII entity types such as name, address, bank account number, or phone number.

```bash
aws comprehend contains-pii-entities \
   --language-code en \ 
   --text "Hello Zhang Wei, I am John. Your AnyCompany Financial Services, LLC credit card account 1111-XXXX-1111-XXXX has a minimum payment of $24.53 that is due by July 31st. Based on your autopay settings, we will withdraw your payment on the due date from your bank account number XXXXXX1111 with the routing number XXXXX0000.

Customer feedback for Sunshine Spa, 100 Main St, Anywhere. Send comments to Alice at AnySpa@example.com."
```

Output:

```json
{
   "Labels": [
   {
      "Name": "NAME",
      "Score": 1.0
   },
   {
      "Name": "EMAIL",
      "Score": 1.0
   },
   {
      "Name": "BANK_ACCOUNT_NUMBER",
      "Score": 0.9995794296264648
   },
   {
      "Name": "BANK_ROUTING",
      "Score": 0.9173126816749573
   },
   {
      "Name": "CREDIT_DEBIT_NUMBER",
      "Score": 1.0
   }
   ]
}
```
create-dataset

The following code example shows how to use create-dataset.

AWS CLI

To create a flywheel dataset

The following create-dataset example creates a dataset for a flywheel. This dataset will be used as additional training data as specified by the --dataset-type tag.

```
aws comprehend create-dataset
   --dataset-name example-dataset
   --dataset-type "TRAIN"
   --input-data-config file://inputConfig.json
```

Contents of file://inputConfig.json:

```
{
   "DataFormat": "COMPREHEND_CSV",
   "DocumentClassifierInputDataConfig": {
      "S3Uri": "s3://DOC-EXAMPLE-BUCKET/training-data.csv"
   }
}
```

Output:

```
{
}
```

For more information, see Flywheel Overview in Amazon Comprehend Developer Guide.
create-endpoint

The following code example shows how to use `create-endpoint`.

**AWS CLI**

**To create an endpoint for a custom model**

The following `create-endpoint` example creates an endpoint for synchronous inference for a previously trained custom model.

```
aws comprehend create-endpoint \
    --endpoint-name example-classifier-endpoint-1 \
    --desired-inference-units 1
```

Output:

```
{
}
```

For more information, see [Managing Amazon Comprehend endpoints](https://docs.aws.amazon.com/comprehend/latest/dg/endpoints.html) in the *Amazon Comprehend Developer Guide*.

• For API details, see **CreateEndpoint** in *AWS CLI Command Reference*.

create-entity-recognizer

The following code example shows how to use `create-entity-recognizer`.

**AWS CLI**

**To create a custom entity recognizer**

The following `create-entity-recognizer` example begins the training process for a custom entity recognizer model. This example uses a CSV file containing training documents,
raw_text.csv, and a CSV entity list, entity_list.csv to train the model. entity_list.csv contains the following columns: text and type.

```
aws comprehend create-entity-recognizer \
   --recognizer-name example-entity-recognizer \
   --data-access-role-arn arn:aws:iam::111122223333:role/service-role/AmazonComprehendServiceRole-example-role \
   --input-data-config "EntityTypes=[{Type=DEVICE}],Documents={S3Uri=s3://DOC-EXAMPLE-BUCKET/trainingdata/raw_text.csv},EntityList={S3Uri=s3://DOC-EXAMPLE-BUCKET/trainingdata/entity_list.csv}" \
   --language-code en
```

Output:

```
{
  "EntityRecognizerArn": "arn:aws:comprehend:us-west-2:111122223333:example-entity-recognizer/entityrecognizer1"
}
```

For more information, see Custom entity recognition in the Amazon Comprehend Developer Guide.

- For API details, see CreateEntityRecognizer in AWS CLI Command Reference.

create-flywheel

The following code example shows how to use create-flywheel.

AWS CLI

To create a flywheel

The following create-flywheel example creates a flywheel to orchestrate the ongoing training of either a document classification or entity recognition model. The flywheel in this example is created to manage an existing trained model specified by the --active-model-arn tag. When the flywheel is created, a data lake is created at the --input-data-lake tag.

```
aws comprehend create-flywheel \
   --flywheel-name example-flywheel \
```
Output:

```json
{
    "FlywheelArn": "arn:aws:comprehend:us-west-2:111122223333:flywheel/example-flywheel"
}
```

For more information, see [Flywheel Overview](#) in Amazon Comprehend Developer Guide.

- For API details, see [CreateFlywheel](#) in AWS CLI Command Reference.

### delete-endpoint

The following code example shows how to use delete-endpoint.

**AWS CLI**

**To delete an endpoint for a custom model**

The following delete-endpoint example deletes a model-specific endpoint. All endpoints must be deleted in order for the model to be deleted.

```bash
aws comprehend delete-endpoint \
```

This command produces no output.

For more information, see [Managing Amazon Comprehend endpoints](#) in the Amazon Comprehend Developer Guide.

- For API details, see [DeleteEndpoint](#) in AWS CLI Command Reference.

### delete-entity-recognizer

The following code example shows how to use delete-entity-recognizer.
AWS CLI

**To delete a custom entity recognizer model**

The following `delete-entity-recognizer` example deletes a custom entity recognizer model.

```
aws comprehend delete-entity-recognizer 
```

This command produces no output.

For more information, see [Managing Amazon Comprehend endpoints](https://docs.aws.amazon.com/comprehend/latest/dg/endpoint-management.html) in the Amazon Comprehend Developer Guide.


**delete-flywheel**

The following code example shows how to use `delete-flywheel`.

AWS CLI

**To delete a flywheel**

The following `delete-flywheel` example deletes a flywheel. The data lake or the model associated with the flywheel is not deleted.

```
aws comprehend delete-flywheel 
```

This command produces no output.

For more information, see [Flywheel overview](https://docs.aws.amazon.com/comprehend/latest/dg/flywheel-overview.html) in the Amazon Comprehend Developer Guide.


**delete-resource-policy**

The following code example shows how to use `delete-resource-policy`.

Actions and scenarios
AWS CLI

**To delete a resource-based policy**

The following `delete-resource-policy` example deletes a resource-based policy from an Amazon Comprehend resource.

```bash
aws comprehend delete-resource-policy \
```

This command produces no output.

For more information, see [Copying custom models between AWS accounts](#) in the *Amazon Comprehend Developer Guide*.

- For API details, see [DeleteResourcePolicy](#) in *AWS CLI Command Reference*.

**describe-dataset**

The following code example shows how to use `describe-dataset`.

**AWS CLI**

**To describe a flywheel dataset**

The following `describe-dataset` example gets the properties of a flywheel dataset.

```bash
aws comprehend describe-dataset \
```

Output:

```json
{
   "DatasetProperties": {
      "DatasetName": "example-dataset",
      "DatasetType": "TRAIN",
```
"DatasetS3Uri": "s3://DOC-EXAMPLE-BUCKET/flywheel-entity/schemaVersion=1/12345678A123456Z/datasets/example-dataset/20230616T203710Z/",  
"Status": "CREATING",  
"CreationTime": "2023-06-16T20:37:10.400000+00:00"
}
}

For more information, see [Flywheel Overview](#) in *Amazon Comprehend Developer Guide*.

- For API details, see [DescribeDataset](#) in *AWS CLI Command Reference*.

describe-dominant-language-detection-job

The following code example shows how to use `describe-dominant-language-detection-job`.

**AWS CLI**

To describe a dominant language detection detection job.

The following `describe-dominant-language-detection-job` example gets the properties of an asynchronous dominant language detection job.

```
aws comprehend describe-dominant-language-detection-job 
   --job-id 123456abcdeb0e11022f22a11EXAMPLE
```

Output:

```
{
   "DominantLanguageDetectionJobProperties": {
      "JobId": "123456abcdeb0e11022f22a11EXAMPLE",
      "JobName": "languageanalysis1",
      "JobStatus": "IN_PROGRESS",
      "SubmitTime": "2023-06-09T18:10:38.037000+00:00",
      "InputDataConfig": {
         "S3Uri": "s3://DOC-EXAMPLE-BUCKET",
         "InputFormat": "ONE_DOC_PER_LINE"
      },
      "OutputDataConfig": {
```
For more information, see Async analysis for Amazon Comprehend insights in the Amazon Comprehend Developer Guide.

- For API details, see DescribeDominantLanguageDetectionJob in AWS CLI Command Reference.

**describe-endpoint**

The following code example shows how to use describe-endpoint.

**AWS CLI**

To describe a specific endpoint

The following describe-endpoint example gets the properties of a model-specific endpoint.

```bash
aws comprehend describe-endpoint 
```

Output:

```json
{
  "EndpointProperties": {
    "Status": "IN_SERVICE",
    "DesiredInferenceUnits": 1,
    "CurrentInferenceUnits": 1,
    "CreationTime": "2023-06-13T20:32:54.526000+00:00",
    "LastModifiedTime": "2023-06-13T20:32:54.526000+00:00"
  }
}
```
For more information, see Managing Amazon Comprehend endpoints in the Amazon Comprehend Developer Guide.

- For API details, see DescribeEndpoint in AWS CLI Command Reference.

describe-entities-detection-job

The following code example shows how to use describe-entities-detection-job.

AWS CLI

To describe an entities detection job

The following describe-entities-detection-job example gets the properties of an asynchronous entities detection job.

```bash
aws comprehend describe-entities-detection-job \
   --job-id 123456abcdeb0e11022f22a11EXAMPLE
```

Output:

```json
{
    "EntitiesDetectionJobProperties": {
        "JobId": "123456abcdeb0e11022f22a11EXAMPLE",
        "JobName": "example-entity-detector",
        "JobStatus": "COMPLETED",
        "SubmitTime": "2023-06-08T21:30:15.323000+00:00",
        "EndTime": "2023-06-08T21:40:23.509000+00:00",
        "InputDataConfig": {
            "S3Uri": "s3://DOC-EXAMPLE-BUCKET/AsyncBatchJobs/",
            "InputFormat": "ONE_DOC_PER_LINE"
        },
        "OutputDataConfig": {
            "S3Uri": "s3://DOC-EXAMPLE-BUCKET/thefolder/111122223333-NER-123456abcdeb0e11022f22a11EXAMPLE/output/output.tar.gz"
        },
        "LanguageCode": "en",
    }
}
```
For more information, see Async analysis for Amazon Comprehend insights in the Amazon Comprehend Developer Guide.

For API details, see DescribeEntitiesDetectionJob in AWS CLI Command Reference.

describe-entity-recognizer

The following code example shows how to use describe-entity-recognizer.

AWS CLI

To describe an entity recognizer

The following describe-entity-recognizer example gets the properties of a custom entity recognizer model.

```bash
aws comprehend describe-entity-recognizer \
```

Output:

```json
{
    "EntityRecognizerProperties": {
        "LanguageCode": "en",
        "Status": "TRAINED",
        "SubmitTime": "2023-06-14T20:44:59.631000+00:00",
        "EndTime": "2023-06-14T20:59:19.532000+00:00",
        "TrainingStartTime": "2023-06-14T20:48:52.811000+00:00",
        "TrainingEndTime": "2023-06-14T20:58:11.473000+00:00",
        "InputDataConfig": {
            "DataFormat": "COMPREHEND_CSV",
            "EntityTypes": [
                {
                    "Type": "BUSINESS"
                }
            ]
        }
    }
}
```
For more information, see Custom entity recognition in the Amazon Comprehend Developer Guide.

For API details, see DescribeEntityRecognizer in AWS CLI Command Reference.

describe-events-detection-job

The following code example shows how to use describe-events-detection-job.
**AWS CLI**

**To describe an events detection job.**

The following describe-events-detection-job example gets the properties of an asynchronous events detection job.

```bash
aws comprehend describe-events-detection-job \
   --job-id 123456abcdeb0e11022f22a11EXAMPLE
```

Output:

```json
{
   "EventsDetectionJobProperties": {
      "JobId": "123456abcdeb0e11022f22a11EXAMPLE",
      "JobName": "events_job_1",
      "JobStatus": "IN_PROGRESS",
      "SubmitTime": "2023-06-12T18:45:56.054000+00:00",
      "InputDataConfig": {
         "S3Uri": "s3://DOC-EXAMPLE-BUCKET/EventsData",
         "InputFormat": "ONE_DOC_PER_LINE"
      },
      "OutputDataConfig": {
         "S3Uri": "s3://DOC-EXAMPLE-DESTINATION-BUCKET/testfolder/111122223333-EVENTS-123456abcdeb0e11022f22a11EXAMPLE/output/"
      },
      "LanguageCode": "en",
      "DataAccessRoleArn": "arn:aws:iam::111122223333:role/service-role/AmazonComprehendServiceRole-example-role",
      "TargetEventTypes": [
         "BANKRUPTCY",
         "EMPLOYMENT",
         "CORPORATE_ACQUISITION",
         "CORPORATE_MERGER",
         "INVESTMENT_GENERAL"
      ]
   }
}
```

For more information, see [Async analysis for Amazon Comprehend insights](https://docs.aws.amazon.com/comprehend/latest/dg/async-analysis.html) in the Amazon Comprehend Developer Guide.
describe-flywheel

The following code example shows how to use describe-flywheel.

AWS CLI

To describe a flywheel

The following describe-flywheel example gets the properties of a flywheel. In this example, the model associated with the flywheel is a custom classifier model that is trained to classify documents as either spam or nonspam, or, "ham".

```bash
aws comprehend describe-flywheel \
```

Output:

```json
{
   "FlywheelProperties": {
      "DataAccessRoleArn": "arn:aws:iam::111122223333:role/service-role/AmazonComprehendServiceRole-example-role",
      "TaskConfig": {
         "LanguageCode": "en",
         "DocumentClassificationConfig": {
            "Mode": "MULTI_CLASS",
            "Labels": [
               "ham",
               "spam"
            ]
         }
      }
   },
   "DataLakeS3Uri": "s3://DOC-EXAMPLE-BUCKET/example-flywheel/schemaVersion=1/20230616T200543Z/",
   "DataSecurityConfig": {},
   "Status": "ACTIVE",
}
```
For more information, see Flywheel Overview in Amazon Comprehend Developer Guide.

- For API details, see DescribeFlywheel in AWS CLI Command Reference.

**describe-flywheel-iteration**

The following code example shows how to use `describe-flywheel-iteration`.

**AWS CLI**

To describe a flywheel iteration

The following `describe-flywheel-iteration` example gets the properties of a flywheel iteration.

```bash
aws comprehend describe-flywheel-iteration \\
  --flywheel-iteration-id 20232222AEXAMPLE
```

Output:

```json
{
  "FlywheelIterationProperties": {
    "FlywheelIterationId": "20232222AEXAMPLE",
    "CreationTime": "2023-06-16T21:10:26.385000+00:00",
    "EndTime": "2023-06-16T23:33:16.827000+00:00",
    "Status": "COMPLETED",
    "Message": "FULL_ITERATION: Flywheel iteration performed all functions successfully.",
    "EvaluatedModelMetrics": {
      "AverageF1Score": 0.7742663922375772,
      "AveragePrecision": 0.8287636394041166,
    }
  }
}
```
describe-key-phrases-detection-job

The following code example shows how to use describe-key-phrases-detection-job.

AWS CLI

To describe a key phrases detection job

The following describe-key-phrases-detection-job example gets the properties of an asynchronous key phrases detection job.

```bash
aws comprehend describe-key-phrases-detection-job \
--job-id 123456abcdef0e11022f22a11EXAMPLE
```

Output:

```json
{
   "KeyPhrasesDetectionJobProperties": {
      "JobId": "69aa080c00fc68934a6a98f10EXAMPLE",
      "JobArn": "arn:aws:comprehend:us-west-2:111122223333:key-phrases-detection-job/69aa080c00fc68934a6a98f10EXAMPLE",
      "JobName": "example-key-phrases-detection-job",
      "JobStatus": "COMPLETED",
   }
}
```

For more information, see [Flywheel overview](https://docs.aws.amazon.com/comprehend/latest/dg/flywheel-overview.html) in the *Amazon Comprehend Developer Guide*.

- For API details, see [DescribeFlywheelIteration](https://docs.aws.amazon.com/cli/latest/reference/comprehend/describe-flywheel-iteration.html) in *AWS CLI Command Reference*.
For more information, see [Async analysis for Amazon Comprehend insights](https://docs.aws.amazon.com/comprehend/latest/dg/async-analysis.html) in the Amazon Comprehend Developer Guide.

- For API details, see [DescribeKeyPhrasesDetectionJob](https://docs.aws.amazon.com/cli/latest/reference/comprehend/describe-key-phrases-detection-job.html) in AWS CLI Command Reference.

### describe-pii-entities-detection-job

The following code example shows how to use `describe-pii-entities-detection-job`.

**AWS CLI**

**To describe a PII entities detection job**

The following `describe-pii-entities-detection-job` example gets the properties of an asynchronous pii entities detection job.

```
aws comprehend describe-pii-entities-detection-job
  --job-id 123456abcdef0e11022f22a11EXAMPLE
```

**Output:**

```
{
  "PiiEntitiesDetectionJobProperties": {
    "JobId": "123456abcdef0e11022f22a11EXAMPLE",
    "JobName": "example-pii-entities-job",
    "LanguageCode": "en",
    "DataAccessRoleArn": "arn:aws:iam::11112223333:role/service-role/AmazonComprehendServiceRole-testrole",
    "InputDataConfig": {
      "S3Uri": "s3://dereksbucket1001/EventsData/",
      "InputFormat": "ONE_DOC_PER_LINE"
    },
    "OutputDataConfig": {
      "S3Uri": "s3://dereksbucket1002/testfolder/11112223333-KP-69aa080c00fc68934a6a98f10EXAMPLE/output/output.tar.gz"
    }
  }
}
```
"JobStatus": "IN_PROGRESS",
"SubmitTime": "2023-06-08T21:30:15.323000+00:00",
"EndTime": "2023-06-08T21:40:23.509000+00:00",
"InputDataConfig": {
    "S3Uri": "s3://DOC-EXAMPLE-BUCKET/AsyncBatchJobs/",
    "InputFormat": "ONE_DOC_PER_LINE"
},
"OutputDataConfig": {
    "S3Uri": "s3://DOC-EXAMPLE-BUCKET/thefolder/111122223333-
NER-123456abcdeb0e11022f22a11EXAMPLE/output/output.tar.gz"
},
    "LanguageCode": "en",
    "DataAccessRoleArn": "arn:aws:iam::12345678012:role/service-role/
AmazonComprehendServiceRole-example-role"
}

For more information, see Async analysis for Amazon Comprehend insights in the Amazon Comprehend Developer Guide.

- For API details, see DescribePiiEntitiesDetectionJob in AWS CLI Command Reference.

describe-resource-policy

The following code example shows how to use describe-resource-policy.

**AWS CLI**

To describe a resource policy attached to a model

The following describe-resource-policy example gets the properties of a resource-based policy attached to a model.

```
aws comprehend describe-resource-policy \
```

Output:

```
{
```
For more information, see [Copying custom models between AWS accounts](https://docs.aws.amazon.com/comprehend/latest/dg/lonely-works.html) in the *Amazon Comprehend Developer Guide*.

- For API details, see [DescribeResourcePolicy](https://docs.aws.amazon.com/cli/latest/reference/comprehend/describe-resource-policy.html) in *AWS CLI Command Reference*.

**describe-sentiment-detection-job**

The following code example shows how to use `describe-sentiment-detection-job`.

**AWS CLI**

**To describe a sentiment detection job**

The following `describe-sentiment-detection-job` example gets the properties of an asynchronous sentiment detection job.

```
aws comprehend describe-sentiment-detection-job
  --job-id 123456abcdef0e11022f22a11EXAMPLE
```

**Output:**

```
{
  "SentimentDetectionJobProperties": {
    "JobId": "123456abcdef0e11022f22a11EXAMPLE",
    "JobName": "movie_review_analysis",
    "JobStatus": "IN_PROGRESS",
    "SubmitTime": "2023-06-09T23:16:15.956000+00:00",
    "InputDataConfig": {
      "S3Uri": "s3://DOC-EXAMPLE-BUCKET/MovieData",
      "InputFormat": "ONE_DOC_PER_LINE"
    },
    "OutputDataConfig": {
      "S3Uri": "s3://DOC-EXAMPLE-DESTINATION-BUCKET/testfolder/111122223333-TS-123456abcdef0e11022f22a11EXAMPLE/output/output.tar.gz"
    },
    "LanguageCode": "en",
  };
}
"DataAccessRoleArn": "arn:aws:iam::111122223333:role/service-role/AmazonComprehendServiceRole-servicerole"
}
}

For more information, see Async analysis for Amazon Comprehend insights in the Amazon Comprehend Developer Guide.

- For API details, see DescribeSentimentDetectionJob in AWS CLI Command Reference.

describe-targeted-sentiment-detection-job

The following code example shows how to use describe-targeted-sentiment-detection-job.

AWS CLI

To describe a targeted sentiment detection job

The following describe-targeted-sentiment-detection-job example gets the properties of an asynchronous targeted sentiment detection job.

```shell
aws comprehend describe-targeted-sentiment-detection-job \
--job-id 123456abcdeb0e11022f22a11EXAMPLE
```

Output:

```json
{
   "TargetedSentimentDetectionJobProperties": {
      "JobId": "123456abcdeb0e11022f22a11EXAMPLE",
      "JobName": "movie_review_analysis",
      "JobStatus": "IN_PROGRESS",
      "SubmitTime": "2023-06-09T23:16:15.956000+00:00",
      "InputDataConfig": {
         "S3Uri": "s3://DOC-EXAMPLE-BUCKET/MovieData",
         "InputFormat": "ONE_DOC_PER_LINE"
      },
      "OutputDataConfig": {
         "S3Uri": "s3://DOC-EXAMPLE-DESTINATION-BUCKET/testfolder/111122223333-TS-123456abcdeb0e11022f22a11EXAMPLE/output/output.tar.gz"
      }
   }
}
```
For more information, see Async analysis for Amazon Comprehend insights in the Amazon Comprehend Developer Guide.

- For API details, see DescribeTargetedSentimentDetectionJob in AWS CLI Command Reference.

detect-targeted-sentiment

The following code example shows how to use detect-targeted-sentiment.

AWS CLI

To detect the targeted sentiment of named entities in an input text

The following detect-targeted-sentiment example analyzes the input text and returns the named entities in addition to the targeted sentiment associated with each entity. The pre-trained models confidence score for each prediction is also output.

```bash
aws comprehend detect-targeted-sentiment \
  --language-code en \
  --text "I do not enjoy January because it is too cold but August is the perfect temperature"
```

Output:

```
{
  "Entities": [
    {
      "DescriptiveMentionIndex": [0],
      "Mentions": [
        {
          "Score": 0.99999979734420776,
          "GroupScore": 1.0,
          "Text": "I",
          "Type": "PERSON",
          "MentionSentiment": {
```
"Sentiment": "NEUTRAL",
"SentimentScore": {
  "Positive": 0.0,
  "Negative": 0.0,
  "Neutral": 1.0,
  "Mixed": 0.0
}
},
"BeginOffset": 0,
"EndOffset": 1
}
],
{
  "DescriptiveMentionIndex": [0],
  "Mentions": [
    {
      "Score": 0.9638869762420654,
      "GroupScore": 1.0,
      "Text": "January",
      "Type": "DATE",
      "MentionSentiment": {
        "Sentiment": "NEGATIVE",
        "SentimentScore": {
          "Positive": 0.0031610000878572464,
          "Negative": 0.9967250227928162,
          "Neutral": 0.00011100000119768083,
          "Mixed": 1.9999999949504854e-06
        }
      },
      "BeginOffset": 15,
      "EndOffset": 22
    }
  ]
}
],
{
  "DescriptiveMentionIndex": [0],
  "Mentions": [
    {}
  ]
}
]
import-model

The following code example shows how to use `import-model`.

**AWS CLI**

**To import a model**

The following `import-model` example imports a model from a different AWS account. The document classifier model in account 444455556666 has a resource-based policy allowing account 111122223333 to import the model.

```bash
aws comprehend import-model \
```

Output:

```json
{
}
```

For more information, see [Copying custom models between AWS accounts](https://docs.aws.amazon.com/comprehend/latest/dg/use-api-import-model.html) in the Amazon Comprehend Developer Guide.

- For API details, see `ImportModel` in AWS CLI Command Reference.

list-datasets

The following code example shows how to use `list-datasets`.

**AWS CLI**

**To list all flywheel datasets**
The following list-datasets example lists all datasets associated with a flywheel.

```bash
aws comprehend list-datasets \
```

Output:

```json
{
   "DatasetPropertiesList": [
      {
         "DatasetName": "example-dataset-1",
         "DatasetType": "TRAIN",
         "DatasetS3Uri": "s3://DOC-EXAMPLE-BUCKET/flywheel-entity/schemaVersion=1/20230616T200543Z/datasets/example-dataset-1/20230616T203710Z/",
         "Status": "CREATING",
         "CreationTime": "2023-06-16T20:37:10.400000+00:00"
      },
      {
         "DatasetName": "example-dataset-2",
         "DatasetType": "TRAIN",
         "DatasetS3Uri": "s3://DOC-EXAMPLE-BUCKET/flywheel-entity/schemaVersion=1/20230616T200543Z/datasets/example-dataset-2/20230616T200607Z/",
         "Description": "TRAIN Dataset created by Flywheel creation.",
         "Status": "COMPLETED",
         "NumberOfDocuments": 5572,
         "CreationTime": "2023-06-16T20:06:07.722000+00:00"
      }
   ]
}
```

For more information, see [Flywheel Overview](https://docs.aws.amazon.com/comprehend/latest/dg/flywheel-overview.html) in *Amazon Comprehend Developer Guide*.

- For API details, see [ListDatasets](https://docs.aws.amazon.com/cli/latest/reference/comprehend/list-datasets.html) in *AWS CLI Command Reference*.

**list-document-classifier-summaries**

The following code example shows how to use list-document-classifier-summaries.
To list the summaries of all created document classifiers

The following `list-document-classifier-summaries` example lists all created document classifier summaries.

```
aws comprehend list-document-classifier-summaries
```

Output:

```json
{
    "DocumentClassifierSummariesList": [
        {
            "DocumentClassifierName": "example-classifier-1",
            "NumberOfVersions": 1,
            "LatestVersionCreatedAt": "2023-06-13T22:07:59.825000+00:00",
            "LatestVersionName": "1",
            "LatestVersionStatus": "TRAINED"
        },
        {
            "DocumentClassifierName": "example-classifier-2",
            "NumberOfVersions": 2,
            "LatestVersionCreatedAt": "2023-06-13T21:54:59.589000+00:00",
            "LatestVersionName": "2",
            "LatestVersionStatus": "TRAINED"
        }
    ]
}
```

For more information, see [Creating and managing custom models](https://docs.aws.amazon.com/comprehend/latest/dg/custom-models.html) in the *Amazon Comprehend Developer Guide*.

- For API details, see [ListDocumentClassifierSummaries](https://docs.aws.amazon.com/comprehend/latest/dg/API_ListDocumentClassifierSummaries.html) in *AWS CLI Command Reference*.

**list-dominant-language-detection-jobs**

The following code example shows how to use `list-dominant-language-detection-jobs`.

**AWS CLI**

To list all dominant language detection jobs
The following `list-dominant-language-detection-jobs` example lists all in-progress and completed asynchronous dominant language detection jobs.

```bash
aws comprehend list-dominant-language-detection-jobs
```

Output:

```json
{
  "DominantLanguageDetectionJobPropertiesList": [
    {
      "JobId": "123456abcdef0e11022f22a11EXAMPLE",
      "JobName": "languageanalysis1",
      "JobStatus": "COMPLETED",
      "SubmitTime": "2023-06-09T18:10:38.037000+00:00",
      "EndTime": "2023-06-09T18:18:45.498000+00:00",
      "InputDataConfig": {
        "S3Uri": "s3://DOC-EXAMPLE-BUCKET",
        "InputFormat": "ONE_DOC_PER_LINE"
      },
      "OutputDataConfig": { 
        "S3Uri": "s3://DOC-EXAMPLE-DESTINATION-BUCKET/testfolder/111122223333-LANGUAGE-123456abcdef0e11022f22a11EXAMPLE/output/output.tar.gz"
      },
      "DataAccessRoleArn": "arn:aws:iam::111122223333:role/service-role/AmazonComprehendServiceRole-example-role"
    },
    {
      "JobId": "123456abcdef0e11022f22a11EXAMPLE",
      "JobName": "languageanalysis2",
      "JobStatus": "STOPPED",
      "SubmitTime": "2023-06-09T18:16:33.690000+00:00",
      "EndTime": "2023-06-09T18:24:40.608000+00:00",
      "InputDataConfig": {
        "S3Uri": "s3://DOC-EXAMPLE-BUCKET",
        "InputFormat": "ONE_DOC_PER_LINE"
      },
      "OutputDataConfig": {
```
For more information, see Async analysis for Amazon Comprehend insights in the Amazon Comprehend Developer Guide.

- For API details, see ListDominantLanguageDetectionJobs in AWS CLI Command Reference.

list-endpoints

The following code example shows how to use list-endpoints.

AWS CLI

To list of all endpoints

The following list-endpoints example lists all active model-specific endpoints.

aws comprehend list-endpoints

Output:

```json
{
    "EndpointPropertiesList": [
      {
        "Status": "IN_SERVICE",
        "DesiredInferenceUnits": 1,
        "CurrentInferenceUnits": 1,
        "CreationTime": "2023-06-13T20:32:54.526000+00:00",
        "LastModifiedTime": "2023-06-13T20:32:54.526000+00:00"
      }
    ]
}
```
For more information, see Managing Amazon Comprehend endpoints in the Amazon Comprehend Developer Guide.

- For API details, see ListEndpoints in AWS CLI Command Reference.

**list-entities-detection-jobs**

The following code example shows how to use list-entities-detection-jobs.

**AWS CLI**

To list all entities detection jobs

The following list-entities-detection-jobs example lists all asynchronous entities detection jobs.

```
aws comprehend list-entities-detection-jobs
```

Output:

```
{
    "EntitiesDetectionJobPropertiesList": [
        {
            "JobId": "468af39c28ab45b83eb0c4ab9EXAMPLE",
            "JobArn": "arn:aws:comprehend:us-west-2:111122223333:entities-detection-job/468af39c28ab45b83eb0c4ab9EXAMPLE",
        }
    ]
}
```
"JobName": "example-entities-detection",
"JobStatus": "COMPLETED",
"SubmitTime": "2023-06-08T20:57:46.476000+00:00",
"EndTime": "2023-06-08T21:05:53.718000+00:00",
"InputDataConfig": {
    "S3Uri": "s3://DOC-EXAMPLE-BUCKET/AsyncBatchJobs/",
    "InputFormat": "ONE_DOC_PER_LINE"
},
"OutputDataConfig": {
    "S3Uri": "s3://DOC-EXAMPLE-DESTINATION-BUCKET/thefolder/111122223333-NER-468af39c28ab45b83eb0c4ab9EXAMPLE/output/output.tar.gz"
},
"LanguageCode": "en",
"DataAccessRoleArn": "arn:aws:iam::111122223333:role/service-role/AmazonComprehendServiceRole-example-role"
},
{
    "JobId": "809691caeaab0e71406f80a28EXAMPLE",
    "JobArn": "arn:aws:comprehend:us-west-2:111122223333:entities-detection-job/809691caeaab0e71406f80a28EXAMPLE",
    "JobName": "example-entities-detection-2",
    "JobStatus": "COMPLETED",
    "SubmitTime": "2023-06-08T21:30:15.323000+00:00",
    "EndTime": "2023-06-08T21:40:23.509000+00:00",
    "InputDataConfig": {
        "S3Uri": "s3://DOC-EXAMPLE-BUCKET/AsyncBatchJobs/",
        "InputFormat": "ONE_DOC_PER_LINE"
    },
    "OutputDataConfig": {
        "S3Uri": "s3://DOC-EXAMPLE-DESTINATION-BUCKET/thefolder/111122223333-NER-809691caeaab0e71406f80a28EXAMPLE/output/output.tar.gz"
    },
    "LanguageCode": "en",
    "DataAccessRoleArn": "arn:aws:iam::111122223333:role/service-role/AmazonComprehendServiceRole-example-role"
},
{
    "JobId": "e00597c36b448b91d70dea165EXAMPLE",
    "JobArn": "arn:aws:comprehend:us-west-2:111122223333:entities-detection-job/e00597c36b448b91d70dea165EXAMPLE",
    "JobName": "example-entities-detection-3",
    "JobStatus": "STOPPED",
    "SubmitTime": "2023-06-08T22:19:28.528000+00:00",
    "EndTime": "2023-06-08T22:27:33.991000+00:00"
"InputDataConfig": {
    "S3Uri": "s3://DOC-EXAMPLE-BUCKET/AsyncBatchJobs/",
    "InputFormat": "ONE_DOC_PER_LINE"
},
"OutputDataConfig": {
    "S3Uri": "s3://DOC-EXAMPLE-DESTINATION-BUCKET/thefolder/111122223333-NER-e00597c36b448b91d70dea165EXAMPLE/output/output.tar.gz"
},
"LanguageCode": "en",
"DataAccessRoleArn": "arn:aws:iam::111122223333:role/service-role/AmazonComprehendServiceRole-example-role"
}
]

For more information, see [Entities](#) in the *Amazon Comprehend Developer Guide*. For API details, see [ListEntitiesDetectionJobs](#) in _AWS CLI Command Reference_.

**list-entity-recognizer-summaries**

The following code example shows how to use `list-entity-recognizer-summaries`.

**AWS CLI**

**To list of summaries for all created entity recognizers**

The following `list-entity-recognizer-summaries` example lists all entity recognizer summaries.

```
aws comprehend list-entity-recognizer-summaries
```

**Output:**

```json
{
   "EntityRecognizerSummariesList": [
    {
    "RecognizerName": "entity-recognizer-3",
    "NumberOfVersions": 2,
    "LatestVersionCreatedAt": "2023-06-15T23:15:07.621000+00:00",
    "LatestVersionName": "2",
    "LatestVersionStatus": "STOP_REQUESTED"
    }
   ]
}
```
For more information, see Custom entity recognition in the Amazon Comprehend Developer Guide.

- For API details, see ListEntityRecognizerSummaries in AWS CLI Command Reference.

detail-recognizers

The following code example shows how to use list-entity-recognizers.

**AWS CLI**

**To list of all custom entity recognizers**

The following list-entity-recognizers example lists all created custom entity recognizers.

```bash
aws comprehend list-entity-recognizers
```

Output:

```json
{
    "EntityRecognizerPropertiesList": [
        {
            "LanguageCode": "en",
            "LatestVersionName": "1",
            "LatestVersionCreatedAt": "2023-06-14T20:44:59.631000+00:00",
            "NumberOfVersions": 1,
            "LatestVersionStatus": "TRAINED"
        }
    ]
}
```
"Status": "TRAINED",
"SubmitTime": "2023-06-14T20:44:59.631000+00:00",
"EndTime": "2023-06-14T20:59:19.532000+00:00",
"TrainingStartTime": "2023-06-14T20:48:52.811000+00:00",
"TrainingEndTime": "2023-06-14T20:58:11.473000+00:00",
"InputDataConfig": {
  "DataFormat": "COMPREHEND_CSV",
  "EntityTypes": [
    {
      "Type": "BUSINESS"
    }
  ],
  "Documents": {
    "S3Uri": "s3://DOC-EXAMPLE-BUCKET/trainingdata/dataset/",
    "InputFormat": "ONE_DOC_PER_LINE"
  },
  "EntityList": {
    "S3Uri": "s3://DOC-EXAMPLE-BUCKET/trainingdata/entity.csv"
  }
},
"RecognizerMetadata": {
  "NumberOfTrainedDocuments": 1814,
  "NumberOfTestDocuments": 486,
  "EvaluationMetrics": {
    "Precision": 100.0,
    "Recall": 100.0,
    "F1Score": 100.0
  },
  "EntityTypes": [
    {
      "Type": "BUSINESS",
      "EvaluationMetrics": {
        "Precision": 100.0,
        "Recall": 100.0,
        "F1Score": 100.0
      },
      "NumberOfTrainMentions": 1520
    }
  ]
},
"DataAccessRoleArn": "arn:aws:iam::111122223333:role/service-role/AmazonComprehendServiceRole-servicerole",
"VersionName": "1"
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{
"LanguageCode": "en",
"Status": "TRAINED",
"SubmitTime": "2023-06-14T22:57:51.056000+00:00",
"EndTime": "2023-06-14T23:14:13.894000+00:00",
"TrainingStartTime": "2023-06-14T23:01:33.984000+00:00",
"TrainingEndTime": "2023-06-14T23:13:02.984000+00:00",
"InputDataConfig": {
"DataFormat": "COMPREHEND_CSV",
"EntityTypes": [
{
"Type": "DEVICE"
}
],
"Documents": {
"S3Uri": "s3://DOC-EXAMPLE-BUCKET/trainingdata/raw_txt.csv",
"InputFormat": "ONE_DOC_PER_LINE"
},
"EntityList": {
"S3Uri": "s3://DOC-EXAMPLE-BUCKET/trainingdata/entity_list.csv"
}
},
"RecognizerMetadata": {
"NumberOfTrainedDocuments": 4616,
"NumberOfTestDocuments": 3489,
"EvaluationMetrics": {
"Precision": 98.54227405247813,
"Recall": 100.0,
"F1Score": 99.26578560939794
},
"EntityTypes": [
{
"Type": "DEVICE",
"EvaluationMetrics": {
"Precision": 98.54227405247813,
"Recall": 100.0,
"F1Score": 99.26578560939794
},
"NumberOfTrainMentions": 2764
}
]
},

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"DataAccessRoleArn": "arn:aws:iam::111122223333:role/service-role/AmazonComprehendServiceRole-servicerole"
}
]
}

For more information, see Custom entity recognition in the Amazon Comprehend Developer Guide.

- For API details, see ListEntityRecognizers in AWS CLI Command Reference.

list-events-detection-jobs

The following code example shows how to use list-events-detection-jobs.

AWS CLI

To list all events detection jobs

The following list-events-detection-jobs example lists all asynchronous events detection jobs.

aws comprehend list-events-detection-jobs

Output:

{
    "EventsDetectionJobPropertiesList": [
        {
            "JobId": "aa9593f9203e84f3ef032ce18EXAMPLE",
            "JobArn": "arn:aws:comprehend:us-west-2:111122223333:events-detection-job/aa9593f9203e84f3ef032ce18EXAMPLE",
            "JobName": "events_job_1",
            "JobStatus": "COMPLETED",
            "SubmitTime": "2023-06-12T19:14:57.751000+00:00",
            "EndTime": "2023-06-12T19:21:04.962000+00:00",
            "InputDataConfig": {
                "S3Uri": "s3://DOC-EXAMPLE-SOURCE-BUCKET/EventsData/",
                "InputFormat": "ONE_DOC_PER_LINE"
            },
            "OutputDataConfig": {
                "S3Uri": "s3://DOC-EXAMPLE-DESTINATION-BUCKET/testfolder/111122223333-EVENTS-aa9593f9203e84f3ef032ce18EXAMPLE/output/"
            }
        }
    ]
}
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},
"LanguageCode": "en",
"DataAccessRoleArn": "arn:aws:iam::1111222233333:role/service-role/
AmazonComprehendServiceRole-example-role",
"TargetEventTypes": [
"BANKRUPTCY",
"EMPLOYMENT",
"CORPORATE_ACQUISITION",
"CORPORATE_MERGER",
"INVESTMENT_GENERAL"
]
},
{
"JobId": "4a990a2f7e82adfca6e171135EXAMPLE",
"JobArn": "arn:aws:comprehend:us-west-2:1111222233333:events-detectionjob/4a990a2f7e82adfca6e171135EXAMPLE",
"JobName": "events_job_2",
"JobStatus": "COMPLETED",
"SubmitTime": "2023-06-12T19:55:43.702000+00:00",
"EndTime": "2023-06-12T20:03:49.893000+00:00",
"InputDataConfig": {
"S3Uri": "s3://DOC-EXAMPLE-SOURCE-BUCKET/EventsData/",
"InputFormat": "ONE_DOC_PER_LINE"
},
"OutputDataConfig": {
"S3Uri": "s3://DOC-EXAMPLE-DESTINATION-BUCKET/
testfolder/1111222233333-EVENTS-4a990a2f7e82adfca6e171135EXAMPLE/output/"
},
"LanguageCode": "en",
"DataAccessRoleArn": "arn:aws:iam::1111222233333:role/service-role/
AmazonComprehendServiceRole-example-role",
"TargetEventTypes": [
"BANKRUPTCY",
"EMPLOYMENT",
"CORPORATE_ACQUISITION",
"CORPORATE_MERGER",
"INVESTMENT_GENERAL"
]
}
]
}

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For more information, see Async analysis for Amazon Comprehend insights in the Amazon Comprehend Developer Guide.

- For API details, see ListEventsDetectionJobs in AWS CLI Command Reference.

**list-flywheel-iteration-history**

The following code example shows how to use list-flywheel-iteration-history.

**AWS CLI**

To list all flywheel iteration history

The following list-flywheel-iteration-history example lists all iterations of a flywheel.

```
aws comprehend list-flywheel-iteration-history
```

Output:

```
{
    "FlywheelIterationPropertiesList": [
        {
            "FlywheelIterationId": "20230619TEXAMPLE",
            "CreationTime": "2023-06-19T04:00:32.594000+00:00",
            "EndTime": "2023-06-19T04:00:49.248000+00:00",
            "Status": "COMPLETED",
            "Message": "FULL_ITERATION: Flywheel iteration performed all functions successfully.",
            "EvaluatedModelMetrics": {
                "AverageF1Score": 0.7742663922375772,
                "AverageF1Score": 0.9876464664646313,
                "AveragePrecision": 0.9800000253081214,
                "AverageRecall": 0.9445600253081214,
                "AverageAccuracy": 0.9997281665190434
            }
        }
    ]
}
```
"EvaluationManifestS3Prefix": "s3://DOC-EXAMPLE-BUCKET/example-flywheel/
  schemaVersion=1/20230619TEXAMPLE/evaluation/20230619TEXAMPLE/",
  {
      example-flywheel-2",
    "FlywheelIterationId": "20230616TEXAMPLE",
    "CreationTime": "2023-06-16T21:10:26.385000+00:00",
    "EndTime": "2023-06-16T23:33:16.827000+00:00",
    "Status": "COMPLETED",
    "Message": "FULL_ITERATION: Flywheel iteration performed all functions
      successfully."
    "EvaluatedModelMetrics": {
      "AverageF1Score": 0.7742663922375772,
      "AverageF1Score": 0.9767700253081214,
      "AverageRecall": 0.9767700253081214,
      "AveragePrecision": 0.9858281665190434
    },
    "EvaluationManifestS3Prefix": "s3://DOC-EXAMPLE-BUCKET/example-flywheel-
      2/schemaVersion=1/20230616TEXAMPLE/evaluation/20230616TEXAMPLE/"
  }
}

For more information, see [Flywheel overview](https://aws.amazon.com/comprehend/#Flywheel) in the *[Amazon Comprehend Developer Guide](https://docs.aws.amazon.com/comprehend/latest/dg/flywheel-overview.html)*.

- For API details, see [ListFlywheelIterationHistory](https://docs.aws.amazon.com/cli/latest/reference/comprehend/list-flywheels.html) in *[AWS CLI Command Reference](https://docs.aws.amazon.com/cli/latest/reference/comprehend/list-flywheels.html)*.

### list-flywheels

The following code example shows how to use `list-flywheels`.

**AWS CLI**

**To list all flywheels**

The following `list-flywheels` example lists all created flywheels.

```bash
aws comprehend list-flywheels
```
Output:

```json
{
   "FlywheelSummaryList": [
   {
      "DataLakeS3Uri": "s3://DOC-EXAMPLE-BUCKET/example-flywheel-1/schemaVersion=1/20230616T200543Z/",
      "Status": "ACTIVE",
      "ModelType": "DOCUMENT_CLASSIFIER",
      "CreationTime": "2023-06-16T20:05:43.242000+00:00",
      "LastModifiedTime": "2023-06-19T04:00:43.027000+00:00",
      "LatestFlywheelIteration": "20230619T040032Z"
   },
   {
      "DataLakeS3Uri": "s3://DOC-EXAMPLE-BUCKET/example-flywheel-2/schemaVersion=1/20220616T200543Z/",
      "Status": "ACTIVE",
      "ModelType": "DOCUMENT_CLASSIFIER",
      "CreationTime": "2022-06-16T20:05:43.242000+00:00",
      "LastModifiedTime": "2022-06-19T04:00:43.027000+00:00",
      "LatestFlywheelIteration": "20220619T040032Z"
   }
   ]
}
```

For more information, see [Flywheel overview](#) in the *Amazon Comprehend Developer Guide*.

- For API details, see [ListFlywheels](#) in *AWS CLI Command Reference*.

**list-key-phrases-detection-jobs**

The following code example shows how to use `list-key-phrases-detection-jobs`. 
AWS CLI

To list all key phrases detection jobs

The following list-key-phrases-detection-jobs example lists all in-progress and completed asynchronous key phrases detection jobs.

```
aws comprehend list-key-phrases-detection-jobs
```

Output:

```json
{
    "KeyPhrasesDetectionJobPropertiesList": [
        {
            "JobId": "123456abcdef0e11022f22a11EXAMPLE",
            "JobArn": "arn:aws:comprehend:us-west-2:111122223333:key-phrases-detection-job/123456abcdef0e11022f22a11EXAMPLE",
            "JobName": "keyphrasesanalysis1",
            "JobStatus": "COMPLETED",
            "SubmitTime": "2023-06-08T22:31:43.767000+00:00",
            "EndTime": "2023-06-08T22:39:52.565000+00:00",
            "InputDataConfig": {
                "S3Uri": "s3://DOC-EXAMPLE-SOURCE-BUCKET/AsyncBatchJobs/",
                "InputFormat": "ONE_DOC_PER_LINE"
            },
            "OutputDataConfig": {
                "S3Uri": "s3://DOC-EXAMPLE-DESTINATION-BUCKET/testfolder/111122223333-KP-123456abcdef0e11022f22a11EXAMPLE/output/output.tar.gz"
            },
            "LanguageCode": "en",
            "DataAccessRoleArn": "arn:aws:iam::111122223333:role/service-role/AmazonComprehendServiceRole-example-role"
        },
        {
            "JobId": "123456abcdef0e11022f22a33EXAMPLE",
            "JobArn": "arn:aws:comprehend:us-west-2:111122223333:key-phrases-detection-job/123456abcdef0e11022f22a33EXAMPLE",
            "JobName": "keyphrasesanalysis2",
            "JobStatus": "STOPPED",
            "SubmitTime": "2023-06-08T22:57:52.154000+00:00",
            "EndTime": "2023-06-08T22:58:48.385000+00:00",
            "InputDataConfig": {
                "S3Uri": "s3://DOC-EXAMPLE-BUCKET/AsyncBatchJobs/",
            }
        }
    ]
}
```
For more information, see Async analysis for Amazon Comprehend insights in the Amazon Comprehend Developer Guide.

- For API details, see ListKeyPhrasesDetectionJobs in AWS CLI Command Reference.

list-pii-entities-detection-jobs

The following code example shows how to use list-pii-entities-detection-jobs.
To list all pii entities detection jobs

The following list-pii-entities-detection-jobs example lists all in-progress and completed asynchronous pii detection jobs.

```bash
aws comprehend list-pii-entities-detection-jobs
```

Output:

```json
{
"PiiEntitiesDetectionJobPropertiesList": [
  {
    "JobId": "6f9db0c42d0c810e814670ee4EXAMPLE",
    "JobArn": "arn:aws:comprehend:us-west-2:111122223333:pii-entities-detection-job/6f9db0c42d0c810e814670ee4EXAMPLE",
    "JobName": "example-pii-detection-job",
    "JobStatus": "COMPLETED",
    "SubmitTime": "2023-06-09T21:02:46.241000+00:00",
    "EndTime": "2023-06-09T21:12:52.602000+00:00",
    "InputDataConfig": {
      "S3Uri": "s3://DOC-EXAMPLE-BUCKET/AsyncBatchJobs/",
      "InputFormat": "ONE_DOC_PER_LINE"
    },
    "OutputDataConfig": {
      "S3Uri": "s3://DOC-EXAMPLE-SOURCE-BUCKET/111122223333-PII-6f9db0c42d0c810e814670ee4EXAMPLE/output/"
    },
    "LanguageCode": "en",
    "DataAccessRoleArn": "arn:aws:iam::111122223333:role/service-role/AmazonComprehendServiceRole-example-role",
    "Mode": "ONLY_OFFSETS"
  },
  {
    "JobId": "d927562638cfa73931a99b3cEXAMPLE",
    "JobName": "example-pii-detection-job-2",
    "JobStatus": "COMPLETED",
    "SubmitTime": "2023-06-09T21:20:58.211000+00:00",
    "EndTime": "2023-06-09T21:31:06.027000+00:00",
    "InputDataConfig": {
```
For more information, see Async analysis for Amazon Comprehend insights in the Amazon Comprehend Developer Guide.

- For API details, see ListPiiEntitiesDetectionJobs in AWS CLI Command Reference.

**list-sentiment-detection-jobs**

The following code example shows how to use list-sentiment-detection-jobs.

**AWS CLI**

To list all sentiment detection jobs

The following list-sentiment-detection-jobs example lists all in-progress and completed asynchronous sentiment detection jobs.

```
aws comprehend list-sentiment-detection-jobs
```

Output:

```json
{
   "SentimentDetectionJobPropertiesList": [
   {
      "JobId": "123456abcdef0e11022f22a11EXAMPLE",
```

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"JobName": "example-sentiment-detection-job",
"JobStatus": "IN_PROGRESS",
"SubmitTime": "2023-06-09T22:42:20.545000+00:00",
"EndTime": "2023-06-09T22:52:27.416000+00:00",
"InputDataConfig": {
    "S3Uri": "s3://DOC-EXAMPLE-BUCKET/MovieData",
    "InputFormat": "ONE_DOC_PER_LINE"
},
"OutputDataConfig": {
    "S3Uri": "s3://DOC-EXAMPLE-DESTINATION-BUCKET/testfolder/111122223333-TS-123456abcdeb0e11022f22a11EXAMPLE/output/output.tar.gz"
},
"LanguageCode": "en",
"DataAccessRoleArn": "arn:aws:iam::111122223333:role/service-role/AWSComprehendServiceRole-example-role"
},
{
    "JobId": "123456abcdeb0e11022f22a1EXAMPLE2",
    "JobArn": "arn:aws:comprehend:us-west-2:111122223333:sentiment-detection-job/123456abcdeb0e11022f22a1EXAMPLE2",
    "JobName": "example-sentiment-detection-job-2",
    "JobStatus": "COMPLETED",
    "SubmitTime": "2023-06-09T23:16:15.956000+00:00",
    "EndTime": "2023-06-09T23:26:00.168000+00:00",
    "InputDataConfig": {
        "S3Uri": "s3://DOC-EXAMPLE-BUCKET/MovieData2",
        "InputFormat": "ONE_DOC_PER_LINE"
    },
    "OutputDataConfig": {
        "S3Uri": "s3://DOC-EXAMPLE-DESTINATION-BUCKET/testfolder/111122223333-TS-123456abcdeb0e11022f22a1EXAMPLE2/output/output.tar.gz"
    },
    "LanguageCode": "en",
    "DataAccessRoleArn": "arn:aws:iam::111122223333:role/service-role/AWSComprehendServiceRole-example-role"
}
]

For more information, see Async analysis for Amazon Comprehend insights in the Amazon Comprehend Developer Guide.

- For API details, see ListSentimentDetectionJobs in AWS CLI Command Reference.
list-tags-for-resource

The following code example shows how to use list-tags-for-resource.

AWS CLI

To list tags for resource

The following list-tags-for-resource example lists the tags for an Amazon Comprehend resource.

```bash
aws comprehend list-tags-for-resource \
```

Output:

```json
{
   "Tags": [
       {
           "Key": "Department",
           "Value": "Finance"
       },
       {
           "Key": "location",
           "Value": "Seattle"
       }
   ]
}
```

For more information, see Tagging your resources in the Amazon Comprehend Developer Guide.

- For API details, see ListTagsForResource in AWS CLI Command Reference.

list-targeted-sentiment-detection-jobs

The following code example shows how to use list-targeted-sentiment-detection-jobs.

AWS CLI

To list all targeted sentiment detection jobs
The following `list-targeted-sentiment-detection-jobs` example lists all in-progress and completed asynchronous targeted sentiment detection jobs.

```
aws comprehend list-targeted-sentiment-detection-jobs
```

Output:

```json
{
    "TargetedSentimentDetectionJobPropertiesList": [
        {
            "JobId": "123456abcdef0e11022f22a11EXAMPLE",
            "JobName": "example-targeted-sentiment-detection-job",
            "JobStatus": "COMPLETED",
            "SubmitTime": "2023-06-09T22:42:20.545000+00:00",
            "EndTime": "2023-06-09T22:52:27.416000+00:00",
            "InputDataConfig": {
                "S3Uri": "s3://DOC-EXAMPLE-BUCKET/MovieData",
                "InputFormat": "ONE_DOC_PER_LINE"
            },
            "OutputDataConfig": {
                "S3Uri": "s3://DOC-EXAMPLE-DESTINATION-BUCKET/testfolder/111122223333-TS-123456abcdef0e11022f22a11EXAMPLE/output/output.tar.gz"
            },
            "LanguageCode": "en",
            "DataAccessRoleArn": "arn:aws:iam::111122223333:role/service-role/AmazonComprehendServiceRole-I0role"
        },
        {
            "JobId": "123456abcdef0e11022f22a1EXAMPLE2",
            "JobArn": "arn:aws:comprehend:us-west-2:111122223333:targeted-sentiment-detection-job/123456abcdef0e11022f22a1EXAMPLE2",
            "JobName": "example-targeted-sentiment-detection-job-2",
            "JobStatus": "COMPLETED",
            "SubmitTime": "2023-06-09T23:16:15.956000+00:00",
            "EndTime": "2023-06-09T23:26:00.168000+00:00",
            "InputDataConfig": {
                "S3Uri": "s3://DOC-EXAMPLE-BUCKET/MovieData2",
                "InputFormat": "ONE_DOC_PER_LINE"
            },
            "OutputDataConfig": {
            
        }
    ]
}
```
The following code example shows how to use `put-resource-policy`.

### AWS CLI

**To attach a resource-based policy**

The following `put-resource-policy` example attaches a resource-based policy to a model so that can be imported by another AWS account. The policy is attached to the model in account 111122223333 and allows account 444455556666 import the model.

```
aws comprehend put-resource-policy \
```

**Output:**

```
{
  "PolicyRevisionId": "aaa111d069d07afaa2aa3106aEXAMPLE"
}
```

For more information, see [Copying custom models between AWS accounts](https://docs.aws.amazon.com/Comprehend/latest/dg/custom-model-import.html) in the *Amazon Comprehend Developer Guide*.
For API details, see PutResourcePolicy in AWS CLI Command Reference.

**start-dominant-language-detection-job**

The following code example shows how to use start-dominant-language-detection-job.

**AWS CLI**

To start an asynchronous language detection job

The following start-dominant-language-detection-job example starts an asynchronous language detection job for all of the files located at the address specified by the --input-data-config tag. The S3 bucket in this example contains Sampletext1.txt. When the job is complete, the folder, output, is placed in the location specified by the --output-data-config tag. The folder contains output.txt which contains the dominant language of each of the text files as well as the pre-trained model's confidence score for each prediction.

```bash
aws comprehend start-dominant-language-detection-job \
  --job-name example_language_analysis_job \
  --language-code en \
  --input-data-config "S3Uri=s3://DOC-EXAMPLE-BUCKET/" \
  --output-data-config "S3Uri=s3://DOC-EXAMPLE-DESTINATION-BUCKET/testfolder/" \
  --data-access-role-arn arn:aws:iam::111122223333:role/service-role/AmazonComprehendServiceRole-example-role \
  --language-code en
```

Contents of Sampletext1.txt:

"Physics is the natural science that involves the study of matter and its motion and behavior through space and time, along with related concepts such as energy and force."

Output:

```json
{
  "JobId": "123456abcdeb0e11022f22a11EXAMPLE",
  "JobStatus": "SUBMITTED"
}
```
The following code example shows how to use `start-entities-detection-job`.

### AWS CLI

**Example 1: To start a standard entity detection job using the pre-trained model**

The following `start-entities-detection-job` example starts an asynchronous entities detection job for all files located at the address specified by the `--input-data-config` tag. The S3 bucket in this example contains `Sampletext1.txt`, `Sampletext2.txt`, and `Sampletext3.txt`. When the job is complete, the folder, `output`, is placed in the location specified by the `--output-data-config` tag. The folder contains `output.txt` which lists all of the named entities detected within each text file as well as the pre-trained model's confidence score for each prediction. The Json output is printed on one line per input file, but is formatted here for readability.

```bash
aws comprehend start-entities-detection-job 
    --job-name entitiestest 
    --language-code en 
    --input-data-config "S3Uri=s3://DOC-EXAMPLE-BUCKET/" 
    --output-data-config "S3Uri=s3://DOC-EXAMPLE-DESTINATION-BUCKET/testfolder/" 
    --data-access-role-arn arn:aws:iam::111122223333:role/service-role/AmazonComprehendServiceRole-example-role 
    --language-code en
```

**Contents of Sampletext1.txt:**

"Hello Zhang Wei, I am John. Your AnyCompany Financial Services, LLC credit card account 1111-XXXX-1111-XXXX has a minimum payment of $24.53 that is due by July 31st."
Contents of Sampletext2.txt:

"Dear Max, based on your autopay settings for your account example1.org account, we will withdraw your payment on the due date from your bank account number XXXXXX1111 with the routing number XXXXX0000."

Contents of Sampletext3.txt:

"Jane, please submit any customer feedback from this weekend to AnySpa, 123 Main St, Anywhere and send comments to Alice at AnySpa@example.com."

Output:

```
{
   "JobId": "123456abcdeb0e11022f22a11EXAMPLE",
   "JobStatus": "SUBMITTED"
}
```

Contents of output.txt with line indents for readability:

```
{
   "Entities": ["{}
       { "BeginOffset": 6, "EndOffset": 15, "Score": 0.9994006636420306, "Text": "Zhang Wei", "Type": "PERSON" },
       { "BeginOffset": 22, "EndOffset": 26, "Score": 0.9976647915128143, "Text": "John", "Type": "PERSON" },
       { "BeginOffset": 33, "EndOffset": 67, "Score": 0.9984608700836206, "Text": "Jane", "Type": "PERSON" }
   ]
}
```
"Text": "AnyCompany Financial Services, LLC",
"Type": "ORGANIZATION"
},
{
"BeginOffset": 88,
"EndOffset": 107,
"Score": 0.9868521019555556,
"Text": "1111-XXXX-1111-XXXX",
"Type": "OTHER"
},
{
"BeginOffset": 133,
"EndOffset": 139,
"Score": 0.998242565709204,
"Text": "$24.53",
"Type": "QUANTITY"
},
{
"BeginOffset": 155,
"EndOffset": 164,
"Score": 0.9993039263159287,
"Text": "July 31st",
"Type": "DATE"
}
],
"File": "SampleText1.txt",
"Line": 0
}
"Entities": [ 
{
"BeginOffset": 5,
"EndOffset": 8,
"Score": 0.9866232147545232,
"Text": "Max",
"Type": "PERSON"
},
{
"BeginOffset": 156,
"EndOffset": 166,
"Score": 0.979772345093329,
"Text": "XXXXXX1111",
"Type": "OTHER"
},
Actions and scenarios

{}
For more information, see Async analysis for Amazon Comprehend insights in the Amazon Comprehend Developer Guide.

**Example 2: To start a custom entity detection job**

The following `start-entities-detection-job` example starts an asynchronous custom entities detection job for all files located at the address specified by the `--input-data-config` tag. In this example, the S3 bucket in this example contains `SampleFeedback1.txt`, `SampleFeedback2.txt`, and `SampleFeedback3.txt`. The entity recognizer model was trained on customer support Feedbacks to recognize device names. When the job is complete, an the folder, `output`, is put at the location specified by the `--output-data-config` tag. The folder contains `output.txt`, which lists all of the named entities detected within each text file as well as the pre-trained model's confidence score for each prediction. The Json output is printed on one line per file, but is formatted here for readability.

```bash
aws comprehend start-entities-detection-job \
  --job-name customentitiestest \
  --entity-recognizer-arn "arn:aws:comprehend:us-west-2:111122223333:entity-recognizer/entityrecognizer" \
  --language-code en \
  --input-data-config "S3Uri=s3://DOC-EXAMPLE-BUCKET/jobdata/" \
  --output-data-config "S3Uri=s3://DOC-EXAMPLE-DESTINATION-BUCKET/testfolder/" \
  --data-access-role-arn "arn:aws:iam::111122223333:role/service-role/AmazonComprehendServiceRole-IORole"
```
**Contents of SampleFeedback1.txt:**

"I've been on the AnyPhone app have had issues for 24 hours when trying to pay bill. Cannot make payment. Sigh. | Oh man! Lets get that app up and running. DM me, and we can get to work!"

**Contents of SampleFeedback2.txt:**

"Hi, I have a discrepancy with my new bill. Could we get it sorted out? A rep added stuff I didn't sign up for when I did my AnyPhone 10 upgrade. | We can absolutely get this sorted!"

**Contents of SampleFeedback3.txt:**

"Is the by 1 get 1 free AnySmartPhone promo still going on? | Hi Christian! It ended yesterday, send us a DM if you have any questions and we can take a look at your options!"

**Output:**

```
{
    "JobId": "019ea9edac758806850fa8a79ff83021",
    "JobStatus": "SUBMITTED"
}
```

**Contents of output.txt with line indents for readability:**

```
{
    "Entities": [
        {
            "BeginOffset": 17,
            "EndOffset": 25,
            "Score": 0.9999728210205924,
            "Text": "AnyPhone",
            "Type": "DEVICE"
        }
    ],
    "File": "SampleFeedback1.txt",
    "Line": 0
}
```
For more information, see [Custom entity recognition](https://docs.aws.amazon.com/comprehend/latest/dg/custom-entity-recognition.html) in the Amazon Comprehend Developer Guide.


start-events-detection-job

The following code example shows how to use `start-events-detection-job`.

**AWS CLI**

**To start an asynchronous events detection job**

The following `start-events-detection-job` example starts an asynchronous events detection job for all files located at the address specified by the `--input-data-config` tag.
Possible target event types include BANKRUPTCY, EMPLOYMENT, CORPORATE_ACQUISITION, INVESTMENT_GENERAL, CORPORATE_MERGER, IPO, RIGHTS_ISSUE, SECONDARY_OFFERING, SHELF_OFFERING, TENDER_OFFERING, and STOCK_SPLIT. The S3 bucket in this example contains SampleText1.txt, SampleText2.txt, and SampleText3.txt. When the job is complete, the folder, output, is placed in the location specified by the --output-data-config tag. The folder contains SampleText1.txt.out, SampleText2.txt.out, and SampleText3.txt.out. The JSON output is printed on one line per file, but is formatted here for readability.

```
aws comprehend start-events-detection-job \
    --job-name events-detection-1 \
    --input-data-config "S3Uri=s3://DOC-EXAMPLE-BUCKET/EventsData" \
    --output-data-config "S3Uri=s3://DOC-EXAMPLE-DESTINATION-BUCKET/testfolder/" \
    --data-access-role-arn arn:aws:iam::111122223333:role/service-role/\n    AmazonComprehendServiceRole-servicerole \
    --language-code en \
    --target-event-types "BANKRUPTCY" "EMPLOYMENT" "CORPORATE_ACQUISITION" \
    "CORPORATE_MERGER" "INVESTMENT_GENERAL"
```

Contents of SampleText1.txt:

"Company AnyCompany grew by increasing sales and through acquisitions. After purchasing competing firms in 2020, AnyBusiness, a part of the AnyBusinessGroup, gave Jane Does firm a going rate of one cent a gallon or forty-two cents a barrel."

Contents of SampleText2.txt:

"In 2021, AnyCompany officially purchased AnyBusiness for 100 billion dollars, surprising and exciting the shareholders."

Contents of SampleText3.txt:

"In 2022, AnyCompany stock crashed 50. Eventually later that year they filed for bankruptcy."

Output:

```
{
    "JobId": "123456abcdef0e11022f22a11EXAMPLE",
```
"JobStatus": "SUBMITTED"
}

Contents of SampleText1.txt.out with line indents for readability:

{
  "Entities": [
    {
      "Mentions": [
        {
          "BeginOffset": 8,
          "EndOffset": 18,
          "Score": 0.99977,
          "Text": "AnyCompany",
          "Type": "ORGANIZATION",
          "GroupScore": 1
        },
        {
          "BeginOffset": 112,
          "EndOffset": 123,
          "Score": 0.999747,
          "Text": "AnyBusiness",
          "Type": "ORGANIZATION",
          "GroupScore": 0.979826
        },
        {
          "BeginOffset": 171,
          "EndOffset": 175,
          "Score": 0.999615,
          "Text": "firm",
          "Type": "ORGANIZATION",
          "GroupScore": 0.871647
        }
      ]
    },
    {
      "Mentions": [
        {
          "BeginOffset": 97,
          "EndOffset": 102,
          "Score": 0.987687,
          "Text": "EXAMPLE"
        }
      ]
    }
  ]
}
"Text": "firms",
"Type": "ORGANIZATION",
"GroupScore": 1
}
]
}
{
"Mentions": [
{
"BeginOffset": 103,
"EndOffset": 110,
"Score": 0.999458,
"Text": "in 2020",
"Type": "DATE",
"GroupScore": 1
}
]
},
{
"Mentions": [
{
"BeginOffset": 160,
"EndOffset": 168,
"Score": 0.999649,
"Text": "John Doe",
"Type": "PERSON",
"GroupScore": 1
}
]
}
],
"Events": [
{
"Type": "CORPORATE_ACQUISITION",
"Arguments": [
{
"EntityIndex": 0,
"Role": "INVESTOR",
"Score": 0.99977
}
],
"Triggers": [
{
"BeginOffset": 56,
"EndOffset": 68,
  "Score": 0.999967,
  "Text": "acquisitions",
  "Type": "CORPORATE_ACQUISITION",
  "GroupScore": 1
}
],
},
{
  "Type": "CORPORATE_ACQUISITION",
  "Arguments": [
    {
      "EntityIndex": 1,
      "Role": "INVESTEE",
      "Score": 0.987687
    },
    {
      "EntityIndex": 2,
      "Role": "DATE",
      "Score": 0.999458
    },
    {
      "EntityIndex": 3,
      "Role": "INVESTOR",
      "Score": 0.999649
    }
  ],
  "Triggers": [
    {
      "BeginOffset": 76,
      "EndOffset": 86,
      "Score": 0.999973,
      "Text": "purchasing",
      "Type": "CORPORATE_ACQUISITION",
      "GroupScore": 1
    }
  ]
},
"File": "SampleText1.txt",
"Line": 0
Contents of SampleText2.txt.out:

```json
{
   "Entities": [
      {
         "Mentions": [
            {
               "BeginOffset": 0,
               "EndOffset": 7,
               "Score": 0.999473,
               "Text": "In 2021",
               "Type": "DATE",
               "GroupScore": 1
            }
         ]
      },
      {
         "Mentions": [
            {
               "BeginOffset": 9,
               "EndOffset": 19,
               "Score": 0.999636,
               "Text": "AnyCompany",
               "Type": "ORGANIZATION",
               "GroupScore": 1
            }
         ]
      },
      {
         "Mentions": [
            {
               "BeginOffset": 45,
               "EndOffset": 56,
               "Score": 0.999712,
               "Text": "AnyBusiness",
               "Type": "ORGANIZATION",
               "GroupScore": 1
            }
         ]
      },
      {
         "Mentions": [
            {
               "BeginOffset": 61,
               "EndOffset": 71,
               "Score": 0.998525,
               "Text": "Amazon Web Services",
               "Type": "ORGANIZATION",
               "GroupScore": 1
            }
         ]
      }
   ]
}
```
"EndOffset": 80,
"Score": 0.998886,
"Text": "100 billion dollars",
"Type": "MONETARY_VALUE",
"GroupScore": 1
}
],

"Events": [
{
"Type": "CORPORATE_ACQUISITION",
"Arguments": [
{
"EntityIndex": 3,
"Role": "AMOUNT",
"Score": 0.998886
},
{
"EntityIndex": 2,
"Role": "INVESTEE",
"Score": 0.999712
},
{
"EntityIndex": 0,
"Role": "DATE",
"Score": 0.999473
},
{
"EntityIndex": 1,
"Role": "INVESTOR",
"Score": 0.999636
}
]
],

"Triggers": [
{
"BeginOffset": 31,
"EndOffset": 40,
"Score": 0.99995,
"Text": "purchased",
"Type": "CORPORATE_ACQUISITION",
"GroupScore": 1
}
]
Contents of SampleText3.txt.out:

```json
{
   "Entities": [
       {
           "Mentions": [
               {
                   "BeginOffset": 9,
                   "EndOffset": 19,
                   "Score": 0.999774,
                   "Text": "AnyCompany",
                   "Type": "ORGANIZATION",
                   "GroupScore": 1
               },
               {
                   "BeginOffset": 66,
                   "EndOffset": 70,
                   "Score": 0.995717,
                   "Text": "they",
                   "Type": "ORGANIZATION",
                   "GroupScore": 0.997626
               }
           ]
       },
       {
           "Mentions": [
               {
                   "BeginOffset": 50,
                   "EndOffset": 65,
                   "Score": 0.999656,
                   "Text": "later that year",
                   "Type": "DATE",
                   "GroupScore": 1
               }
           ]
       }
   ]
}
```
"Events": [ 
  { 
    "Type": "BANKRUPTCY",
    "Arguments": [ 
      { 
        "EntityIndex": 1,
        "Role": "DATE",
        "Score": 0.999656
      }, 
      
      { 
        "EntityIndex": 0,
        "Role": "FILER",
        "Score": 0.995717
      }
    ],
    "Triggers": [ 
      { 
        "BeginOffset": 81,
        "EndOffset": 91,
        "Score": 0.999936,
        "Text": "bankruptcy",
        "Type": "BANKRUPTCY",
        "GroupScore": 1
      }
    ],
    "File": "SampleText3.txt",
    "Line": 0
  }
}

For more information, see Async analysis for Amazon Comprehend insights in the Amazon Comprehend Developer Guide.

- For API details, see StartEventsDetectionJob in AWS CLI Command Reference.

start-flywheel-iteration

The following code example shows how to use start-flywheel-iteration.

AWS CLI

To start a flywheel iteration
The following `start-flywheel-iteration` example starts a flywheel iteration. This operation uses any new datasets in the flywheel to train a new model version.

```bash
aws comprehend start-flywheel-iteration \
```

Output:

```json
{
   "FlywheelIterationId": "12345123TEXAMPLE"
}
```

For more information, see [Flywheel overview](#) in the *Amazon Comprehend Developer Guide*.

- For API details, see [StartFlywheelIteration](#) in *AWS CLI Command Reference*.

---

### start-key-phrases-detection-job

The following code example shows how to use `start-key-phrases-detection-job`.

**AWS CLI**

**To start a key phrases detection job**

The following `start-key-phrases-detection-job` example starts an asynchronous key phrases detection job for all files located at the address specified by the `--input-data-config` tag. The S3 bucket in this example contains Sampletext1.txt, Sampletext2.txt, and Sampletext3.txt. When the job is completed, the folder, output, is placed in the location specified by the `--output-data-config` tag. The folder contains the file output.txt which contains all the key phrases detected within each text file and the pre-trained model's confidence score for each prediction. The Json output is printed on one line per file, but is formatted here for readability.

```bash
aws comprehend start-key-phrases-detection-job \
   --job-name keyphrasesanalysistest1 \
   --language-code en \
   --input-data-config "S3Uri=s3://DOC-EXAMPLE-BUCKET/" \
   --output-data-config "S3Uri=s3://DOC-EXAMPLE-DESTINATION-BUCKET/testfolder/"
```
Contents of Sampletext1.txt:

"Hello Zhang Wei, I am John. Your AnyCompany Financial Services, LLC credit card account 1111-XXXX-1111-XXXX has a minimum payment of $24.53 that is due by July 31st."

Contents of Sampletext2.txt:

"Dear Max, based on your autopay settings for your account Internet.org account, we will withdraw your payment on the due date from your bank account number XXXXXX1111 with the routing number XXXXXXX0000."

Contents of Sampletext3.txt:

"Jane, please submit any customer feedback from this weekend to Sunshine Spa, 123 Main St, Anywhere and send comments to Alice at AnySpa@example.com."

Output:

```json
{
  "JobId": "123456abcdeb0e11022f22a11EXAMPLE",
  "JobArn": "arn:aws:comprehend:us-west-2:111122223333:key-phrases-detection-job/123456abcdeb0e11022f22a11EXAMPLE",
  "JobStatus": "SUBMITTED"
}
```

Contents of output.txt with line indents for readability:

```json
{
  "File": "SampleText1.txt",
  "KeyPhrases": [
    {
      "BeginOffset": 6,
      "EndOffset": 15,
      "Score": 0.9748965572679326,
      "Text": "Zhang Wei"
    },
```
John Your AnyCompany Financial Services LLC credit card account 1111-XXXX-1111-XXXX a minimum payment $24.53 July 31st
"EndOffset": 8,
"Score": 0.9974021100118472,
"Text": "Dear Max",
},
{
"BeginOffset": 19,
"EndOffset": 40,
"Score": 0.9961120519515884,
"Text": "your autopay settings"
},
{
"BeginOffset": 45,
"EndOffset": 78,
"Score": 0.9980620070116009,
"Text": "your account Internet.org account"
},
{
"BeginOffset": 97,
"EndOffset": 109,
"Score": 0.999919660140754,
"Text": "your payment"
},
{
"BeginOffset": 113,
"EndOffset": 125,
"Score": 0.9998370719754205,
"Text": "the due date"
},
{
"BeginOffset": 131,
"EndOffset": 166,
"Score": 0.9955068678502509,
"Text": "your bank account number XXXXXX1111"
},
{
"BeginOffset": 172,
"EndOffset": 200,
"Score": 0.8653433315829526,
"Text": "the routing number XXXXXXX0000"
}
For more information, see Async analysis for Amazon Comprehend insights in the Amazon Comprehend Developer Guide.

- For API details, see StartKeyPhrasesDetectionJob in AWS CLI Command Reference.

**start-pii-entities-detection-job**

The following code example shows how to use start-pii-entities-detection-job.

**AWS CLI**

**To start an asynchronous PII detection job**

The following start-pii-entities-detection-job example starts an asynchronous personal identifiable information (PII) entities detection job for all files located at the address specified by the --input-data-config tag. The S3 bucket in this example contains Sampletext1.txt, Sampletext2.txt, and Sampletext3.txt. When the job is complete, the folder, output, is placed in the location specified by the --output-data-config tag. The folder contains SampleText1.txt.out, SampleText2.txt.out, and SampleText3.txt.out which list the named entities within each text file. The Json output is printed on one line per file, but is formatted here for readability.

```
aws comprehend start-pii-entities-detection-job
    --job-name entities_test
    --language-code en
    --input-data-config "S3Uri=s3://DOC-EXAMPLE-BUCKET/
    --output-data-config "S3Uri=s3://DOC-EXAMPLE-DESTINATION-BUCKET/testfolder/
    --data-access-role-arn arn:aws:iam::111122223333:role/service-role/AmazonComprehendServiceRole-example-role
    --language-code en
    --mode ONLY_OFFSETS
```
Contents of Sampletext1.txt:

"Hello Zhang Wei, I am John. Your AnyCompany Financial Services, LLC credit card account 1111-XXXX-1111-XXXX has a minimum payment of $24.53 that is due by July 31st."

Contents of Sampletext2.txt:

"Dear Max, based on your autopay settings for your account Internet.org account, we will withdraw your payment on the due date from your bank account number XXXXXX1111 with the routing number XXXXX0000."

Contents of Sampletext3.txt:

"Jane, please submit any customer feedback from this weekend to Sunshine Spa, 123 Main St, Anywhere and send comments to Alice at AnySpa@example.com."

Output:

```json
{
   "JobId": "123456abcdeb0e11022f22a11EXAMPLE",
   "JobStatus": "SUBMITTED"
}
```

Contents of SampleText1.txt.out with line indents for readability:

```json
{
   "Entities": [
      {
         "BeginOffset": 6,
         "EndOffset": 15,
         "Type": "NAME",
         "Score": 0.999849051022595
      },
      {
         "BeginOffset": 22,
         "EndOffset": 26,
         "Type": "NAME",
         "Score": 0.9998937958019426
      }
   ]
}
```
Contents of SampleText2.txt.out with line indents for readability:

{  
    "Entities": [  
        {  
            "BeginOffset": 5,  
            "EndOffset": 8,  
            "Type": "NAME",  
            "Score": 0.9994390774924007  
        },  
        {  
            "BeginOffset": 58,  
            "EndOffset": 70,  
            "Type": "URL",  
            "Score": 0.9999958276922101  
        },  
        {  
            "BeginOffset": 156,  
            "EndOffset": 166,  
            "Type": "BANK_ACCOUNT_NUMBER",  
            "Score": 0.9999721058045592  
        },  
        {  
            "BeginOffset": 191,  
            "EndOffset": 200,  
            "Type": "BANK_ACCOUNT_NUMBER",  
            "Score": 0.9999721058045592  
        }  
    ]  
}
Contents of SampleText3.txt.out with line indents for readability:

```json
{
    "Entities": [
        {
            "BeginOffset": 0,
            "EndOffset": 4,
            "Type": "NAME",
            "Score": 0.999949934606805
        },
        {
            "BeginOffset": 77,
            "EndOffset": 88,
            "Type": "ADDRESS",
            "Score": 0.9999035300466904
        },
        {
            "BeginOffset": 120,
            "EndOffset": 125,
            "Type": "NAME",
            "Score": 0.9998203838716296
        },
        {
            "BeginOffset": 129,
            "EndOffset": 144,
            "Type": "EMAIL",
            "Score": 0.9998313473105228
        }
    ],
    "File": "SampleText3.txt",
    "Line": 0
}
```

For more information, see [Async analysis for Amazon Comprehend insights](https://docs.aws.amazon.com/comprehend/latest/dg/async-analysis.html) in the *Amazon Comprehend Developer Guide*. 
• For API details, see StartPiiEntitiesDetectionJob in AWS CLI Command Reference.

start-sentiment-detection-job

The following code example shows how to use start-sentiment-detection-job.

AWS CLI

To start an asynchronous sentiment analysis job

The following start-sentiment-detection-job example starts an asynchronous sentiment analysis detection job for all files located at the address specified by the --input-data-config tag. The S3 bucket folder in this example contains SampleMovieReview1.txt, SampleMovieReview2.txt, and SampleMovieReview3.txt. When the job is complete, the folder, output, is placed at the location specified by the --output-data-config tag. The folder contains the file, output.txt, which contains the prevailing sentiments for each text file and the pre-trained model's confidence score for each prediction. The Json output is printed on one line per file, but is formatted here for readability.

```
aws comprehend start-sentiment-detection-job \
  --job-name example-sentiment-detection-job \
  --language-code en \
  --input-data-config "S3Uri=s3://DOC-EXAMPLE-BUCKET/MovieData" \
  --output-data-config "S3Uri=s3://DOC-EXAMPLE-DESTINATION-BUCKET/testfolder/" \
  --data-access-role-arn arn:aws:iam::111122223333:role/service-role/AmazonComprehendServiceRole-example-role
```

Contents of SampleMovieReview1.txt:

"The film, AnyMovie2, is fairly predictable and just okay."

Contents of SampleMovieReview2.txt:

"AnyMovie2 is the essential sci-fi film that I grew up watching when I was a kid. I highly recommend this movie."

Contents of SampleMovieReview3.txt:

"Don't get fooled by the 'awards' for AnyMovie2. All parts of the film were poorly stolen from other modern directors."
Output:

```
{
    "JobId": "0b5001e25f62ebb40631a9a1a7fde7b3",
    "JobArn": "arn:aws:comprehend:us-west-2:111122223333:sentiment-detection-job/0b5001e25f62ebb40631a9a1a7fde7b3",
    "JobStatus": "SUBMITTED"
}
```

Contents of output.txt with line of indents for readability:

```
{
    "File": "SampleMovieReview1.txt",
    "Line": 0,
    "Sentiment": "MIXED",
    "SentimentScore": {
        "Mixed": 0.6591159105300903,
        "Negative": 0.26492202281951904,
        "Neutral": 0.035430654883384705,
        "Positive": 0.04053137078881264
    }
}
{
    "File": "SampleMovieReview2.txt",
    "Line": 0,
    "Sentiment": "POSITIVE",
    "SentimentScore": {
        "Mixed": 0.000008718466233403888,
        "Negative": 0.00006134175055194646,
        "Neutral": 0.0002941041602753103,
        "Positive": 0.9996358156204224
    }
}
{
    "File": "SampleMovieReview3.txt",
    "Line": 0,
    "Sentiment": "NEGATIVE",
    "SentimentScore": {
        "Mixed": 0.004146667663007975,
        "Negative": 0.9645107984542847,
        "Neutral": 0.016559595242142677,
        "Positive": 0.014782938174903393
    }
}
```
For more information, see Async analysis for Amazon Comprehend insights in the Amazon Comprehend Developer Guide.

- For API details, see StartSentimentDetectionJob in AWS CLI Command Reference.

start-targeted-sentiment-detection-job

The following code example shows how to use start-targeted-sentiment-detection-job.

AWS CLI

To start an asynchronous targeted sentiment analysis job

The following start-targeted-sentiment-detection-job example starts an asynchronous targeted sentiment analysis detection job for all files located at the address specified by the --input-data-config tag. The S3 bucket folder in this example contains SampleMovieReview1.txt, SampleMovieReview2.txt, and SampleMovieReview3.txt. When the job is complete, output.tar.gz is placed at the location specified by the --output-data-config tag. output.tar.gz contains the files SampleMovieReview1.txt.out, SampleMovieReview2.txt.out, and SampleMovieReview3.txt.out, which each contain all of the named entities and associated sentiments for a single input text file.

```
aws comprehend start-targeted-sentiment-detection-job \
  --job-name targeted_movie_review_analysis1 \
  --language-code en \
  --input-data-config "S3Uri=s3://DOC-EXAMPLE-BUCKET/MovieData" \
  --output-data-config "S3Uri=s3://DOC-EXAMPLE-DESTINATION-BUCKET/testfolder/" \
  --data-access-role-arn arn:aws:iam::111122223333:role/service-role/AmazonComprehendServiceRole-example-role
```

Contents of SampleMovieReview1.txt:

"The film, AnyMovie, is fairly predictable and just okay."

Contents of SampleMovieReview2.txt:
"AnyMovie is the essential sci-fi film that I grew up watching when I was a kid. I highly recommend this movie."

Contents of SampleMovieReview3.txt:

"Don't get fooled by the 'awards' for AnyMovie. All parts of the film were poorly stolen from other modern directors."

Output:

```json
{
    "JobId": "0b5001e25f62ebb40631a9a1a7fde7b3",
    "JobArn": "arn:aws:comprehend:us-west-2:111122223333:targeted-sentiment-detection-job/0b5001e25f62ebb40631a9a1a7fde7b3",
    "JobStatus": "SUBMITTED"
}
```

Contents of SampleMovieReview1.txt.out with line indents for readability:

```json
{
    "Entities": [
        {
            "DescriptiveMentionIndex": [0],
            "Mentions": [
                {
                    "BeginOffset": 4,
                    "EndOffset": 8,
                    "Score": 0.994972,
                    "GroupScore": 1,
                    "Text": "film",
                    "Type": "MOVIE",
                    "MentionSentiment": {
                        "Sentiment": "NEUTRAL",
                        "SentimentScore": {
                            "Mixed": 0,
                            "Negative": 0,
                            "Neutral": 1,
                            "Positive": 0
                        }
                    }
                }
            ]
        }
    ]
}```
Contents of SampleMovieReview2.txt.out line indents for readability:

```json
{
    "Entities": [
        {
            "DescriptiveMentionIndex": [0],
            "Mentions": [
                {
                    "BeginOffset": 10,
                    "EndOffset": 18,
                    "Score": 0.631368,
                    "GroupScore": 1,
                    "Text": "AnyMovie",
                    "Type": "ORGANIZATION",
                    "MentionSentiment": {
                        "Sentiment": "POSITIVE",
                        "SentimentScore": {
                            "Mixed": 0.001729,
                            "Negative": 0.000001,
                            "Neutral": 0.000318,
                            "Positive": 0.997952
                        }
                    }
                }
            ],
            "File": "SampleMovieReview1.txt",
            "Line": 0
        }
    ]
}
```
"BeginOffset": 0,
"EndOffset": 8,
"Score": 0.854024,
"GroupScore": 1,
"Text": "AnyMovie",
"Type": "MOVIE",
"MentionSentiment": {
    "Sentiment": "POSITIVE",
    "SentimentScore": {
        "Mixed": 0,
        "Negative": 0,
        "Neutral": 0.000007,
        "Positive": 0.999993
    }
},
},
{
    "BeginOffset": 104,
    "EndOffset": 109,
    "Score": 0.999129,
    "GroupScore": 0.502937,
    "Text": "movie",
    "Type": "MOVIE",
    "MentionSentiment": {
        "Sentiment": "POSITIVE",
        "SentimentScore": {
            "Mixed": 0,
            "Negative": 0,
            "Neutral": 0,
            "Positive": 1
        }
    }
},
{
    "BeginOffset": 33,
    "EndOffset": 37,
    "Score": 0.999823,
    "GroupScore": 0.999252,
    "Text": "film",
    "Type": "MOVIE",
    "MentionSentiment": {
        "Sentiment": "POSITIVE",
        "SentimentScore": {
            "Mixed": 0,
            "Negative": 0,
            "Neutral": 0,
            "Positive": 1
```
"Negative": 0,
"Neutral": 0.000001,
"Positive": 0.999999
}
}
]}
},
{
"DescriptiveMentionIndex": [
0,
1,
2
],
"Mentions": [
{
"BeginOffset": 43,
"EndOffset": 44,
"Score": 0.999997,
"GroupScore": 1,
"Text": "I",
"Type": "PERSON",
"MentionSentiment": {
   "Sentiment": "NEUTRAL",
   "SentimentScore": {
   "Mixed": 0,
   "Negative": 0,
   "Neutral": 1,
   "Positive": 0
   }
}
},
{
"BeginOffset": 80,
"EndOffset": 81,
"Score": 0.999996,
"GroupScore": 0.52523,
"Text": "I",
"Type": "PERSON",
"MentionSentiment": {
   "Sentiment": "NEUTRAL",
   "SentimentScore": {
   "Mixed": 0,
   "Negative": 0,
   "Neutral": 0,
   "Positive": 0
   }
}
"Neutral": 1,
"Positive": 0
}
},
{
"BeginOffset": 67,
"EndOffset": 68,
"Score": 0.999994,
"GroupScore": 0.999499,
"Text": "I",
"Type": "PERSON",
"MentionSentiment": {
  "Sentiment": "NEUTRAL",
  "SentimentScore": {
    "Mixed": 0,
    "Negative": 0,
    "Neutral": 1,
    "Positive": 0
  }
}
}
]
},
{
"DescriptiveMentionIndex": [
  0
],
"Mentions": [
{
"BeginOffset": 75,
"EndOffset": 78,
"Score": 0.999978,
"GroupScore": 1,
"Text": "kid",
"Type": "PERSON",
"MentionSentiment": {
  "Sentiment": "NEUTRAL",
  "SentimentScore": {
    "Mixed": 0,
    "Negative": 0,
    "Neutral": 1,
    "Positive": 0
  }
}
Contents of SampleMovieReview3.txt.out with line indents for readability:

```json
{
    "Entities": [
    {
        "DescriptiveMentionIndex": [1],
        "Mentions": [
            {
                "BeginOffset": 64,
                "EndOffset": 68,
                "Score": 0.992953,
                "GroupScore": 0.999814,
                "Text": "film",
                "Type": "MOVIE",
                "MentionSentiment": {
                    "Sentiment": "NEUTRAL",
                    "SentimentScore": {
                        "Mixed": 0.000004,
                        "Negative": 0.010425,
                        "Neutral": 0.989543,
                        "Positive": 0.000027
                    }
                }
            },
            {
                "BeginOffset": 37,
                "EndOffset": 45,
                "Score": 0.999782,
                "GroupScore": 1,
                "Text": "AnyMovie",
                "Type": "ORGANIZATION",
                "MentionSentiment": {
                    "Sentiment": "POSITIVE",
                    "SentimentScore": {
                        "Mixed": 0.000004,
                        "Negative": 0.010425,
                        "Neutral": 0.989543,
                        "Positive": 0.999999
                    }
                }
            }
        ]
    }]
}
```
"Sentiment": "POSITIVE",
"SentimentScore": {
"Mixed": 0.000095,
"Negative": 0.039847,
"Neutral": 0.000673,
"Positive": 0.959384
}
}

"DescriptiveMentionIndex": [0,
],
"Mentions": [
{
"BeginOffset": 47,
"EndOffset": 50,
"Score": 0.999991,
"GroupScore": 1,
"Text": "All",
"Type": "QUANTITY",
"MentionSentiment": {
"Sentiment": "NEUTRAL",
"SentimentScore": {
"Mixed": 0.000001,
"Negative": 0.000001,
"Neutral": 0.999998,
"Positive": 0
}
}
},
{
"DescriptiveMentionIndex": [0,
],
"Mentions": [
{
"BeginOffset": 106,
"EndOffset": 115,
"Score": 0.542083,
For more information, see Async analysis for Amazon Comprehend insights in the Amazon Comprehend Developer Guide.

- For API details, see StartTargetedSentimentDetectionJob in AWS CLI Command Reference.

stop-dominant-language-detection-job

The following code example shows how to use stop-dominant-language-detection-job.

AWS CLI

To stop an asynchronous dominant language detection job

The following stop-dominant-language-detection-job example stops an in-progress, asynchronous dominant language detection job. If the current job state is IN_PROGRESS the job is marked for termination and put into the STOP_REQUESTED state. If the job completes before it can be stopped, it is put into the COMPLETED state.

```
aws comprehend stop-dominant-language-detection-job \
  --job-id 123456abcdef0e11022f22a11EXAMPLE
```

Output:
For more information, see Async analysis for Amazon Comprehend insights in the Amazon Comprehend Developer Guide.

- For API details, see StopDominantLanguageDetectionJob in AWS CLI Command Reference.

stop-entities-detection-job

The following code example shows how to use stop-entities-detection-job.

AWS CLI

To stop an asynchronous entities detection job

The following stop-entities-detection-job example stops an in-progress, asynchronous entities detection job. If the current job state is IN_PROGRESS the job is marked for termination and put into the STOP_REQUESTED state. If the job completes before it can be stopped, it is put into the COMPLETED state.

```bash
aws comprehend stop-entities-detection-job \
    --job-id 123456abcdef0e11022f22a11EXAMPLE
```

Output:

```json
{
    "JobId": "123456abcdef0e11022f22a11EXAMPLE",
    "JobStatus": "STOP_REQUESTED"
}
```

For more information, see Async analysis for Amazon Comprehend insights in the Amazon Comprehend Developer Guide.

- For API details, see StopEntitiesDetectionJob in AWS CLI Command Reference.

stop-events-detection-job

The following code example shows how to use stop-events-detection-job.
AWS CLI

To stop an asynchronous events detection job

The following stop-events-detection-job example stops an in-progress, asynchronous events detection job. If the current job state is IN_PROGRESS the job is marked for termination and put into the STOP_REQUESTED state. If the job completes before it can be stopped, it is put into the COMPLETED state.

```
aws comprehend stop-events-detection-job \\
--job-id 123456abcdef0e11022f22a11EXAMPLE
```

Output:

```
{
   "JobId": "123456abcdef0e11022f22a11EXAMPLE",
   "JobStatus": "STOP_REQUESTED"
}
```

For more information, see Async analysis for Amazon Comprehend insights in the Amazon Comprehend Developer Guide.

- For API details, see StopEventsDetectionJob in AWS CLI Command Reference.

stop-key-phrases-detection-job

The following code example shows how to use stop-key-phrases-detection-job.

AWS CLI

To stop an asynchronous key phrases detection job

The following stop-key-phrases-detection-job example stops an in-progress, asynchronous key phrases detection job. If the current job state is IN_PROGRESS the job is marked for termination and put into the STOP_REQUESTED state. If the job completes before it can be stopped, it is put into the COMPLETED state.

```
aws comprehend stop-key-phrases-detection-job \\
--job-id 123456abcdef0e11022f22a11EXAMPLE
```

Output:
For more information, see Async analysis for Amazon Comprehend insights in the Amazon Comprehend Developer Guide.

- For API details, see StopKeyPhrasesDetectionJob in AWS CLI Command Reference.

stop-pii-entities-detection-job

The following code example shows how to use stop-pii-entities-detection-job.

AWS CLI

To stop an asynchronous pii entities detection job

The following stop-pii-entities-detection-job example stops an in-progress, asynchronous pii entities detection job. If the current job state is IN_PROGRESS the job is marked for termination and put into the STOP_REQUESTED state. If the job completes before it can be stopped, it is put into the COMPLETED state.

aws comprehend stop-pii-entities-detection-job \
   --job-id 123456abcdef0e11022f22a11EXAMPLE

Output:

{  "JobId": "123456abcdef0e11022f22a11EXAMPLE",  "JobStatus": "STOP_REQUESTED"}

For more information, see Async analysis for Amazon Comprehend insights in the Amazon Comprehend Developer Guide.

- For API details, see StopPiiEntitiesDetectionJob in AWS CLI Command Reference.

stop-sentiment-detection-job

The following code example shows how to use stop-sentiment-detection-job.
AWS CLI

To stop an asynchronous sentiment detection job

The following stop-sentiment-detection-job example stops an in-progress, asynchronous sentiment detection job. If the current job state is IN_PROGRESS the job is marked for termination and put into the STOP_REQUESTED state. If the job completes before it can be stopped, it is put into the COMPLETED state.

```bash
aws comprehend stop-sentiment-detection-job \\
  --job-id 123456abcdef0e11022f22a11EXAMPLE
```

Output:

```
{
   "JobId": "123456abcdef0e11022f22a11EXAMPLE",
   "JobStatus": "STOP_REQUESTED"
}
```

For more information, see Async analysis for Amazon Comprehend insights in the Amazon Comprehend Developer Guide.

- For API details, see StopSentimentDetectionJob in AWS CLI Command Reference.

stop-targeted-sentiment-detection-job

The following code example shows how to use stop-targeted-sentiment-detection-job.

AWS CLI

To stop an asynchronous targeted sentiment detection job

The following stop-targeted-sentiment-detection-job example stops an in-progress, asynchronous targeted sentiment detection job. If the current job state is IN_PROGRESS the job is marked for termination and put into the STOP_REQUESTED state. If the job completes before it can be stopped, it is put into the COMPLETED state.

```bash
aws comprehend stop-targeted-sentiment-detection-job \\
  --job-id 123456abcdef0e11022f22a11EXAMPLE
```
Output:

```
{
    "JobId": "123456abcdef0e11022f22a11EXAMPLE",
    "JobStatus": "STOP_REQUESTED"
}
```

For more information, see Async analysis for Amazon Comprehend insights in the Amazon Comprehend Developer Guide.

- For API details, see StopTargetedSentimentDetectionJob in AWS CLI Command Reference.

**stop-training-document-classifier**

The following code example shows how to use stop-training-document-classifier.

**AWS CLI**

To stop the training of a document classifier model

The following stop-training-document-classifier example stops the training of a document classifier model while in-progress.

```
aws comprehend stop-training-document-classifier
```

This command produces no output.

For more information, see Creating and managing custom models in the Amazon Comprehend Developer Guide.

- For API details, see StopTrainingDocumentClassifier in AWS CLI Command Reference.

**stop-training-entity-recognizer**

The following code example shows how to use stop-training-entity-recognizer.

**AWS CLI**

To stop the training of an entity recognizer model...
The following `stop-training-entity-recognizer` example stops the training of an entity recognizer model while in-progress.

```bash
aws comprehend stop-training-entity-recognizer
```

This command produces no output.

For more information, see [Creating and managing custom models](https://docs.aws.amazon.com/comprehend/latest/dg/creating-custom-models.html) in the *Amazon Comprehend Developer Guide*.

- For API details, see [StopTrainingEntityRecognizer](https://docs.aws.amazon.com/cli/latest/reference/comprehend/stop-training-entity-recognizer.html) in *AWS CLI Command Reference*.

### tag-resource

The following code example shows how to use `tag-resource`.

#### AWS CLI

**Example 1: To tag a resource**

The following `tag-resource` example adds a single tag to an Amazon Comprehend resource.

```bash
aws comprehend tag-resource \
   --tags Key=Location,Value=Seattle
```

This command has no output.

For more information, see [Tagging your resources](https://docs.aws.amazon.com/comprehend/latest/dg/tagging-resources.html) in the *Amazon Comprehend Developer Guide*.

**Example 2: To add multiple tags to a resource**

The following `tag-resource` example adds multiple tags to an Amazon Comprehend resource.

```bash
aws comprehend tag-resource \
   --tags Key=location,Value=Seattle Key=Department,Value=Finance
```
This command has no output.

For more information, see Tagging your resources in the Amazon Comprehend Developer Guide.

• For API details, see TagResource in AWS CLI Command Reference.

untag-resource

The following code example shows how to use untag-resource.

AWS CLI

Example 1: To remove a single tag from a resource

The following untag-resource example removes a single tag from an Amazon Comprehend resource.

```
aws comprehend untag-resource \
    --tag-keys Location
```

This command produces no output.

For more information, see Tagging your resources in the Amazon Comprehend Developer Guide.

Example 2: To remove multiple tags from a resource

The following untag-resource example removes multiple tags from an Amazon Comprehend resource.

```
aws comprehend untag-resource \
    --tag-keys Location Department
```

This command produces no output.

For more information, see Tagging your resources in the Amazon Comprehend Developer Guide.

• For API details, see UntagResource in AWS CLI Command Reference.
update-endpoint

The following code example shows how to use update-endpoint.

AWS CLI

Example 1: To update an endpoint's inference units

The following update-endpoint example updates information about an endpoint. In this example, the number of inference units is increased.

```bash
aws comprehend update-endpoint \
   --desired-inference-units 2
```

This command produces no output.

For more information, see Managing Amazon Comprehend endpoints in the Amazon Comprehend Developer Guide.

Example 2: To update an endpoint's active model

The following update-endpoint example updates information about an endpoint. In this example, the active model is changed.

```bash
aws comprehend update-endpoint \
```

This command produces no output.

For more information, see Managing Amazon Comprehend endpoints in the Amazon Comprehend Developer Guide.

- For API details, see UpdateEndpoint in AWS CLI Command Reference.

update-flywheel

The following code example shows how to use update-flywheel.
AWS CLI

To update a flywheel configuration

The following update-flywheel example updates a flywheel configuration. In this example, the active model for the flywheel is updated.

```bash
aws comprehend update-flywheel \
  --flywheel-arn arn:aws:comprehend:us-west-2:111122223333:flywheel/example-flywheel-1 \
```

Output:

```json
{
    "FlywheelProperties": {
        "DataAccessRoleArn": "arn:aws:iam::111122223333:role/service-role/AmazonComprehendServiceRole-example-role",
        "TaskConfig": {
            "LanguageCode": "en",
            "DocumentClassificationConfig": {
                "Mode": "MULTI_CLASS"
            }
        },
        "DataLakeS3Uri": "s3://DOC-EXAMPLE-BUCKET/flywheel-entity/schemaVersion=1/20230616T200543Z/",
        "DataSecurityConfig": {},
        "Status": "ACTIVE",
        "ModelType": "DOCUMENT_CLASSIFIER",
        "CreationTime": "2023-06-16T20:05:43.242000+00:00",
        "LastModifiedTime": "2023-06-19T04:00:43.027000+00:00",
        "LatestFlywheelIteration": "20230619T040032Z"
    }
}
```

For more information, see [Flywheel overview](https://docs.aws.amazon.com/comprehend/latest/dg/flywheel-overview.html) in the Amazon Comprehend Developer Guide.

Amazon Comprehend Medical examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon Comprehend Medical.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**
- [Actions](#)

**Actions**

describe-entities-detection-v2-job

The following code example shows how to use `describe-entities-detection-v2-job`.

**AWS CLI**

**To describe an entities detection job**

The following `describe-entities-detection-v2-job` example displays the properties associated with an asynchronous entity detection job.

```
aws comprehendmedical describe-entities-detection-v2-job \
   --job-id "ab9887877365fe70299089371c043b96"
```

**Output:**

```
{
   "ComprehendMedicalAsyncJobProperties": {
      "JobId": "ab9887877365fe70299089371c043b96",
      "JobStatus": "COMPLETED",
      "SubmitTime": "2020-03-18T21:20:15.614000+00:00",
   }
}
```
For more information, see [Batch APIs](https://docs.aws.amazon.com/comprehendmedical/latest/dg/batch-api.html) in the *Amazon Comprehend Medical Developer Guide*.

- For API details, see [DescribeEntitiesDetectionV2Job](https://docs.aws.amazon.com/cli/latest/reference/comprehendmedical/describe-icd10-cm-inference-job.html) in *AWS CLI Command Reference*.

### describe-icd10-cm-inference-job

The following code example shows how to use `describe-icd10-cm-inference-job`.

**AWS CLI**

**To describe an ICD-10-CM inference job**

The following `describe-icd10-cm-inference-job` example describes the properties of the requested inference job with the specified job-id.

```bash
aws comprehendmedical describe-icd10-cm-inference-job \   --job-id "5780034166536cdb52ffa3295a1b00a7"
```

Output:

```json
{
   "ComprehendMedicalAsyncJobProperties": {
      "JobId": "5780034166536cdb52ffa3295a1b00a7",
      "JobStatus": "COMPLETED",
      "SubmitTime": "2020-05-18T21:15:614000+00:00",
      "InputDataConfig": {
         "S3Bucket": "comp-med-input",
         "S3Key": ""
      },
      "OutputDataConfig": {
         "S3Bucket": "comp-med-output",
         "S3Key": "867139942017-EntitiesDetection-\ab9887877365fe70299089371c043b96/"
      },
      "LanguageCode": "en",
      "DataAccessRoleArn": "arn:aws:iam::867139942017:role/ComprehendMedicalBatchProcessingRole",
      "ModelVersion": "DetectEntitiesModelV20190930"
   }
}```
For more information, see [Ontology linking batch analysis](#) in the *Amazon Comprehend Medical Developer Guide*.

- For API details, see [DescribeIcd10CmInferenceJob](#) in *AWS CLI Command Reference*.

### describe-phi-detection-job

The following code example shows how to use describe-phi-detection-job.

**AWS CLI**

To describe a PHI detection job

The following describe-phi-detection-job example displays the properties associated with an asynchronous protected health information (PHI) detection job.

```bash
aws comprehendmedical describe-phi-detection-job \
--job-id "4750034166536cdb52ffa3295a1b00a3"
```

Output:

```json
{
   "ComprehendMedicalAsyncJobProperties": {
      "JobId": "4750034166536cdb52ffa3295a1b00a3",
      "JobStatus": "COMPLETED",
   }
}
```
For more information, see [Batch APIs](https://docs.aws.amazon.com/comprehendmedical/latest/dg/APIs-Batch.html) in the *Amazon Comprehend Medical Developer Guide*.

- For API details, see [DescribePhiDetectionJob](https://docs.aws.amazon.com/comprehendmedical/latest/dg/API-DescribePhiDetectionJob.html) in *AWS CLI Command Reference*.

### `describe-rx-norm-inference-job`

The following code example shows how to use `describe-rx-norm-inference-job`.

**AWS CLI**

**To describe an RxNorm inference job**

The following `describe-rx-norm-inference-job` example describes the properties of the requested inference job with the specified job-id.

```
aws comprehendmedical describe-rx-norm-inference-job \  
  --job-id "eg8199877365fc70299089371c043b96"
```

**Output:**

```
{
    "ComprehendMedicalAsyncJobProperties": {
        "JobId": "g8199877365fc70299089371c043b96",
        "JobStatus": "COMPLETED",
        "SubmitTime": "2020-05-18T21:20:15.614000+00:00",

For more information, see [Batch APIs](https://docs.aws.amazon.com/comprehendmedical/latest/dg/APIs-Batch.html) in the *Amazon Comprehend Medical Developer Guide*.

- For API details, see [DescribePhiDetectionJob](https://docs.aws.amazon.com/comprehendmedical/latest/dg/API-DescribePhiDetectionJob.html) in *AWS CLI Command Reference*.

### `describe-rx-norm-inference-job`

The following code example shows how to use `describe-rx-norm-inference-job`.

**AWS CLI**

**To describe an RxNorm inference job**

The following `describe-rx-norm-inference-job` example describes the properties of the requested inference job with the specified job-id.

```
aws comprehendmedical describe-rx-norm-inference-job \  
  --job-id "eg8199877365fc70299089371c043b96"
```

**Output:**

```
{
    "ComprehendMedicalAsyncJobProperties": {
        "JobId": "g8199877365fc70299089371c043b96",
        "JobStatus": "COMPLETED",
        "SubmitTime": "2020-05-18T21:20:15.614000+00:00",
        "EndTime": "2020-03-19T20:45:07.894000+00:00",
        "ExpirationTime": "2020-07-17T20:38:37+00:00",
        "InputDataConfig": {
            "S3Bucket": "comp-med-input",
            "S3Key": ""
        },
        "OutputDataConfig": {
            "S3Bucket": "comp-med-output",
            "S3Key": "867139942017-PHIDetection-4750034166536c02f3295a1b00a3/"
        },
        "LanguageCode": "en",
        "DataAccessRoleArn": "arn:aws:iam::867139942017:role/ComprehendMedicalBatchProcessingRole",
        "ModelVersion": "PHIModelV20190903"
    }
  }
```
For more information, see [Ontology linking batch analysis](https://docs.aws.amazon.com/comprehendmedical/latest/dg/batch-ontology-linking.html) in the *Amazon Comprehend Medical Developer Guide*.

- For API details, see [DescribeRxNormInferenceJob](https://docs.aws.amazon.com/cli/latest/reference/comprehendmedical/describe-rxnorm-inference-job.html) in AWS CLI Command Reference.

### describe-snomedct-inference-job

The following code example shows how to use `describe-snomedct-inference-job`.

**AWS CLI**

**To describe an SNOMED CT inference job**

The following `describe-snomedct-inference-job` example describes the properties of the requested inference job with the specified job-id.

```
aws comprehendmedical describe-snomedct-inference-job \
  --job-id "2630034166536cdb52ffa3295a1b00a7"
```

**Output:**

```json
{
  "ComprehendMedicalAsyncJobProperties": {
    "JobId": "2630034166536cdb52ffa3295a1b00a7",
    "JobStatus": "COMPLETED",
    "SubmitTime": "2021-12-18T21:20:15.614000+00:00",
    "EndTime": "2020-05-18T21:27:07.350000+00:00",
    "ExpirationTime": "2020-09-16T21:20:15+00:00",
    "InputDataConfig": {
      "S3Bucket": "comp-med-input",
      "S3Key": "AKIAIOSFODNN7EXAMPLE"
    },
    "OutputDataConfig": {
      "S3Bucket": "comp-med-output",
      "S3Key": "AKIAIOSFODNN7EXAMPLE"
    },
    "LanguageCode": "en",
    "DataAccessRoleArn": "arn:aws:iam::867139942017:role/ComprehendMedicalBatchProcessingRole",
    "ModelVersion": "0.0.0"
  }
}
```
For more information, see Ontology linking batch analysis in the Amazon Comprehend Medical Developer Guide.

- For API details, see DescribeSnomedctlInferenceJob in AWS CLI Command Reference.

detect-entities-v2

The following code example shows how to use detect-entities-v2.

AWS CLI

Example 1: To detect entities directly from text

The following detect-entities-v2 example shows the detected entities and labels them according to type, directly from input text.

```bash
aws comprehendmedical detect-entities-v2 \
  --text "Sleeping trouble on present dosage of Clonidine. Severe rash on face and leg, slightly itchy."
```

Output:

```json
{
  "Id": 0,
  "BeginOffset": 38,
  "EndOffset": 47,
  "Text": "Sleeping trouble on present dosage of Clonidine. Severe rash on face and leg, slightly itchy."
}
```
For more information, see Detect Entities Version 2 in the Amazon Comprehend Medical Developer Guide.

Example 2: To detect entities from a file path

The following detect-entities-v2 example shows the detected entities and labels them according to type from a file path.

```sh
aws comprehendmedical detect-entities-v2 \
   --text file://medical_entities.txt
```

Contents of `medical_entities.txt`:

```json
{
    "Sleeping trouble on present dosage of Clonidine. Severe rash on face and leg, slightly itchy."
}
```

Output:

```json
{
    "Id": 0,
    "BeginOffset": 38,
    "EndOffset": 47,
    "Score": 0.9942955374717712,
    "Text": "Clonidine",
    "Category": "MEDICATION",
    "Type": "GENERIC_NAME",
    "Traits": []
}
```

For more information, see Detect Entities Version 2 in the Amazon Comprehend Medical Developer Guide.

- For API details, see DetectEntitiesV2 in AWS CLI Command Reference.
**detect-phi**

The following code example shows how to use `detect-phi`.

**AWS CLI**

**Example 1: To detect protected health information (PHI) directly from text**

The following `detect-phi` example displays the detected protected health information (PHI) entities directly from input text.

```bash
aws comprehendmedical detect-phi \
    --text "Patient Carlos Salazar presented with rash on his upper extremities and dry cough. He lives at 100 Main Street, Anytown, USA where he works from his home as a carpenter."
```

**Output:**

```json
{
    "Entities": [
        {
            "Id": 0,
            "BeginOffset": 8,
            "EndOffset": 21,
            "Score": 0.9914507269859314,
            "Text": "Carlos Salazar",
            "Category": "PROTECTED_HEALTH_INFORMATION",
            "Type": "NAME",
            "Traits": []
        },
        {
            "Id": 1,
            "BeginOffset": 94,
            "EndOffset": 109,
            "Score": 0.871849775314331,
            "Text": "100 Main Street, Anytown, USA",
            "Category": "PROTECTED_HEALTH_INFORMATION",
            "Type": "ADDRESS",
            "Traits": []
        },
        {
            "Id": 2,
            "BeginOffset": 145,
            "EndOffset": 155,
            "Score": 0.9272623849487305,
            "Text": "USA",
            "Category": "PROTECTED_HEALTH_INFORMATION",
            "Type": "CITY",
            "Traits": []
        }
    ]
}
```
Example 2: To detect protect health information (PHI) directly from a file path

The following detect-phi example shows the detected protected health information (PHI) entities from a file path.

```
aws comprehendmedical detect-phi \
   --text file://phi.txt
```

Contents of phi.txt:

"Patient Carlos Salazar presented with a rash on his upper extremities and a dry cough. He lives at 100 Main Street, Anytown, USA, where he works from his home as a carpenter."

Output:
For more information, see [Detect PHI](https://docs.aws.amazon.com/comprehendmedical/latest/dg/detect-ph.html) in the *Amazon Comprehend Medical Developer Guide*.

- For API details, see [DetectPhi](https://docs.aws.amazon.com/cli/latest/reference/comprehendmedical/detect-phi.html) in *AWS CLI Command Reference*.

### infer-icd10-cm

The following code example shows how to use `infer-icd10-cm`.

#### AWS CLI

**Example 1: To detect medical condition entities and link to the ICD-10-CM Ontology directly from text**

The following `infer-icd10-cm` example labels the detected medical condition entities and links those entities with codes in the 2019 edition of the International Classification of Diseases Clinical Modification (ICD-10-CM).

```bash
aws comprehendmedical infer-icd10-cm \
   --text "The patient complains of abdominal pain, has a long-standing history of diabetes treated with Micronase daily."
```
Output:

```json
{
    "Entities": [
    {
        "Id": 0,
        "Text": "abdominal pain",
        "Category": "MEDICAL_CONDITION",
        "Type": "DX_NAME",
        "Score": 0.9475538730621338,
        "BeginOffset": 28,
        "EndOffset": 42,
        "Attributes": [],
        "Traits": [
        {
            "Name": "SYMPTOM",
            "Score": 0.6724207401275635
        }
        ],
        "ICD10CMConcepts": [
        {
            "Description": "Unspecified abdominal pain",
            "Code": "R10.9",
            "Score": 0.6904221177101135
        },
        {
            "Description": "Epigastric pain",
            "Code": "R10.13",
            "Score": 0.1364113688468933
        },
        {
            "Description": "Generalized abdominal pain",
            "Code": "R10.84",
            "Score": 0.12508003413677216
        },
        {
            "Description": "Left lower quadrant pain",
            "Code": "R10.32",
            "Score": 0.10063883662223816
        },
        {
            "Description": "Lower abdominal pain, unspecified",
            "Code": "R10.30",
            "Score": 0.09933677315711975
        }
        ]
    }
}
```
"Id": 1,
"Text": "diabetes",
"Category": "MEDICAL_CONDITION",
"Type": "DX_NAME",
"Score": 0.9899052977561951,
"BeginOffset": 75,
"EndOffset": 83,
"Attributes": [],
"Traits": [
{
    "Name": "DIAGNOSIS",
    "Score": 0.9258432388305664
}
],
"ICD10CMConcepts": [
{
    "Description": "Type 2 diabetes mellitus without complications",
    "Code": "E11.9",
    "Score": 0.7158446311950684
},
{
    "Description": "Family history of diabetes mellitus",
    "Code": "Z83.3",
    "Score": 0.5704703330993652
},
{
    "Description": "Family history of other endocrine, nutritional and metabolic diseases",
    "Code": "Z83.49",
    "Score": 0.19856023788452148
},
{
    "Description": "Type 1 diabetes mellitus with ketoacidosis without coma",
    "Code": "E10.10",
    "Score": 0.13285516202449799
},
{
    "Description": "Type 2 diabetes mellitus with hyperglycemia",
    "Code": "E11.65",
}
Example 2: To detect medical condition entities and link to the ICD-10-CM Ontology from a file pathway

The following `infer-icd-10-cm` example labels the detected medical condition entities and links those entities with codes in the 2019 edition of the International Classification of Diseases Clinical Modification (ICD-10-CM).

```bash
aws comprehendmedical infer-icd10-cm \
  --text file://icd10cm.txt
```

Contents of `icd10cm.txt`:

```json
{
  "The patient complains of abdominal pain, has a long-standing history of diabetes treated with Micronase daily."
}
```

Output:

```json
{
  "Entities": [
    {
      "Id": 0,
      "Text": "abdominal pain",
      "Category": "MEDICAL_CONDITION",
      "Type": "DX_NAME",
      "Score": 0.9475538730621338,
      "BeginOffset": 28,
      "EndOffset": 42,
      "Attributes": [],
      "Traits": [
        {
        ...
```
"Name": "SYMPTOM",
"Score": 0.6724207401275635
},

"ICD10CMConcepts": [
{
"Description": "Unspecified abdominal pain",
"Code": "R10.9",
"Score": 0.6904221177101135
},
{
"Description": "Epigastric pain",
"Code": "R10.13",
"Score": 0.1364113688468933
},
{
"Description": "Generalized abdominal pain",
"Code": "R10.84",
"Score": 0.12508003413677216
},
{
"Description": "Left lower quadrant pain",
"Code": "R10.32",
"Score": 0.10063883662223816
},
{
"Description": "Lower abdominal pain, unspecified",
"Code": "R10.30",
"Score": 0.09933677315711975
}
]
},
{
"Id": 1,
"Text": "diabetes",
"Category": "MEDICAL_CONDITION",
"Type": "DX_NAME",
"Score": 0.9899052977561951,
"BeginOffset": 75,
"EndOffset": 83,
"Attributes": [],
"Traits": [
{
"Name": "DIAGNOSIS",

For more information, see Infer-ICD10-CM in the Amazon Comprehend Medical Developer Guide.

- For API details, see InferIcd10Cm in AWS CLI Command Reference.
infer-rx-norm

The following code example shows how to use `infer-rx-norm`.

AWS CLI

Example 1: To detect medication entities and link to RxNorm directly from text

The following `infer-rx-norm` example shows and labels the detected medication entities and links those entities to concept identifiers (RxCUI) from the National Library of Medicine RxNorm database.

```
aws comprehendmedical infer-rx-norm \ 
   --text "Patient reports taking Levothyroxine 125 micrograms p.o. once daily, but denies taking Synthroid."
```

Output:

```json
{
   "Entities": [
      {
         "Id": 0,
         "Text": "Levothyroxine",
         "Category": "MEDICATION",
         "Type": "GENERIC_NAME",
         "Score": 0.9996285438537598,
         "BeginOffset": 23,
         "EndOffset": 36,
         "Attributes": [
            {
               "Type": "DOSAGE",
               "Score": 0.9892290830612183,
               "RelationshipScore": 0.9997978806495667,
               "Id": 1,
               "BeginOffset": 37,
               "EndOffset": 51,
               "Text": "125 micrograms",
               "Traits": []
            },
            {
               "Type": "ROUTE_OR_MODE",
               "Score": 0.9988924860954285,
               "RelationshipScore": 0.998291552066803,
```
"Id": 2,
"BeginOffset": 52,
"EndOffset": 56,
"Text": "p.o.",
"Traits": []
},
{
"Type": "FREQUENCY",
"Score": 0.9953463673591614,
"RelationshipScore": 0.9999889135360718,
"Id": 3,
"BeginOffset": 57,
"EndOffset": 67,
"Text": "once daily",
"Traits": []
}
],
"Traits": [],
"RxNormConcepts": [
{  
"Description": "Levothyroxine Sodium 0.125 MG Oral Tablet",
"Code": "966224",
"Score": 0.9912070631980896
},
{  
"Description": "Levothyroxine Sodium 0.125 MG Oral Capsule",
"Code": "966405",
"Score": 0.8698278665542603
},
{  
"Description": "Levothyroxine Sodium 0.125 MG Oral Tablet [Synthroid]",
"Code": "966191",
"Score": 0.7448257803916931
},
{  
"Description": "levothyroxine",
"Code": "10582",
"Score": 0.7050482630729675
},
{  
"Description": "Levothyroxine Sodium 0.125 MG Oral Tablet [Levoxyl]",
"Code": "966190",  
}  
]
"Score": 0.6921631693840027
}
],
{
"Id": 4,
"Text": "Synthroid",
"Category": "MEDICATION",
"Type": "BRAND_NAME",
"Score": 0.9946461319923401,
"BeginOffset": 86,
"EndOffset": 95,
"Attributes": [],
"Traits": [  
  {
    "Name": "NEGATION",
    "Score": 0.5167351961135864
  }
],
"RxNormConcepts": [
  {
    "Description": "Synthroid",
    "Code": "224920",
    "Score": 0.9462039470672607
  },
  {
    "Description": "Levothyroxine Sodium 0.088 MG Oral Tablet [Synthroid]",
    "Code": "966282",
    "Score": 0.8309829235076904
  },
  {
    "Description": "Levothyroxine Sodium 0.125 MG Oral Tablet [Synthroid]",
    "Code": "966191",
    "Score": 0.4945160448551178
  },
  {
    "Description": "Levothyroxine Sodium 0.05 MG Oral Tablet [Synthroid]",
    "Code": "966247",
    "Score": 0.3674522042274475
  }
]
For more information, see Infer RxNorm in the Amazon Comprehend Medical Developer Guide.

Example 2: To detect medication entities and link to RxNorm from a file path.

The following infer-rx-norm example shows and labels the detected medication entities and links those entities to concept identifiers (RxCUI) from the National Library of Medicine RxNorm database.

```bash
aws comprehendmedical infer-rx-norm \
  --text file://rxnorm.txt
```

Contents of rxnorm.txt:

```json
{
  "Patient reports taking Levothyroxine 125 micrograms p.o. once daily, but denies taking Synthroid."
}
```

Output:

```json
{
  "Entities": [
    {
      "Id": 0,
      "Text": "Levothyroxine",
      "Category": "MEDICATION",
      "Type": "GENERIC_NAME",
      "Score": 0.996285438537598,
      "BeginOffset": 23,
      "EndOffset": 36,
      "Attributes": [ ]
    }
  ]
}
```
125 micrograms, p.o., once daily.

```
{
  "Type": "DOSAGE",
  "Score": 0.9892290830612183,
  "RelationshipScore": 0.9997978806495667,
  "Id": 1,
  "BeginOffset": 37,
  "EndOffset": 51,
  "Text": "125 micrograms",
  "Traits": []
},
{
  "Type": "ROUTE_OR_MODE",
  "Score": 0.9988924860954285,
  "RelationshipScore": 0.998291552066803,
  "Id": 2,
  "BeginOffset": 52,
  "EndOffset": 56,
  "Text": "p.o.",
  "Traits": []
},
{
  "Type": "FREQUENCY",
  "Score": 0.9953463673591614,
  "RelationshipScore": 0.9999889135360718,
  "Id": 3,
  "BeginOffset": 57,
  "EndOffset": 67,
  "Text": "once daily",
  "Traits": []
}
]
},
"Traits": [],
"RxNormConcepts": [
  {
    "Description": "Levothyroxine Sodium 0.125 MG Oral Tablet",
    "Code": "966224",
    "Score": 0.9912070631980896
  },
  {
    "Description": "Levothyroxine Sodium 0.125 MG Oral Capsule",
    "Code": "966405",
    "Score": 0.8698278665542603
  }
]
"Description": "Levothyroxine Sodium 0.125 MG Oral Tablet [Synthroid]",
  "Code": "966191",
  "Score": 0.7448257803916931
},
{
  "Description": "levothyroxine",
  "Code": "10582",
  "Score": 0.7050482630729675
},
{
  "Description": "Levothyroxine Sodium 0.125 MG Oral Tablet [Levoxyl]",
  "Code": "966190",
  "Score": 0.6921631693840027
}
],
{
  "Id": 4,
  "Text": "Synthroid",
  "Category": "MEDICATION",
  "Type": "BRAND_NAME",
  "Score": 0.9946461319923401,
  "BeginOffset": 86,
  "EndOffset": 95,
  "Attributes": [],
  "Traits": [
    {
      "Name": "NEGATION",
      "Score": 0.5167351961135864
    }
  ],
  "RxNormConcepts": [
    {
      "Description": "Synthroid",
      "Code": "224920",
      "Score": 0.946461319923401
    }
  ],
  "RxNormConcepts": [
    {
      "Description": "Levothyroxine Sodium 0.088 MG Oral Tablet [Synthroid]",
      "Code": "966282",
      "Score": 0.8309829235076904
    }
  ]
}
AWS CLI

Example: To detect entities and link to the SNOMED CT Ontology directly from text

The following infer-snomedct example shows how to detect medical entities and link them to concepts from the 2021-03 version of the Systematized Nomenclature of Medicine, Clinical Terms (SNOMED CT).

```
aws comprehendmedical infer-snomedct \
```

The patient complains of abdominal pain, has a long-standing history of diabetes treated with Micronase daily.

Output:

```json
{
  "Entities": [
    {
      "Id": 3,
      "BeginOffset": 26,
      "EndOffset": 40,
      "Score": 0.9598260521888733,
      "Text": "abdominal pain",
      "Category": "MEDICAL_CONDITION",
      "Type": "DX_NAME",
      "Traits": [
        {
          "Name": "SYMPTOM",
          "Score": 0.6819021701812744
        }
      ]
    },
    {
      "Id": 4,
      "BeginOffset": 73,
      "EndOffset": 81,
      "Score": 0.9905840158462524,
      "Text": "diabetes",
      "Category": "MEDICAL_CONDITION",
      "Type": "DX_NAME",
      "Traits": [
        {
          "Name": "DIAGNOSIS",
          "Score": 0.9255214333534241
        }
      ]
    },
    {
      "Id": 1,
      "BeginOffset": 95,
      "EndOffset": 104,
      "Score": 0.6371926665306091,
      "Text": "Micronase",
      "Category": "MEDICAL_CONDITION",
      "Type": "DX_NAME"
    }
  ]
}
```
For more information, see InferSNOMEDCT in the Amazon Comprehend Medical Developer Guide.

- For API details, see InferSnomedct in AWS CLI Command Reference.

list-entities-detection-v2-jobs

The following code example shows how to use list-entities-detection-v2-jobs.

AWS CLI

To list entities detection jobs

The following list-entities-detection-v2-jobs example lists current asynchronous detection jobs.

aws comprehendmedical list-entities-detection-v2-jobs

Output:

```json
{
  Actions and scenarios
```
For more information, see [Batch APIs](https://docs.aws.amazon.com/comprehendmedical/latest/APIReference/Welcome.html) in the *Amazon Comprehend Medical Developer Guide*.

- For API details, see [ListEntitiesDetectionV2Jobs](https://docs.aws.amazon.com/cli/latest/reference/comprehendmedical/list-entities-detection-v2-jobs.html) in *AWS CLI Command Reference*.

### list-icd10-cm-inference-jobs

The following code example shows how to use `list-icd10-cm-inference-jobs`.

**AWS CLI**

**To list all current ICD-10-CM inference jobs**

The following example shows how the `list-icd10-cm-inference-jobs` operation returns a list of current asynchronous ICD-10-CM batch inference jobs.

```bash
aws comprehendmedical list-icd10-cm-inference-jobs
```

**Output:**
For more information, see [Ontology linking batch analysis](#) in the *Amazon Comprehend Medical Developer Guide*.

- For API details, see [ListIcd10CmInferenceJobs](#) in *AWS CLI Command Reference*.

### list-phi-detection-jobs

The following code example shows how to use `list-phi-detection-jobs`.

**AWS CLI**

**To list protected health information (PHI) detection jobs**

The following `list-phi-detection-jobs` example lists current protected health information (PHI) detection jobs

```bash
aws comprehendmedical list-phi-detection-jobs
```
Output:

```json
{
    "ComprehendMedicalAsyncJobPropertiesList": [
        {
            "JobId": "4750034166536cdb52ffa3295a1b00a3",
            "JobStatus": "COMPLETED",
            "SubmitTime": "2020-03-19T20:38:37.594000+00:00",
            "EndTime": "2020-03-19T20:45:07.894000+00:00",
            "ExpirationTime": "2020-07-17T20:38:37+00:00",
            "InputDataConfig": {
                "S3Bucket": "comp-med-input",
                "S3Key": ""
            },
            "OutputDataConfig": {
                "S3Bucket": "comp-med-output",
                "S3Key": "867139942017-PHIDetection-4750034166536cdb52ffa3295a1b00a3/"
            },
            "LanguageCode": "en",
            "DataAccessRoleArn": "arn:aws:iam::867139942017:role/ComprehendMedicalBatchProcessingRole",
            "ModelVersion": "PHIModelV20190903"
        }
    ]
}
```

For more information, see Batch APIs in the Amazon Comprehend Medical Developer Guide.

- For API details, see ListPhiDetectionJobs in AWS CLI Command Reference.

list-rx-norm-inference-jobs

The following code example shows how to use list-rx-norm-inference-jobs.

**AWS CLI**

To list all current Rx-Norm inference jobs

The following example shows how list-rx-norm-inference-jobs returns a list of current asynchronous Rx-Norm batch inference jobs.

```bash
aws comprehendmedical list-rx-norm-inference-jobs
```
Output:

```json
{
  "ComprehendMedicalAsyncJobPropertiesList": [
    {
      "JobId": "498003416536cfb52gga3295a1b00a3",
      "JobStatus": "COMPLETED",
      "SubmitTime": "2020-05-19T20:38:37.594000+00:00",
      "EndTime": "2020-05-19T20:45:07.894000+00:00",
      "ExpirationTime": "2020-09-17T20:38:37+00:00",
      "InputDataConfig": {
        "S3Bucket": "comp-med-input",
        "S3Key": "AKIAIOSFODNN7EXAMPLE"
      },
      "OutputDataConfig": {
        "S3Bucket": "comp-med-output",
        "S3Key": "AKIAIOSFODNN7EXAMPLE"
      },
      "LanguageCode": "en",
      "DataAccessRoleArn": "arn:aws:iam::867139942017:role/ComprehendMedicalBatchProcessingRole",
      "ModelVersion": "0.0.0"
    }
  ]
}
```

For more information, see [Ontology linking batch analysis](#) in the *Amazon Comprehend Medical Developer Guide*.

- For API details, see [ListRxNormInferenceJobs](#) in *AWS CLI Command Reference*.

### list-snomedct-inference-jobs

The following code example shows how to use `list-snomedct-inference-jobs`.

#### AWS CLI

**To list all SNOMED CT inference jobs**

The following example shows how the `list-snomedct-inference-jobs` operation returns a list of current asynchronous SNOMED CT batch inference jobs.
aws comprehendmedical list-snomedct-inference-jobs

Output:

```json
{
  "ComprehendMedicalAsyncJobPropertiesList": [
    {
      "JobId": "5780034166536c7d9552f3a3295a1b00a7",
      "JobStatus": "COMPLETED",
      "SubmitTime": "2020-05-19T20:38:37.594000+00:00",
      "EndTime": "2020-05-19T20:45:07.894000+00:00",
      "ExpirationTime": "2020-09-17T20:38:37+00:00",
      "InputDataConfig": {
        "S3Bucket": "comp-med-input",
        "S3Key": "AKIAIOSFODNN7EXAMPLE"
      },
      "OutputDataConfig": {
        "S3Bucket": "comp-med-output",
        "S3Key": "AKIAIOSFODNN7EXAMPLE"
      },
      "LanguageCode": "en",
      "DataAccessRoleArn": "arn:aws:iam::867139942017:role/ComprehendMedicalBatchProcessingRole",
      "ModelVersion": "0.1.0"
    }
  ]
}
```

For more information, see [Ontology linking batch analysis](https://aws.amazon.com/comprehend/medical/developer-guide/) in the *Amazon Comprehend Medical Developer Guide*.

- For API details, see [ListSnomedctInferenceJobs](https://docs.aws.amazon.com/cli/latest/reference/comprehendmedical/list-snomedct-inference-jobs.html) in *AWS CLI Command Reference*.

### start-entities-detection-v2-job

The following code example shows how to use `start-entities-detection-v2-job`.

**AWS CLI**

To start an entities detection job
The following `start-entities-detection-v2-job` example starts an asynchronous entity detection job.

```
aws comprehendmedical start-entities-detection-v2-job \
  --input-data-config "S3Bucket=comp-med-input" \
  --output-data-config "S3Bucket=comp-med-output" \
  --data-access-role-arn arn:aws:iam::867139942017:role/ComprehendMedicalBatchProcessingRole \
  --language-code en
```

Output:

```
{
  "JobId": "ab9887877365fe70299089371c043b96"
}
```

For more information, see [Batch APIs](#) in the Amazon Comprehend Medical Developer Guide.

- For API details, see [StartEntitiesDetectionV2Job](#) in AWS CLI Command Reference.

### start-icd10-cm-inference-job

The following code example shows how to use `start-icd10-cm-inference-job`.

**AWS CLI**

**To start an ICD-10-CM inference job**

The following `start-icd10-cm-inference-job` example starts an ICD-10-CM inference batch analysis job.

```
aws comprehendmedical start-icd10-cm-inference-job \
  --input-data-config "S3Bucket=comp-med-input" \
  --output-data-config "S3Bucket=comp-med-output" \
  --data-access-role-arn arn:aws:iam::867139942017:role/ComprehendMedicalBatchProcessingRole \
  --language-code en
```

Output:

```
{
  "JobId": "ef7289877365fc70299089371c043b96"
}
```
start-phi-detection-job

The following code example shows how to use start-phi-detection-job.

AWS CLI

To start a PHI detection job

The following start-phi-detection-job example starts an asynchronous PHI entity detection job.

```
aws comprehendmedical start-phi-detection-job \
    --input-data-config "S3Bucket=comp-med-input" \
    --output-data-config "S3Bucket=comp-med-output" \
    --data-access-role-arn arn:aws:iam::867139942017:role/ComprehendMedicalBatchProcessingRole \
    --language-code en
```

Output:

```
{
    "JobId": "ab9887877365fe70299089371c043b96"
}
```

For more information, see Batch APIs in the Amazon Comprehend Medical Developer Guide.

- For API details, see StartPhiDetectionJob in AWS CLI Command Reference.

start-rx-norm-inference-job

The following code example shows how to use start-rx-norm-inference-job.

AWS CLI

To start an RxNorm inference job
The following `start-rx-norm-inference-job` example starts an RxNorm inference batch analysis job.

```bash
aws comprehendmedical start-rx-norm-inference-job \
   --input-data-config "S3Bucket=comp-med-input" \
   --output-data-config "S3Bucket=comp-med-output" \
   --data-access-role-arn arn:aws:iam::867139942017:role/ComprehendMedicalBatchProcessingRole \
   --language-code en
```

Output:

```json
{
   "JobId": "eg8199877365fc70299089371c043b96"
}
```

For more information, see [Ontology linking batch analysis](https://docs.aws.amazon.com/medicaldiscovery/latest/dg/ontology linking.html) in the *Amazon Comprehend Medical Developer Guide*.

- For API details, see [StartRxNormInferenceJob](https://docs.aws.amazon.com/cli/latest/reference/comprehendmedical/start-rx-norm-inference-job.html) in *AWS CLI Command Reference*.

---

**start-snomedct-inference-job**

The following code example shows how to use `start-snomedct-inference-job`.

**AWS CLI**

**To start an SNOMED CT inference job**

The following `start-snomedct-inference-job` example starts a SNOMED CT inference batch analysis job.

```bash
aws comprehendmedical start-snomedct-inference-job \
   --input-data-config "S3Bucket=comp-med-input" \
   --output-data-config "S3Bucket=comp-med-output" \
   --data-access-role-arn arn:aws:iam::867139942017:role/ComprehendMedicalBatchProcessingRole \
   --language-code en
```

Output:
The following code example shows how to use `stop-entities-detection-v2-job`.

**AWS CLI**

**To stop an entity detection job**

The following `stop-entities-detection-v2-job` example stops an asynchronous entity detection job.

```bash
aws comprehendmedical stop-entities-detection-v2-job \
  --job-id "ab9887877365fe70299089371c043b96"
```

**Output:**

```
{
  "JobId": "ab9887877365fe70299089371c043b96"
}
```

For more information, see [Batch APIs](#) in the *Amazon Comprehend Medical Developer Guide*.

- For API details, see [StopEntitiesDetectionV2Job](#) in *AWS CLI Command Reference*.

---

The following code example shows how to use `stop-icd10-cm-inference-job`.

**AWS CLI**

**To stop an ICD-10-CM inference job**

```bash
aws comprehendmedical stop-icd10-cm-inference-job
```

**Output:**

```
{
  "JobId": "ab9887877365fe70299089371c043b96"
}
```

For more information, see [Batch APIs](#) in the *Amazon Comprehend Medical Developer Guide*.

- For API details, see [StopIcd10CmInferenceJob](#) in *AWS CLI Command Reference*.
The following `stop-icd10-cm-inference-job` example stops an ICD-10-CM inference batch analysis job.

```
aws comprehendmedical stop-icd10-cm-inference-job \
    --job-id "475003166536c2b52fda3295a1b00a3"
```

Output:

```
{
    "JobId": "ef7289877365fc7029089371c043b96",
}
```

For more information, see [Ontology linking batch analysis](#) in the *Amazon Comprehend Medical Developer Guide*.
- For API details, see [StopIcd10CmInferenceJob](#) in *AWS CLI Command Reference*.

### stop-phi-detection-job

The following code example shows how to use `stop-phi-detection-job`.

**AWS CLI**

**To stop a protected health information (PHI) detection job**

The following `stop-phi-detection-job` example stops an asynchronous protected health information (PHI) detection job.

```
aws comprehendmedical stop-phi-detection-job \
    --job-id "475003166536c2b52fda3295a1b00a3"
```

Output:

```
{
    "JobId": "ab9887877365fe7029089371c043b96",
}
```

For more information, see [Batch APIs](#) in the *Amazon Comprehend Medical Developer Guide*.
- For API details, see [StopPhiDetectionJob](#) in *AWS CLI Command Reference*.
stop-rx-norm-inference-job

The following code example shows how to use stop-rx-norm-inference-job.

AWS CLI

To stop an RxNorm inference job

The following stop-rx-norm-inference-job example stops an ICD-10-CM inference batch analysis job.

```bash
aws comprehendmedical stop-rx-norm-inference-job \
   --job-id "eg8199877365fc70299089371c043b96"
```

Output:

```json
{
   "JobId": "eg8199877365fc70299089371c043b96",
}
```

For more information, see Ontology linking batch analysis in the Amazon Comprehend Medical Developer Guide.

- For API details, see StopRxNormInferenceJob in AWS CLI Command Reference.

stop-snomedct-inference-job

The following code example shows how to use stop-snomedct-inference-job.

AWS CLI

To stop a SNOMED CT inference job

The following stop-snomedct-inference-job example stops a SNOMED CT inference batch analysis job.

```bash
aws comprehendmedical stop-snomedct-inference-job \
   --job-id "8750034166436cdb52ffa3295a1b00a1"
```

Output:
For more information, see Ontology linking batch analysis in the Amazon Comprehend Medical Developer Guide.

- For API details, see StopSnomedctInferenceJob in AWS CLI Command Reference.

AWS Config examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS Config.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics
- Actions

Actions

Delete a rule

The following code example shows how to delete an AWS Config rule.

AWS CLI

To delete an AWS Config rule

The following command deletes an AWS Config rule named MyConfigRule:

```
aws configservice delete-config-rule --config-rule-name MyConfigRule
```
Describe rules

The following code example shows how to describe AWS Config rules.

AWS CLI

To get details for an AWS Config rule

The following command returns details for an AWS Config rule named InstanceTypesAreT2micro:

```
aws configservice describe-config-rules --config-rule-names InstanceTypesAreT2micro
```

Output:

```
{
   "ConfigRules": [
   {
   "ConfigRuleState": "ACTIVE",
   "Description": "Evaluates whether EC2 instances are the t2.micro type.",
   "ConfigRuleName": "InstanceTypesAreT2micro",
   "Source": {
   "Owner": "CUSTOM_LAMBDA",
   "SourceIdentifier": "arn:aws:lambda:us-east-1:123456789012:function:InstanceTypeCheck",
   "SourceDetails": [
   {
   "EventSource": "aws.config",
   "MessageType": "ConfigurationItemChangeNotification"
   }
   ]
   },
   "InputParameters": "\"desiredInstanceType\":\"t2.micro\"",
   "Scope": {
   "ComplianceResourceTypes": ["
   "AWS::EC2::Instance"
   ]
   }
   }
   ]
}
For API details, see DescribeConfigRules in AWS CLI Command Reference.

Put a rule

The following code example shows how to put an AWS Config rule.

AWS CLI

To add an AWS managed Config rule

The following command provides JSON code to add an AWS managed Config rule:

```bash
aws configservice put-config-rule --config-rule file://
  RequiredTagsForEC2Instances.json
```

RequiredTagsForEC2Instances.json is a JSON file that contains the rule configuration:

```json
{
    "ConfigRuleName": "RequiredTagsForEC2Instances",
    "Description": "Checks whether the CostCenter and Owner tags are applied to EC2 instances.",
    "Scope": {
        "ComplianceResourceTypes": [
            "AWS::EC2::Instance"
        ]
    },
    "Source": {
        "Owner": "AWS",
        "SourceIdentifier": "REQUIRED_TAGS"
    },
    "InputParameters": "{\"tag1Key\":\"CostCenter\",\"tag2Key\":\"Owner\"}"
}
```

For the ComplianceResourceTypes attribute, this JSON code limits the scope to resources of the AWS::EC2::Instance type, so AWS Config will evaluate only EC2 instances against the rule. Because the rule is a managed rule, the Owner attribute is set to AWS, and
the `SourceIdentifier` attribute is set to the rule identifier, REQUIRED_TAGS. For the `InputParameters` attribute, the tag keys that the rule requires, `CostCenter` and `Owner`, are specified.

If the command succeeds, AWS Config returns no output. To verify the rule configuration, run the `describe-config-rules` command, and specify the rule name.

**To add a customer managed Config rule**

The following command provides JSON code to add a customer managed Config rule:

```bash
aws configservice put-config-rule --config-rule file://InstanceTypesAreT2micro.json
```

`InstanceTypesAreT2micro.json` is a JSON file that contains the rule configuration:

```json
{
    "ConfigRuleName": "InstanceTypesAreT2micro",
    "Description": "Evaluates whether EC2 instances are the t2.micro type.",
    "Scope": {
        "ComplianceResourceTypes": [
            "AWS::EC2::Instance"
        ]
    },
    "Source": {
        "Owner": "CUSTOM_LAMBDA",
        "SourceIdentifier": "arn:aws:lambda:us-east-1:123456789012:function:InstanceTypeCheck",
        "SourceDetails": [
            {
                "EventSource": "aws.config",
                "MessageType": "ConfigurationItemChangeNotification"
            }
        ],
        "InputParameters": "{"desiredInstanceType":"t2.micro"}"
    }
}
```

For the `ComplianceResourceTypes` attribute, this JSON code limits the scope to resources of the `AWS::EC2::Instance` type, so AWS Config will evaluate only EC2 instances against the rule. Because this rule is a customer managed rule, the `Owner` attribute is set to `CUSTOM_LAMBDA`, and the `SourceIdentifier` attribute is set to the ARN of the AWS Lambda function. The `SourceDetails` object is required. The parameters that are specified for the...
InputParameters attribute are passed to the AWS Lambda function when AWS Config invokes it to evaluate resources against the rule.

If the command succeeds, AWS Config returns no output. To verify the rule configuration, run the describe-config-rules command, and specify the rule name.

- For API details, see PutConfigRule in AWS CLI Command Reference.

**delete-delivery-channel**

The following code example shows how to use delete-delivery-channel.

**AWS CLI**

**To delete a delivery channel**

The following command deletes the default delivery channel:

```
aws configservice delete-delivery-channel --delivery-channel-name default
```

- For API details, see DeleteDeliveryChannel in AWS CLI Command Reference.

**delete-evaluation-results**

The following code example shows how to use delete-evaluation-results.

**AWS CLI**

**To manually delete evaluation results**

The following command deletes the current evaluation results for the AWS managed rule s3-bucket-versioning-enabled:

```
aws configservice delete-evaluation-results --config-rule-name s3-bucket-versioning-enabled
```

- For API details, see DeleteEvaluationResults in AWS CLI Command Reference.

**deliver-config-snapshot**

The following code example shows how to use deliver-config-snapshot.
### AWS CLI

**To deliver a configuration snapshot**

The following command delivers a configuration snapshot to the Amazon S3 bucket that belongs to the default delivery channel:

```bash
aws configservice deliver-config-snapshot --delivery-channel-name default
```

**Output:**

```json
{
   "configSnapshotId": "d033b00-a683-44af-921e-examplefb794"
}
```

- For API details, see [DeliverConfigSnapshot](https://docs.aws.amazon.com/cli/latest/reference/configservice/deliver-config-snapshot) in [AWS CLI Command Reference](https).

**describe-compliance-by-config-rule**

The following code example shows how to use `describe-compliance-by-config-rule`.

**AWS CLI**

**To get compliance information for your AWS Config rules**

The following command returns compliance information for each AWS Config rule that is violated by one or more AWS resources:

```bash
aws configservice describe-compliance-by-config-rule --compliance-types NON_COMPLIANT
```

In the output, the value for each `CappedCount` attribute indicates how many resources do not comply with the related rule. For example, the following output indicates that 3 resources do not comply with the rule named `InstanceTypesAreT2micro`.

**Output:**

```json
{
   "ComplianceByConfigRules": [
      {
        "Compliance": {
          "ComplianceContributorCount": {

```
For API details, see DescribeComplianceByConfigRule in AWS CLI Command Reference.

describe-compliance-by-resource

The following code example shows how to use describe-compliance-by-resource.

AWS CLI

To get compliance information for your AWS resources

The following command returns compliance information for each EC2 instance that is recorded by AWS Config and that violates one or more rules:

```
aws configservice describe-compliance-by-resource --resource-type AWS::EC2::Instance --compliance-types NON_COMPLIANT
```

In the output, the value for each CappedCount attribute indicates how many rules the resource violates. For example, the following output indicates that instance i-1a2b3c4d violates 2 rules.

```
{
  "ConfigRuleName": "InstanceTypesAreT2micro",
  "Compliance": {
    "ComplianceContributorCount": {
      "CappedCount": 10,
      "CapExceeded": false
    },
    "ComplianceType": "NON_COMPLIANT"
  }
}
```
"ComplianceByResources": [
  {
    "ResourceType": "AWS::EC2::Instance",
    "ResourceId": "i-1a2b3c4d",
    "Compliance": {
      "ComplianceContributorCount": {
        "CappedCount": 2,
        "CapExceeded": false
      },
      "ComplianceType": "NON_COMPLIANT"
    }
  },
  {
    "ResourceType": "AWS::EC2::Instance",
    "ResourceId": "i-2a2b3c4d",
    "Compliance": {
      "ComplianceContributorCount": {
        "CappedCount": 3,
        "CapExceeded": false
      },
      "ComplianceType": "NON_COMPLIANT"
    }
  }
]

- For API details, see `DescribeComplianceByResource` in AWS CLI Command Reference.

describe-config-rule-evaluation-status

The following code example shows how to use `describe-config-rule-evaluation-status`.

**AWS CLI**

**To get status information for an AWS Config rule**

The following command returns the status information for an AWS Config rule named `MyConfigRule`:

```bash
aws configservice describe-config-rule-evaluation-status --config-rule-names MyConfigRule
```

**Output:**
For API details, see DescribeConfigRuleEvaluationStatus in AWS CLI Command Reference.

describe-configuration-recorder-status

The following code example shows how to use describe-configuration-recorder-status.

AWS CLI

To get status information for the configuration recorder

The following command returns the status of the default configuration recorder:

```
aws configservice describe-configuration-recorder-status
```

Output:

```
{
    "ConfigurationRecordersStatus": [
        {
            "name": "default",
            "lastStatus": "SUCCESS",
            "recording": true,
            "lastStatusChangeTime": 1452193834.344,
            "lastStartTime": 1441039997.819,
            "lastStopTime": 1441039992.835
        }
    ]
}
```
describe-configuration-recorders

The following code example shows how to use describe-configuration-recorders.

AWS CLI

To get details about the configuration recorder

The following command returns details about the default configuration recorder:

```bash
aws configservice describe-configuration-recorders
```

Output:

```json
{
    "ConfigurationRecorders": [
    {
        "recordingGroup": {
            "allSupported": true,
            "resourceTypes": [],
            "includeGlobalResourceTypes": true
        },
        "roleARN": "arn:aws:iam::123456789012:role/config-ConfigRole-A1B2C3D4E5F6",
        "name": "default"
    }
    ]
}
```

For API details, see `DescribeConfigurationRecorders` in AWS CLI Command Reference.

describe-delivery-channel-status

The following code example shows how to use describe-delivery-channel-status.

AWS CLI

To get status information for the delivery channel

The following command returns the status of the delivery channel:
The following code example shows how to use `describe-delivery-channels`.

**AWS CLI**

To get details about the delivery channel

The following command returns details about the delivery channel:

```bash
aws configservice describe-delivery-channels
```

Output:

```json
{
  "DeliveryChannelsStatus": [
    {
      "configStreamDeliveryInfo": {
        "lastStatusChangeTime": 1452193834.381,
        "lastStatus": "SUCCESS"
      },
      "configHistoryDeliveryInfo": {
        "lastSuccessfulTime": 1450317838.412,
        "lastStatus": "SUCCESS",
        "lastAttemptTime": 1450317838.412
      },
      "configSnapshotDeliveryInfo": {
        "lastSuccessfulTime": 1452185597.094,
        "lastStatus": "SUCCESS",
        "lastAttemptTime": 1452185597.094
      },
      "name": "default"
    }
  ]
}
```

- For API details, see [DescribeDeliveryChannelStatus](https://docs.aws.amazon.com/cli/latest/reference/configservice/describe-delivery-channel-status.html) in *AWS CLI Command Reference*.
• For API details, see DescribeDeliveryChannels in AWS CLI Command Reference.

get-compliance-details-by-config-rule

The following code example shows how to use get-compliance-details-by-config-rule.

AWS CLI

To get the evaluation results for an AWS Config rule

The following command returns the evaluation results for all of the resources that don't comply with an AWS Config rule named InstanceTypesAreT2micro:

```
aws configservice get-compliance-details-by-config-rule --config-rule-name InstanceTypesAreT2micro --compliance-types NON_COMPLIANT
```

Output:

```
{
   "EvaluationResults": [
       {
           "EvaluationResultIdentifier": {
               "OrderingTimestamp": 1450314635.065,
               "EvaluationResultQualifier": {
                   "ResourceType": "AWS::EC2::Instance",
                   "ResourceId": "i-1a2b3c4d",
                   "ConfigRuleName": "InstanceTypesAreT2micro"
               }
           },
           "ResultRecordedTime": 1450314645.261,
           "ConfigRuleInvokedTime": 1450314642.948,
       }
   ]
}
```
For API details, see `GetComplianceDetailsByConfigRule` in AWS CLI Command Reference.

get-compliance-details-by-resource

The following code example shows how to use get-compliance-details-by-resource.

AWS CLI

To get the evaluation results for an AWS resource

The following command returns the evaluation results for each rule with which the EC2 instance i-1a2b3c4d does not comply:
aws configservice get-compliance-details-by-resource --resource-type AWS::EC2::Instance --resource-id i-1a2b3c4d --compliance-types NON_COMPLIANT

Output:

```json
{
   "EvaluationResults": [
      {
         "EvaluationResultIdentifier": {
            "OrderingTimestamp": 1450314635.065,
            "EvaluationResultQualifier": {
               "ResourceType": "AWS::EC2::Instance",
               "ResourceId": "i-1a2b3c4d",
               "ConfigRuleName": "InstanceTypesAreT2micro"
            }
         },
         "ResultRecordedTime": 1450314643.288,
         "ConfigRuleInvokedTime": 1450314643.034,
         "ComplianceType": "NON_COMPLIANT"
      },
      {
         "EvaluationResultIdentifier": {
            "OrderingTimestamp": 1450314635.065,
            "EvaluationResultQualifier": {
               "ResourceType": "AWS::EC2::Instance",
               "ResourceId": "i-1a2b3c4d",
               "ConfigRuleName": "RequiredTagForEC2Instances"
            }
         },
         "ResultRecordedTime": 1450314645.261,
         "ConfigRuleInvokedTime": 1450314642.948,
         "ComplianceType": "NON_COMPLIANT"
      }
   ]
}
```

• For API details, see GetComplianceDetailsByResource in AWS CLI Command Reference.

get-compliance-summary-by-config-rule

The following code example shows how to use get-compliance-summary-by-config-rule.
To get the compliance summary for your AWS Config rules

The following command returns the number of rules that are compliant and the number that are noncompliant:

```bash
aws configservice get-compliance-summary-by-config-rule
```

In the output, the value for each `CappedCount` attribute indicates how many rules are compliant or noncompliant.

Output:

```json
{
  "ComplianceSummary": {
    "NonCompliantResourceCount": {
      "CappedCount": 3,
      "CapExceeded": false
    },
    "ComplianceSummaryTimestamp": 1452204131.493,
    "CompliantResourceCount": {
      "CappedCount": 2,
      "CapExceeded": false
    }
  }
}
```


get-compliance-summary-by-resource-type

The following code example shows how to use `get-compliance-summary-by-resource-type`.

AWS CLI

To get the compliance summary for all resource types

The following command returns the number of AWS resources that are noncompliant and the number that are compliant:

```bash
aws configservice get-compliance-summary-by-resource-type
```
In the output, the value for each `CappedCount` attribute indicates how many resources are compliant or noncompliant.

**Output:**

```json
{
    "ComplianceSummariesByResourceType": [
        {
            "ComplianceSummary": {
                "NonCompliantResourceCount": {
                    "CappedCount": 16,
                    "CapExceeded": false
                },
                "ComplianceSummaryTimestamp": 1453237464.543,
                "CompliantResourceCount": {
                    "CappedCount": 10,
                    "CapExceeded": false
                }
            }
        }
    ]
}
```

**To get the compliance summary for a specific resource type**

The following command returns the number of EC2 instances that are noncompliant and the number that are compliant:

```bash
aws configservice get-compliance-summary-by-resource-type --resource-types AWS::EC2::Instance
```

In the output, the value for each `CappedCount` attribute indicates how many resources are compliant or noncompliant.

**Output:**

```json
{
    "ComplianceSummariesByResourceType": [
        {
            "ResourceType": "AWS::EC2::Instance",
            "ComplianceSummary": {
                "NonCompliantResourceCount": {
                    "CappedCount": 16,
                    "CapExceeded": false
                }
            }
        }
    ]
}
```
For API details, see `GetComplianceSummaryByResourceType` in *AWS CLI Command Reference*.

get-resource-config-history

The following code example shows how to use get-resource-config-history.

**AWS CLI**

To get the configuration history of an AWS resource

The following command returns a list of configuration items for an EC2 instance with an ID of i-1a2b3c4d:

```bash
aws configservice get-resource-config-history --resource-type AWS::EC2::Instance --resource-id i-1a2b3c4d
```

For API details, see `GetResourceConfigHistory` in *AWS CLI Command Reference*.

get-status

The following code example shows how to use get-status.

**AWS CLI**

To get the status for AWS Config

The following command returns the status of the delivery channel and configuration recorder:

```bash
aws configservice get-status
```
Configuration Recorders:

- name: default
- recorder: ON
- last status: SUCCESS

Delivery Channels:

- name: default
- last stream delivery status: SUCCESS
- last history delivery status: SUCCESS
- last snapshot delivery status: SUCCESS

- For API details, see [GetStatus](#) in *AWS CLI Command Reference*.

**list-discovered-resources**

The following code example shows how to use `list-discovered-resources`.

**AWS CLI**

To list resources that AWS Config has discovered

The following command lists the EC2 instances that AWS Config has discovered:

```
aws configservice list-discovered-resources --resource-type AWS::EC2::Instance
```

Output:

```
{
    "resourceIdentifiers": [
        {
            "resourceType": "AWS::EC2::Instance",
            "resourceId": "i-1a2b3c4d"
        },
        {
            "resourceType": "AWS::EC2::Instance",
            "resourceId": "i-2a2b3c4d"
        },
        {
```

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For API details, see `ListDiscoveredResources` in *AWS CLI Command Reference*.

**put-configuration-recorder**

The following code example shows how to use `put-configuration-recorder`.

### AWS CLI

**Example 1: To record all supported resources**

The following command creates a configuration recorder that tracks changes to all supported resource types, including global resource types:

```bash
aws configservice put-configuration-recorder \
    --configuration-recorder name=default,roleARN=arn:aws:iam::123456789012:role/config-role \
    --recording-group allSupported=true,includeGlobalResourceTypes=true
```

If the command succeeds, AWS Config returns no output. To verify the settings of your configuration recorder, run the `describe-configuration-recorders` command.

**Example 2: To record specific types of resources**

The following command creates a configuration recorder that tracks changes to only those types of resources that are specified in the JSON file for the `--recording-group` option:

```bash
aws configservice put-configuration-recorder \
    --configuration-recorder name=default,roleARN=arn:aws:iam::123456789012:role/config-role \
    --recording-group file://recordingGroup.json
```

`recordingGroup.json` is a JSON file that specifies the types of resources that AWS Config will record:

```json
{
```
Before you can specify resource types for the resourceTypes key, you must set the allSupported and includeGlobalResourceTypes options to false or omit them.

If the command succeeds, AWS Config returns no output. To verify the settings of your configuration recorder, run the describe-configuration-recorders command.

**Example 3: To select all supported resources excluding specific types of resources**

The following command creates a configuration recorder that tracks changes to all current and future supported resource types excluding those types of resources that are specified in the JSON file for the --recording-group option:

```bash
aws configservice put-configuration-recorder \
   --configuration-recorder name=default,roleARN=arn:aws:iam::123456789012:role/\n   config-role \n   --recording-group file://recordingGroup.json
```

recordingGroup.json is a JSON file that specifies the types of resources that AWS Config will record:

```json
{
   "allSupported": false,
   "exclusionByResourceTypes": {
      "resourceTypes": [
         "AWS::Redshift::ClusterSnapshot",
         "AWS::RDS::DBClusterSnapshot",
         "AWS::CloudFront::StreamingDistribution"
      ]
   }
}
```
Before you can specify resource types to excluding from recording: 1) You must set the allSupported and includeGlobalResourceTypes options to false or omit them, and 2) You must set the useOnly field of RecordingStrategy to EXCLUSION_BY_RESOURCE_TYPES.

If the command succeeds, AWS Config returns no output. To verify the settings of your configuration recorder, run the describe-configuration-recorders command.

- For API details, see [PutConfigurationRecorder](https://docs.aws.amazon.com/cli/latest/reference/configservice/put-configuration-recorder.html) in *AWS CLI Command Reference*.

**put-delivery-channel**

The following code example shows how to use `put-delivery-channel`.

**AWS CLI**

**To create a delivery channel**

The following command provides the settings for the delivery channel as JSON code:

```bash
aws configservice put-delivery-channel --delivery-channel file:///deliveryChannel.json
```

The `deliveryChannel.json` file specifies the delivery channel attributes:

```json
{
    "name": "default",
    "s3BucketName": "config-bucket-123456789012",
    "configSnapshotDeliveryProperties": {
        "deliveryFrequency": "Twelve_Hours"
    }
}
```

This example sets the following attributes:
name - The name of the delivery channel. By default, AWS Config assigns the name default to a new delivery channel. You cannot update the delivery channel name with the put-delivery-channel command. For the steps to change the name, see Renaming the Delivery Channel.

s3BucketName - The name of the Amazon S3 bucket to which AWS Config delivers configuration snapshots and configuration history files. If you specify a bucket that belongs to another AWS account, that bucket must have policies that grant access permissions to AWS Config. For more information, see Permissions for the Amazon S3 Bucket.

snsTopicARN - The Amazon Resource Name (ARN) of the Amazon SNS topic to which AWS Config sends notifications about configuration changes. If you choose a topic from another account, the topic must have policies that grant access permissions to AWS Config. For more information, see Permissions for the Amazon SNS Topic.

configSnapshotDeliveryProperties - Contains the deliveryFrequency attribute, which sets how often AWS Config delivers configuration snapshots and how often it invokes evaluations for periodic Config rules.

If the command succeeds, AWS Config returns no output. To verify the settings of your delivery channel, run the describe-delivery-channels command.

- For API details, see PutDeliveryChannel in AWS CLI Command Reference.

start-config-rules-evaluation

The following code example shows how to use start-config-rules-evaluation.

AWS CLI

To run an on-demand evaluation for AWS Config rules

The following command starts an evaluation for two AWS managed rules:

```bash
aws configservice start-config-rules-evaluation --config-rule-names s3-bucket-versioning-enabled cloudtrail-enabled
```

- For API details, see StartConfigRulesEvaluation in AWS CLI Command Reference.

start-configuration-recorder

The following code example shows how to use start-configuration-recorder.
## AWS CLI

### To start the configuration recorder

The following command starts the default configuration recorder:

```bash
aws configservice start-configuration-recorder --configuration-recorder-name default
```

If the command succeeds, AWS Config returns no output. To verify that AWS Config is recording your resources, run the `get-status` command.

- For API details, see [StartConfigurationRecorder](https://docs.aws.amazon.com/cli/latest/reference/configservice/start-configuration-recorder.html) in *AWS CLI Command Reference*.

### stop-configuration-recorder

The following code example shows how to use `stop-configuration-recorder`.

#### AWS CLI

### To stop the configuration recorder

The following command stops the default configuration recorder:

```bash
aws configservice stop-configuration-recorder --configuration-recorder-name default
```

If the command succeeds, AWS Config returns no output. To verify that AWS Config is not recording your resources, run the `get-status` command.

- For API details, see [StopConfigurationRecorder](https://docs.aws.amazon.com/cli/latest/reference/configservice/stop-configuration-recorder.html) in *AWS CLI Command Reference*.

### subscribe

The following code example shows how to use `subscribe`.

#### AWS CLI

### To subscribe to AWS Config

The following command creates the default delivery channel and configuration recorder. The command also specifies the Amazon S3 bucket and Amazon SNS topic to which AWS Config will deliver configuration information:
```bash
aws configservice subscribe --s3-bucket config-bucket-123456789012 --
sns-topic arn:aws:sns:us-east-1:123456789012:config-topic --iam-role
arn:aws:iam::123456789012:role/ConfigRole-A1B2C3D4E5F6
```

Output:

```
Using existing S3 bucket: config-bucket-123456789012
Subscribe succeeded:

Configuration Recorders: [
    {
        "recordingGroup": {
            "allSupported": true,
            "resourceTypes": [],
            "includeGlobalResourceTypes": false
        },
        "roleARN": "arn:aws:iam::123456789012:role/ConfigRole-A1B2C3D4E5F6",
        "name": "default"
    }
]

Delivery Channels: [
    {
        "name": "default",
        "s3BucketName": "config-bucket-123456789012"
    }
]
```

- For API details, see Subscribe in AWS CLI Command Reference.

### Amazon Connect examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon Connect.

**Actions** are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.
Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics

- Actions

Actions

create-user

The following code example shows how to use create-user.

AWS CLI

To create a user

The following create-user example adds a user with the specified attributes to the specified Amazon Connect instance.

```bash
aws connect create-user \
  --username Mary \
  --password Pass@Word1 \
  --identity-info FirstName=Mary,LastName=Major \
  --phone-config PhoneType=DESK_PHONE,AutoAccept=true,AfterContactWorkTimeLimit=60,DeskPhoneNumber=+15555551212 \n  --security-profile-id 12345678-1111-2222-aaaa-a1b2c3d4f5g7 \n  --routing-profile-id 87654321-9999-3434-abcd-x1y2z3a1b2c3 \n  --instance-id a1b2c3d4-5678-90ab-cdef-EXAMPLE11111
```

Output:

```json
{
  "UserId": "87654321-2222-1234-1234-111234567891",
  "UserArn": "arn:aws:connect:us-west-2:123456789012:instance/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111/agent/87654321-2222-1234-1234-111234567891"
}
```
For more information, see Add Users in the Amazon Connect Administrator Guide.

- For API details, see CreateUser in AWS CLI Command Reference.

**delete-user**

The following code example shows how to use `delete-user`.

**AWS CLI**

**To delete a user**

The following `delete-user` example deletes the specified user from the specified Amazon Connect instance.

```
aws connect delete-user \
  --instance-id a1b2c3d4-5678-90ab-cdef-EXAMPLE11111 \
  --user-id 87654321-2222-1234-1234-111234567891
```

This command produces no output.

For more information, see Manage Users in the Amazon Connect Administrator Guide.

- For API details, see DeleteUser in AWS CLI Command Reference.

**describe-user**

The following code example shows how to use `describe-user`.

**AWS CLI**

**To display the details for a user**

The following `describe-user` example displays the details for the specified Amazon Connect user.

```
aws connect describe-user \
  --user-id 0c245dc0-0cf5-4e37-800e-2a7481cc8a60 \
  --instance-id 40c83b68-ea62-414c-97bb-d018e39e158e
```

Output:
For more information, see Manage Users in the Amazon Connect Administrator Guide.

- For API details, see DescribeUser in AWS CLI Command Reference.

describe-user-hierarchy-group

The following code example shows how to use describe-user-hierarchy-group.

AWS CLI

To display the details for a hierarchy group

The following describe-user-hierarchy-group example displays the details for the specified Amazon Connect hierarchy group.

```bash
aws connect describe-user-hierarchy-group \
```
The following code example shows how to use `describe-user-hierarchy-structure`.

**AWS CLI**

*To display the details for a hierarchy structure*

The following `describe-user-hierarchy-structure` example displays the details for the hierarchy structure for the specified Amazon Connect instance.

```
aws connect describe-user-hierarchy-group \
  --instance-id a1b2c3d4-5678-90ab-cdef-EXAMPLE11111
```
Output:

```json
{
    "HierarchyStructure": {
        "LevelOne": {
            "Id": "12345678-1111-2222-800e-aaabbb555gg",
            "Arn": "arn:aws:connect:us-west-2:123456789012:instance/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111/agent-group-level/1",
            "Name": "Corporation"
        },
        "LevelTwo": {
            "Id": "87654321-2222-3333-ac99-123456789102",
            "Arn": "arn:aws:connect:us-west-2:123456789012:instance/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111/agent-group-level/2",
            "Name": "Services Division"
        },
        "LevelThree": {
            "Id": "abcdefgh-3333-4444-8af3-201123456789",
            "Arn": "arn:aws:connect:us-west-2:123456789012:instance/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111/agent-group-level/3",
            "Name": "EU Site"
        }
    }
}
```

For more information, see [Set Up Agent Hierarchies](#) in the Amazon Connect Administrator Guide.

- For API details, see [DescribeUserHierarchyStructure](#) in *AWS CLI Command Reference*.

**get-contact-attributes**

The following code example shows how to use get-contact-attributes.

**AWS CLI**

To retrieve the attributes for a contact

The following get-contact-attributes example retrieves the attributes that were set for the specified Amazon Connect contact.

```bash
aws connect get-contact-attributes \
   --instance-id a1b2c3d4-5678-90ab-cdef-EXAMPLE11111
```
Output:

```json
{
   "Attributes": {
      "greetingPlayed": "true"
   }
}
```

For more information, see [Use Amazon Connect Contact Attributes](https://docs.aws.amazon.com/AmazonConnect/latest/AdminGuide/using-contact-attributes.html) in the *Amazon Connect Administrator Guide*.

- For API details, see [GetContactAttributes](https://docs.aws.amazon.com/cli/latest/reference/connect/get-contact-attributes.html) in *AWS CLI Command Reference*.

### list-contact-flows

The following code example shows how to use `list-contact-flows`.

**AWS CLI**

**To list the contact flows in an instance**

The following `list-contact-flows` example lists the contact flows in the specified Amazon Connect instance.

```bash
aws connect list-contact-flows \
   --instance-id a1b2c3d4-5678-90ab-cdef-EXAMPLE11111
```

Output:

```json
{
   "ContactFlowSummaryList": [
      {
         "Id": "12345678-1111-2222-800e-a2b3c4d5f6g7",
         "Arn": "arn:aws:connect:us-west-2:123456789012:instance/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111/contact-flow/12345678-1111-2222-800e-a2b3c4d5f6g7",
         "Name": "Default queue transfer",
         "ContactFlowType": "QUEUE_TRANSFER"
      },
      
```
For more information, see Create Amazon Connect Contact Flows in the Amazon Connect Administrator Guide.

- For API details, see ListContactFlows in AWS CLI Command Reference.

list-hours-of-operations

The following code example shows how to use list-hours-of-operations.

AWS CLI

To list the hours of operation in an instance

The following list-hours-of-operations example lists the hours of operations for the specified Amazon Connect instance.

```
aws connect list-hours-of-operations \
    --instance-id 40c83b68-ea62-414c-97bb-d018e39e158e
```

Output:

```
{
    "HoursOfOperationSummaryList": [
        {
```
For more information, see Set the Hours of Operation for a Queue in the Amazon Connect Administrator Guide.

- For API details, see ListHoursOfOperations in AWS CLI Command Reference.

list-phone-numbers

The following code example shows how to use list-phone-numbers.

AWS CLI

To list the phone numbers in an instance

The following list-phone-numbers example lists the phone numbers in the specified Amazon Connect instance.

```
aws connect list-phone-numbers \
   --instance-id a1b2c3d4-5678-90ab-cdef-EXAMPLE11111
```

Output:

```json
{
   "PhoneNumberSummaryList": [
   {
      "Id": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
      "Arn": "arn:aws:connect:us-west-2:123456789012:instance/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111/phone-number/xyz80zxy-xyz1-80zx-zx80-11111EXAMPLE",
      "PhoneNumber": "+17065551212",
      "PhoneNumberType": "DID",
      "PhoneNumberCountryCode": "US"
   },
   {
      "Id": "a1b2c3d4-5678-90ab-cdef-EXAMPLE22222",
```
For more information, see [Set Up Phone Numbers for Your Contact Center](https://docs.aws.amazon.com/connect/latest/adminguide/set-up-phone-numbers.html) in the *Amazon Connect Administrator Guide*.

- For API details, see [ListPhoneNumbers](https://docs.aws.amazon.com/cli/latest/reference/connect/list-queues.html) in *AWS CLI Command Reference*.

### list-queues

The following code example shows how to use `list-queues`.

**AWS CLI**

**To list the queues in an instance**

The following `list-queues` example lists the queues in the specified Amazon Connect instance.

```bash
aws connect list-queues \
   --instance-id a1b2c3d4-5678-90ab-cdef-EXAMPLE11111
```

**Output:**

```json
{
   "QueueSummaryList": [
      {
         "Id": "12345678-1111-2222-800e-a2b3c4d5f6g7",
         "Arn": "arn:aws:connect:us-west-2:123456789012:instance/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111/queue/agent/12345678-1111-2222-800e-a2b3c4d5f6g7",
         "QueueType": "AGENT"
      },
      {
         "Id": "87654321-2222-3333-ac99-123456789102",
         "QueueType": "AGENT"
      }
   ]
}
```
   "QueueType": "AGENT"
 },
{
   "Id": "abcdefgh-3333-4444-8af3-201123456789",
   "Arn": "arn:aws:connect:us-west-2:123456789012:instance/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111/queue/agent/abcdefgh-3333-4444-8af3-201123456789",
   "QueueType": "AGENT"
 },
{
   "Id": "hgfedcba-4444-5555-a31f-123456789102",
   "Name": "BasicQueue",
   "QueueType": "STANDARD"
 }
]

For more information, see Create a Queue in the Amazon Connect Administrator Guide.

- For API details, see ListQueues in AWS CLI Command Reference.

**list-routing-profiles**

The following code example shows how to use list-routing-profiles.

**AWS CLI**

**To list the routing profiles in an instance**

The following list-routing-profiles example lists the routing profiles in the specified Amazon Connect instance.

```
aws connect list-routing-profiles \
   --instance-id a1b2c3d4-5678-90ab-cdef-EXAMPLE11111
```

Output:

```json
{
```
For more information, see [Create a Routing Profile](https://docs.aws.amazon.com/connect/2020-07-30/admin-guide/index.html) in the *Amazon Connect Administrator Guide*.

For API details, see [ListRoutingProfiles](https://docs.aws.amazon.com/cli/latest/reference/connect/list-routing-profiles.html) in *AWS CLI Command Reference*.

### list-security-profiles

The following code example shows how to use `list-security-profiles`.

**AWS CLI**

**To list the security profiles in an instance**

The following `list-security-profiles` example lists the security profiles in the specified Amazon Connect instance.

```bash
aws connect list-security-profiles \
  --instance-id a1b2c3d4-5678-90ab-cdef-EXAMPLE11111
```

**Output:**

```json
{
  "SecurityProfileSummaryList": [
    {
      "Id": "12345678-1111-2222-800e-a2b3c4d5f6g7",
      "Arn": "arn:aws:connect:us-west-2:123456789012:instance/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111/security-profile/12345678-1111-2222-800e-a2b3c4d5f6g7",
      "Name": "CallCenterManager"
    },
    {
      "Id": "87654321-2222-3333-ac99-123456789102",
      "Name": "AgentProfile"
    }
  ]
}
```
For more information, see Assign Permissions: Security Profiles in the Amazon Connect Administrator Guide.

- For API details, see ListSecurityProfiles in AWS CLI Command Reference.

list-user-hierarchy-groups

The following code example shows how to use list-user-hierarchy-groups.

AWS CLI

To list the user hierarchy groups in an instance

The following list-user-hierarchy-groups example lists the user hierarchy groups in the specified Amazon Connect instance.

```
aws connect list-user-hierarchy-groups \
  --instance-id 40c83b68-4a62-414c-97bb-d018e39e158e
```

Output:
For more information, see `Set Up Agent Hierarchies` in the *Amazon Connect Administrator Guide*.

- For API details, see `ListUserHierarchyGroups` in *AWS CLI Command Reference*.

### list-users

The following code example shows how to use `list-users`.

#### AWS CLI

**To list the user hierarchy groups in an instance**

The following `list-users` example lists the users in the specified Amazon Connect instance.

```
aws connect list-users \
   --instance-id 40c83b68-ea62-414c-97bb-d018e39e158e
```

Output:

```json
{
   "UserSummaryList": [
   {
      "Id": "0c245dc0-0cf5-4e37-800e-2a7481cc8a60",
      "Arn": "arn:aws:connect:us-west-2:123456789012:instance/40c83b68-ea62-414c-97bb-d018e39e158e/agent/0c245dc0-0cf5-4e37-800e-2a7481cc8a60",
      "Username": "Jane"
   },
   {
      "Id": "46f0c67c-3fc7-4806-ac99-403798788c14",
   }
   ]
}
"Username": "Paulo"
},
{
    "Id": "55a83578-95e1-4710-8af3-2b7afe310e48",
    "Username": "JohnD"
},
{
    "Id": "703e27b5-c9f0-4f1f-a239-64ccbb160125",
    "Arn": "arn:aws:connect:us-west-2:123456789012:instance/40c83b68- ea62-414c-97bb-d018e39e158e/agent/703e27b5-c9f0-4f1f-a239-64ccbb160125",
    "Username": "JohnS"
}
]

For more information, see Add Users in the Amazon Connect Administrator Guide.

- For API details, see ListUsers in AWS CLI Command Reference.

**update-contact-attributes**

The following code example shows how to use update-contact-attributes.

**AWS CLI**

To update a contact's attribute

The following update-contact-attributes example updates the greetingPlayed attribute for the specified Amazon Connect user.

```
aws connect update-contact-attributes \
    --initial-contact-id 11111111-2222-3333-4444-12345678910 \
    --instance-id a1b2c3d4-5678-90ab-cdef-EXAMPLE11111 \n    --attributes greetingPlayed=false
```

This command produces no output.

For more information, see Use Amazon Connect Contact Attributes in the Amazon Connect Administrator Guide.

- For API details, see UpdateContactAttributes in AWS CLI Command Reference.
update-user-hierarchy

The following code example shows how to use update-user-hierarchy.

**AWS CLI**

**To update a user's hierarchy**

The following update-user-hierarchy example updates the agent hierarchy for the specified Amazon Connect user.

```bash
aws connect update-user-hierarchy \
  --hierarchy-group-id 12345678-a1b2-c3d4-e5f6-123456789abc \
  --user-id 87654321-2222-1234-1234-111234567891 \
  --instance-id a1b2c3d4-5678-90ab-cdef-EXAMPLE11111
```

This command produces no output.

For more information, see Configure Agent Settings in the Amazon Connect Administrator Guide.

- For API details, see UpdateUserHierarchy in AWS CLI Command Reference.

update-user-identity-info

The following code example shows how to use update-user-identity-info.

**AWS CLI**

**To update a user's identity information**

The following update-user-identity-info example updates the identity information for the specified Amazon Connect user.

```bash
aws connect update-user-identity-info \
  --identity-info FirstName=Mary,LastName=Major,Email=marym@example.com \
  --user-id 87654321-2222-1234-1234-111234567891 \
  --instance-id a1b2c3d4-5678-90ab-cdef-EXAMPLE11111
```

This command produces no output.

For more information, see Configure Agent Settings in the Amazon Connect Administrator Guide.

- For API details, see UpdateUserIdentityInfo in AWS CLI Command Reference.
update-user-phone-config

The following code example shows how to use update-user-phone-config.

AWS CLI

To update a user's phone configuration

The following update-user-phone-config example updates the phone configuration for the specified user.

```bash
aws connect update-user-phone-config \
   --phone-config \
   --user-id 12345678-4444-3333-2222-111122223333 \
   --instance-id a1b2c3d4-5678-90ab-cdef-EXAMPLE11111
```

This command produces no output.

For more information, see Configure Agent Settings in the Amazon Connect Administrator Guide.

- For API details, see UpdateUserPhoneConfig in AWS CLI Command Reference.

update-user-routing-profile

The following code example shows how to use update-user-routing-profile.

AWS CLI

To update a user's routing profile

The following update-user-routing-profile example updates the routing profile for the specified Amazon Connect user.

```bash
aws connect update-user-routing-profile \
   --routing-profile-id 12345678-1111-3333-2222-4444EXAMPLE \
   --user-id 87654321-2222-1234-1234-111234567891 \
   --instance-id a1b2c3d4-5678-90ab-cdef-EXAMPLE11111
```

This command produces no output.
For more information, see [Configure Agent Settings](#) in the [Amazon Connect Administrator Guide](#).

- For API details, see [UpdateUserRoutingProfile](#) in [AWS CLI Command Reference](#).

**update-user-security-profiles**

The following code example shows how to use `update-user-security-profiles`.

**AWS CLI**

**To update a user's security profiles**

The following `update-user-security-profiles` example updates the security profile for the specified Amazon Connect user.

```bash
aws connect update-user-security-profiles \
  --security-profile-ids 12345678-1234-1234-1234-1234567892111 \
  --user-id 87654321-2222-1234-1234-111234567891 \
  --instance-id a1b2c3d4-5678-90ab-cdef-EXAMPLE11111
```

This command produces no output.

For more information, see [Assign Permissions: Security Profiles](#) in the [Amazon Connect Administrator Guide](#).

- For API details, see [UpdateUserSecurityProfiles](#) in [AWS CLI Command Reference](#).

**AWS Cost and Usage Report examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS Cost and Usage Report.

**Actions** are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

**Scenarios** are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.
Actions

delete-report-definition

The following code example shows how to use delete-report-definition.

AWS CLI

To delete an AWS Cost and Usage Report

This example deletes an AWS Cost and Usage Report.

Command:

```bash
aws cur --region us-east-1 delete-report-definition --report-name "ExampleReport"
```

For API details, see [DeleteReportDefinition] in AWS CLI Command Reference.

describe-report-definitions

The following code example shows how to use describe-report-definitions.

AWS CLI

To retrieve a list of AWS Cost and Usage Reports

This example describes a list of AWS Cost and Usage Reports owned by an account.

Command:

```bash
aws cur --region us-east-1 describe-report-definitions --max-items 5
```

Output:

```json
{
   "ReportDefinitions": [
   {
      "ReportName": "ExampleReport",
```
For API details, see [DescribeReportDefinitions](https://docs.aws.amazon.com/cli/latest/reference/cost-management-reporting/describe-report-definitions) in *AWS CLI Command Reference*.

**put-report-definition**

The following code example shows how to use `put-report-definition`.

**AWS CLI**

**To create an AWS Cost and Usage Reports**

The following `put-report-definition` example creates a daily AWS Cost and Usage Report that you can upload into Amazon Redshift or Amazon QuickSight.

```bash
aws cur put-report-definition --report-definition file://report-definition.json
```

**Contents of report-definition.json:**

```json
{
  "ReportName": "ExampleReport",
  "TimeUnit": "DAILY",
  "Format": "textORcsv",
  "Compression": "ZIP",
  "AdditionalSchemaElements": [
    "RESOURCES"
  ],
}
```
Cost Explorer Service examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Cost Explorer Service.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics
• Actions

Actions

get-cost-and-usage

The following code example shows how to use get-cost-and-usage.

AWS CLI

To retrieve the S3 usage of an account for the month of September 2017

The following get-cost-and-usage example retrieves the S3 usage of an account for the month of September 2017.
aws ce get-cost-and-usage \
    --time-period Start=2017-09-01,End=2017-10-01 \
    --granularity MONTHLY \
    --metrics "BlendedCost" "UnblendedCost" "UsageQuantity" \
    --group-by Type=DIMENSION,Key=SERVICE Type=TAG,Key=Environment \
    --filter file://filters.json

Contents of filters.json:

```
{
  "Dimensions": {
    "Key": "SERVICE",
    "Values": [
      "Amazon Simple Storage Service"
    ]
  }
}
```

Output:

```
{
  "GroupDefinitions": [
    {
      "Type": "DIMENSION",
      "Key": "SERVICE"
    },
    {
      "Type": "TAG",
      "Key": "Environment"
    }
  ],
  "ResultsByTime": [
    {
      "Estimated": false,
      "TimePeriod": {
        "Start": "2017-09-01",
        "End": "2017-10-01"
      },
      "Total": {},
      "Groups": [
        {
          "Keys": [
```

Actions and scenarios
• For API details, see [GetCostAndUsage](https://awscli.amazonaws.com/v2/documentation/api/latest/reference/aws-iam/iam-get-costa.html) in *AWS CLI Command Reference*. 
get-dimension-values

The following code example shows how to use get-dimension-values.

AWS CLI

To retrieve the tags for the dimension SERVICE, with a value of "Elastic"

This example retrieves the tags for the dimension SERVICE, with a value of "Elastic" for January 01 2017 through May 18 2017.

Command:

```
aws ce get-dimension-values --search-string Elastic --time-period
Start=2017-01-01,End=2017-05-18 --dimension SERVICE
```

Output:

```
{
    "TotalSize": 6,
    "DimensionValues": [
        {
            "Attributes": {},
            "Value": "Amazon ElastiCache"
        },
        {
            "Attributes": {},
            "Value": "EC2 - Other"
        },
        {
            "Attributes": {},
            "Value": "Amazon Elastic Compute Cloud - Compute"
        },
        {
            "Attributes": {},
            "Value": "Amazon Elastic Load Balancing"
        },
        {
            "Attributes": {},
            "Value": "Amazon Elastic MapReduce"
        },
        {
            "Attributes": {},
            "Value": "Amazon Elastic MapReduce"
        }
    ]
}
```
For API details, see [GetDimensionValues](https://docs.aws.amazon.com/cli/latest/reference/ce/get-dimension-values.html) in *AWS CLI Command Reference*.

### get-reservation-coverage

The following code example shows how to use `get-reservation-coverage`.

#### AWS CLI

**To retrieve the reservation coverage for EC2 t2.nano instances in the us-east-1 region**

This example retrieves the reservation coverage for EC2 t2.nano instances in the us-east-1 region for July-September of 2017.

**Command:**

```bash
aws ce get-reservation-coverage --time-period Start=2017-07-01,End=2017-10-01 --
group-by Type=Dimension,Key=REGION --filter file://filters.json
```

**filters.json:**

```json
{
  "And": [
    {
      "Dimensions": {
        "Key": "INSTANCE_TYPE",
        "Values": ["t2.nano"]
      },
      "Dimensions": {
        "Key": "REGION",
        "Values": ["us-east-1"]
      }
    }
  ]
}
```
Output:

```json
{
    "TotalSize": 6,
    "DimensionValues": [
        {
            "Attributes": {},
            "Value": "Amazon ElastiCache"
        },
        {
            "Attributes": {},
            "Value": "EC2 - Other"
        },
        {
            "Attributes": {},
            "Value": "Amazon Elastic Compute Cloud - Compute"
        },
        {
            "Attributes": {},
            "Value": "Amazon Elastic Load Balancing"
        },
        {
            "Attributes": {},
            "Value": "Amazon Elastic MapReduce"
        },
        {
            "Attributes": {},
            "Value": "Amazon Elasticsearch Service"
        }
    ],
    "ReturnSize": 6
}
```

- For API details, see [GetReservationCoverage](https://awscli.amazonaws.com) in *AWS CLI Command Reference*.

**get-reservation-purchase-recommendation**

The following code example shows how to use `get-reservation-purchase-recommendation`.
AWS CLI

To retrieve the reservation recommendations for Partial Upfront EC2 RIs with a three year term

The following get-reservation-purchase-recommendation example retrieves recommendations for Partial Upfront EC2 instances with a three-year term, based on the last 60 days of EC2 usage.

```bash
aws ce get-reservation-purchase-recommendation \
   --service "Amazon Redshift" \
   --lookback-period-in-days SIXTY_DAYS \
   --term-in-years THREE_YEARS \
   --payment-option PARTIAL_UPFRONT
```

Output:

```json
{
   "Recommendations": [],
   "Metadata": {
      "GenerationTimestamp": "2018-08-08T15:20:57Z",
      "RecommendationId": "00d59dde-a1ad-473f-8ff2-iexample3330b"
   }
}
```

- For API details, see [GetReservationPurchaseRecommendation](https://docs.aws.amazon.com/cli/latest/reference/ce/get-reservation-purchase-recommendation) in [AWS CLI Command Reference](https).

get-reservation-utilization

The following code example shows how to use get-reservation-utilization.

AWS CLI

To retrieve the reservation utilization for your account

The following get-reservation-utilization example retrieves the RI utilization for all t2.nano instance types from 2018-03-01 to 2018-08-01 for the account.

```bash
aws ce get-reservation-utilization \
   --time-period Start=2018-03-01,End=2018-08-01 \
   --filter file://filters.json
```
Contents of filters.json:

```json
{
   "Dimensions": {
      "Key": "INSTANCE_TYPE",
      "Values": [
         "t2.nano"
      ]
   }
}
```

Output:

```json
{
   "Total": {
      "TotalAmortizedFee": "0",
      "UtilizationPercentage": "0",
      "PurchasedHours": "0",
      "NetRISavings": "0",
      "TotalActualHours": "0",
      "AmortizedRecurringFee": "0",
      "UnusedHours": "0",
      "TotalPotentialRISavings": "0",
      "OnDemandCostOfRIHoursUsed": "0",
      "AmortizedUpfrontFee": "0"
   },
   "UtilizationsByTime": []
}
```

- For API details, see [GetReservationUtilization](https://aws.amazon.com) in AWS CLI Command Reference.

**get-tags**

The following code example shows how to use `get-tags`.

**AWS CLI**

**To retrieve keys and values for a cost allocation tag**

This example retrieves all cost allocation tags with a key of "Project" and a value that contains "secretProject".
Command:

```
aws ce get-tags --search-string secretProject --time-period
Start=2017-01-01,End=2017-05-18 --tag-key Project
```

Output:

```
{
    "ReturnSize": 2,
    "Tags": [
        "secretProject1",
        "secretProject2"
    ],
    "TotalSize": 2
}
```

- For API details, see [GetTags](#) in *AWS CLI Command Reference*.

### Amazon Data Lifecycle Manager examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon Data Lifecycle Manager.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

### Topics

- [Actions](#)

### Actions

#### create-default-role

The following code example shows how to use `create-default-role`. 
AWS CLI

To create the required IAM role for Amazon DLM

The following dlm create-default-role example creates the AWSDataLifecycleManagerDefaultRole default role for managing snapshots.

```bash
aws dlm create-default-role 
   --resource-type snapshot
```

This command produces no output.

For more information, see Default service roles for Amazon Data Lifecycle Manager in the Amazon Elastic Compute Cloud User Guide.

- For API details, see CreateDefaultRole in AWS CLI Command Reference.

create-lifecycle-policy

The following code example shows how to use create-lifecycle-policy.

AWS CLI

To create a lifecycle policy

The following create-lifecycle-policy example creates a lifecycle policy that creates a daily snapshot of volumes at the specified time. The specified tags are added to the snapshots, and tags are also copied from the volume and added to the snapshots. If creating a new snapshot exceeds the specified maximum count, the oldest snapshot is deleted.

```bash
aws dlm create-lifecycle-policy 
   --description "My first policy" 
   --state ENABLED 
   --execution-role-arn arn:aws:iam::12345678910:role/AWSDataLifecycleManagerDefaultRole 
   --policy-details file://policyDetails.json
```

Contents of policyDetails.json:

```json
{
   "ResourceTypes": [
      "VOLUME"
   ]
}
```
Output:

```
{
  "PolicyId": "policy-0123456789abcdef0"
}
```

- For API details, see [CreateLifecyclePolicy](#) in [AWS CLI Command Reference](#).

**delete-lifecycle-policy**

The following code example shows how to use delete-lifecycle-policy.
AWS CLI

To delete a lifecycle policy

The following example deletes the specified lifecycle policy:

```bash
aws dlm delete-lifecycle-policy --policy-id policy-0123456789abcdef0
```

- For API details, see `DeleteLifecyclePolicy` in `AWS CLI Command Reference`.

get-lifecycle-policies

The following code example shows how to use `get-lifecycle-policies`.

AWS CLI

To get a summary of your lifecycle policies

The following `get-lifecycle-policies` example lists all of your lifecycle policies.

```bash
aws dlm get-lifecycle-policies
```

Output:

```json
{
   "Policies": [
      {
         "PolicyId": "policy-0123456789abcdef0",
         "Description": "My first policy",
         "State": "ENABLED"
      }
   ]
}
```

- For API details, see `GetLifecyclePolicies` in `AWS CLI Command Reference`.

get-lifecycle-policy

The following code example shows how to use `get-lifecycle-policy`.
AWS CLI

To describe a lifecycle policy

The following `get-lifecycle-policy` example displays details for the specified lifecycle policy.

```bash
aws dlm get-lifecycle-policy \
--policy-id policy-0123456789abcdef0
```

Output:

```json
{
    "Policy": {
        "PolicyId": "policy-0123456789abcdef0",
        "Description": "My policy",
        "State": "ENABLED",
        "ExecutionRoleArn": "arn:aws:iam::123456789012:role/
AWSDataLifecycleManagerDefaultRole",
        "DateCreated": "2019-08-08T17:45:42Z",
        "DateModified": "2019-08-08T17:45:42Z",
        "PolicyDetails": {
            "PolicyType": "EBS_SNAPSHOT_MANAGEMENT",
            "ResourceTypes": [
                "VOLUME"
            ],
            "TargetTags": [
                {
                    "Key": "costCenter",
                    "Value": "115"
                }
            ],
            "Schedules": [
                {
                    "Name": "DailySnapshots",
                    "CopyTags": true,
                    "TagsToAdd": [
                        {
                            "Key": "type",
                            "Value": "myDailySnapshot"
                        }
                    ],
                    "CreateRule": {
                        "RuleTarget": {
                            "Type": "SNAPSHOT"
                        },
                        "RuleType": "DELETE"
                    }
                }
            ]
    }
}
```
"Interval": 24,
"IntervalUnit": "HOURS",
"Times": [
  "03:00"
],
"RetainRule": {
  "Count": 5
}
}
}
}

- For API details, see [GetLifecyclePolicy](https://docs.aws.amazon.com/cli/latest/reference/dlm/get-lifecycle-policy) in [AWS CLI Command Reference](https).

**update-lifecycle-policy**

The following code example shows how to use `update-lifecycle-policy`.

**AWS CLI**

**Example 1: To enable a lifecycle policy**

The following `update-lifecycle-policy` example enables the specified lifecycle policy.

```bash
aws dlm update-lifecycle-policy \
  --policy-id policy-0123456789abcdef0 \
  --state ENABLED
```

**Example 2: To disable a lifecycle policy**

The following `update-lifecycle-policy` example disables the specified lifecycle policy.

```bash
aws dlm update-lifecycle-policy \
  --policy-id policy-0123456789abcdef0 \
  --state DISABLED
```

**Example 3: To update the details for lifecycle policy**
The following `update-lifecycle-policy` example updates the target tags for the specified lifecycle policy.

```bash
aws dlm update-lifecycle-policy \\
--policy-id policy-0123456789abcdef0 \\
--policy-details file://policyDetails.json
```

Contents of `policyDetails.json`. Other details not referenced in this file are not changed by the command.

```json
{
    "TargetTags": [
        {
            "Key": "costCenter",
            "Value": "120"
        },
        {
            "Key": "project",
            "Value": "lima"
        }
    ]
}
```

- For API details, see [UpdateLifecyclePolicy](#) in [AWS CLI Command Reference](#).

**AWS Data Pipeline examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS Data Pipeline.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**
• **Actions**

**Actions**

**activate-pipeline**

The following code example shows how to use `activate-pipeline`.

**AWS CLI**

**To activate a pipeline**

This example activates the specified pipeline:

```bash
aws datapipeline activate-pipeline --pipeline-id df-00627471SOVYZEXAMPLE
```

To activate the pipeline at a specific date and time, use the following command:

```bash
aws datapipeline activate-pipeline --pipeline-id df-00627471SOVYZEXAMPLE --start-timestamp 2015-04-07T00:00:00Z
```

- For API details, see [ActivatePipeline](#) in *AWS CLI Command Reference*.

**add-tags**

The following code example shows how to use `add-tags`.

**AWS CLI**

**To add a tag to a pipeline**

This example adds the specified tag to the specified pipeline:

```bash
aws datapipeline add-tags --pipeline-id df-00627471SOVYZEXAMPLE --tags
key=environment,value=production key=owner,value=sales
```

To view the tags, use the `describe-pipelines` command. For example, the tags added in the example command appear as follows in the output for `describe-pipelines`:

```json
{
  ...
}
```
create-pipeline

The following code example shows how to use create-pipeline.

AWS CLI

To create a pipeline

This example creates a pipeline:

```
aws datapipeline create-pipeline --name my-pipeline --unique-id my-pipeline-token
```

The following is example output:

```
{
    "pipelineId": "df-00627471SOVYZEXAMPLE"
}
```

For API details, see [AddTags](#) in *AWS CLI Command Reference*.

deactivate-pipeline

The following code example shows how to use deactivate-pipeline.

AWS CLI

To deactivate a pipeline
This example deactivates the specified pipeline:

```bash
aws datapipeline deactivate-pipeline --pipeline-id df-00627471SOVYZEXAMPLE
```

To deactivate the pipeline only after all running activities finish, use the following command:

```bash
aws datapipeline deactivate-pipeline --pipeline-id df-00627471SOVYZEXAMPLE --no-cancel-active
```

- For API details, see [DeactivatePipeline](https://awscli.amazonaws.com/v2/documentation/api/latest/reference/datapipeline/deactivate-pipeline.html) in *AWS CLI Command Reference*.

**delete-pipeline**

The following code example shows how to use delete-pipeline.

**AWS CLI**

To delete a pipeline

This example deletes the specified pipeline:

```bash
aws datapipeline delete-pipeline --pipeline-id df-00627471SOVYZEXAMPLE
```

- For API details, see [DeletePipeline](https://awscli.amazonaws.com/v2/documentation/api/latest/reference/datapipeline/delete-pipeline.html) in *AWS CLI Command Reference*.

**describe-pipelines**

The following code example shows how to use describe-pipelines.

**AWS CLI**

To describe your pipelines

This example describes the specified pipeline:

```bash
aws datapipeline describe-pipelines --pipeline-ids df-00627471SOVYZEXAMPLE
```

The following is example output:

```json
{
    "pipelineDescriptionList": [

```
{
    "fields": [
    {
        "stringValue": "PENDING",
        "key": "@pipelineState"
    },
    {
        "stringValue": "my-pipeline",
        "key": "name"
    },
    {
        "stringValue": "2015-04-07T16:05:58",
        "key": "@creationTime"
    },
    {
        "stringValue": "df-00627471SOVYZEXAMPLE",
        "key": "@id"
    },
    {
        "stringValue": "123456789012",
        "key": "pipelineCreator"
    },
    {
        "stringValue": "PIPELINE",
        "key": "@sphere"
    },
    {
        "stringValue": "123456789012",
        "key": "@userId"
    },
    {
        "stringValue": "123456789012",
        "key": "@accountId"
    },
    {
        "stringValue": "my-pipeline-token",
        "key": "uniqueId"
    }
    ],
    "pipelineId": "df-00627471SOVYZEXAMPLE",
    "name": "my-pipeline",
    "tags": []
}
• For API details, see DescribePipelines in AWS CLI Command Reference.

get-pipeline-definition

The following code example shows how to use get-pipeline-definition.

AWS CLI

To get a pipeline definition

This example gets the pipeline definition for the specified pipeline:

```bash
aws datapipeline get-pipeline-definition --pipeline-id df-0062747150VYZEXAMPLE
```

The following is example output:

```json
{
  "parameters": [
    {
      "type": "AWS::S3::ObjectKey",
      "id": "myS3OutputLoc",
      "description": "S3 output folder"
    },
    {
      "default": "s3://us-east-1.elasticmapreduce.samples/pig-apache-logs/data",
      "type": "AWS::S3::ObjectKey",
      "id": "myS3InputLoc",
      "description": "S3 input folder"
    },
    {
      "default": "grep -rc \"GET\" ${INPUT1_STAGING_DIR}/* > ${OUTPUT1_STAGING_DIR}/output.txt",
      "type": "String",
      "id": "myShellCmd",
      "description": "Shell command to run"
    }
  ],
  "objects": [
    {
      "type": "Ec2Resource",
      "terminateAfter": "20 Minutes"
    }
  ]
}
```
"instanceType": "t1.micro",
"id": "EC2ResourceObj",
"name": "EC2ResourceObj"
},
{
"name": "Default",
"failureAndRerunMode": "CASCADE",
"resourceRole": "DataPipelineDefaultResourceRole",
"schedule": {
"ref": "DefaultSchedule"
},
"role": "DataPipelineDefaultRole",
"scheduleType": "cron",
"id": "Default"
},
{
"directoryPath": "#{myS3OutputLoc}/#{format(@scheduledStartTime, 'YYYY-MM-dd-HH-mm-ss')}",
"type": "S3DataNode",
"id": "S3outputLocation",
"name": "S3outputLocation"
},
{
"directoryPath": "#{myS3InputLoc}",
"type": "S3DataNode",
"id": "S3inputLocation",
"name": "S3inputLocation"
},
{
"startAt": "FIRST_ACTIVATION_DATE_TIME",
"name": "Every 15 minutes",
"period": "15 minutes",
"occurrences": "4",
"type": "Schedule",
"id": "DefaultSchedule"
},
{
"name": "ShellCommandActivityObj",
"command": "#{myShellCmd}",
"output": {
"ref": "S3outputLocation"
},
"input": {
"ref": "S3inputLocation"
For API details, see GetPipelineDefinition in AWS CLI Command Reference.

list-pipelines

The following code example shows how to use list-pipelines.

AWS CLI

To list your pipelines

This example lists your pipelines:

```bash
aws datapipeline list-pipelines
```

The following is example output:

```json
{
    "pipelineIdList": [
        {
            "id": "df-00627471SOVYZEXAMPLE",
            "name": "my-pipeline"
        },
        {
            "id": "df-09028963KNVMREXAMPLE",
            "name": "my-pipeline"
        }
    ]
}
```
For API details, see ListPipelines in AWS CLI Command Reference.

list-runs

The following code example shows how to use list-runs.

AWS CLI

Example 1: To list your pipeline runs

The following list-runs example lists the runs for the specified pipeline.

```
aws datapipeline list-runs --pipeline-id df-00627471SOVYZEXAMPLE
```

Output:

<table>
<thead>
<tr>
<th>Name</th>
<th>Scheduled Start</th>
<th>Status</th>
<th>ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC2ResourceObj</td>
<td>2015-04-12T17:33:02</td>
<td>CREATING</td>
<td>@EC2ResourceObj_2015-04-12T17:33:02 2015-04-12T17:33:10</td>
</tr>
<tr>
<td>S3InputLocation</td>
<td>2015-04-12T17:33:02</td>
<td>FINISHED</td>
<td>@S3InputLocation_2015-04-12T17:33:02 2015-04-12T17:33:09</td>
</tr>
<tr>
<td>S3OutputLocation</td>
<td>2015-04-12T17:33:02</td>
<td>WAITING_ON_DEPENDENCIES</td>
<td>@S3OutputLocation_2015-04-12T17:33:02 2015-04-12T17:33:09</td>
</tr>
<tr>
<td>ShellCommandActivityObj</td>
<td>2015-04-12T17:33:02</td>
<td>WAITING_FOR_RUNNER</td>
<td>@ShellCommandActivityObj_2015-04-12T17:33:02 2015-04-12T17:33:09</td>
</tr>
</tbody>
</table>
Example 2: To list the pipeline runs between the specified dates

The following list-runs example uses the --start-interval to specify the dates to include in the output.

```
aws datapipeline list-runs --pipeline-id df-01434553B58A2SHZUKO5 --start-interval 2017-10-07T00:00:00,2017-10-08T00:00:00
```

- For API details, see [ListRuns](https://awscli.amazonaws.com/v2/documentation/api/latest/reference/datapipeline/list-runs.html) in *AWS CLI Command Reference*.

**put-pipeline-definition**

The following code example shows how to use put-pipeline-definition.

**AWS CLI**

**To upload a pipeline definition**

This example uploads the specified pipeline definition to the specified pipeline:

```
aws datapipeline put-pipeline-definition --pipeline-id df-00627471SOVYZEXAMPLE --pipeline-definition file://my-pipeline-definition.json
```

The following is example output:

```
{
  "validationErrors": [],
  "errored": false,
  "validationWarnings": []
}
```

- For API details, see [PutPipelineDefinition](https://awscli.amazonaws.com/v2/documentation/api/latest/reference/datapipeline/put-pipeline-definition.html) in *AWS CLI Command Reference*.

**remove-tags**

The following code example shows how to use remove-tags.

**AWS CLI**

**To remove a tag from a pipeline**
This example removes the specified tag from the specified pipeline:

```
aws datapipeline remove-tags --pipeline-id df-00627471SOVYZEXAMPLE --tag-keys environment
```

- For API details, see [RemoveTags](https://aws.amazon.com/documentation/cli/command-reference/remove-tags/) in *AWS CLI Command Reference*.

### DataSync examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with DataSync.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

### Topics

- [Actions](#)

### Actions

#### update-location-azure-blob

The following code example shows how to use `update-location-azure-blob`.

### AWS CLI

**To update your transfer location with a new agent**

The following `update-location-object-storage` example updates your DataSync location for Microsoft Azure Blob Storage with a new agent.

```
aws datasync update-location-azure-blob
```
This command produces no output.

For more information, see Replacing your agent in the AWS DataSync User Guide. For API details, see UpdateLocationAzureBlob in AWS CLI Command Reference.

update-location-hdfs

The following code example shows how to use update-location-hdfs.

AWS CLI

To update your transfer location with a new agent

The following update-location-hdfs example updates your DataSync HDFS location with a new agent. You only need the --kerberos-keytab and --kerberos-krb5-conf options if your HDFS cluster uses Kerberos authentication.

```
aws datasync update-location-hdfs \
  --location-arn arn:aws:datasync:us-west-2:123456789012:location/loc-abcdef01234567890 \
  --agent-arns arn:aws:datasync:us-west-2:123456789012:agent/agent-1234567890abcdef0 \
  --kerberos-keytab file://hdfs.keytab \
  --kerberos-krb5-conf file://krb5.conf
```

Contents of hdfs.keytab:

N/A. The content of this file is encrypted and not human readable.

Contents of krb5.conf:

```
[libdefaults]
default_realmd = EXAMPLE.COM
dns_lookup_realmd = false
dns_lookup_kdc = false
```
rdns = true
  ticket_lifetime = 24h
  forwardable = true
  udp_preference_limit = 1000000
  default_tkt_enctypes = aes256-cts-hmac-sha1-96 aes128-cts-hmac-sha1-96 des3-cbc-sha1
  default_tgs_enctypes = aes256-cts-hmac-sha1-96 aes128-cts-hmac-sha1-96 des3-cbc-sha1
  permitted_enctypes = aes256-cts-hmac-sha1-96 aes128-cts-hmac-sha1-96 des3-cbc-sha1

[realms]
  EXAMPLE.COM = {
    kdc = kdc1.example.com
    admin_server = krbadmin.example.com
    default_domain = example.com
  }

[domain_realm]
  .example.com = EXAMPLE.COM
  example.com = EXAMPLE.COM

[logging]
  kdc = FILE:/var/log/krb5kdc.log
  admin_server = FILE:/var/log/kerberos/kadmin.log
  default = FILE:/var/log/krb5libs.log

This command produces no output.

For more information, see Replacing your agent in the AWS DataSync User Guide.

- For API details, see UpdateLocationHdfs in AWS CLI Command Reference.

**update-location-nfs**

The following code example shows how to use update-location-nfs.

**AWS CLI**

To update your transfer location with a new agent

The following update-location-nfs example updates your DataSync NFS location with a new agent.
This command produces no output.

For more information, see Replacing your agent in the AWS DataSync User Guide.

• For API details, see UpdateLocationNfs in AWS CLI Command Reference.

update-location-object-storage

The following code example shows how to use update-location-object-storage.

AWS CLI

To update your transfer location with a new agent

The following update-location-object-storage example updates your DataSync object storage location with a new agent.

This command produces no output.

For more information, see Replacing your agent in the AWS DataSync User Guide.

• For API details, see UpdateLocationObjectStorage in AWS CLI Command Reference.

update-location-smb

The following code example shows how to use update-location-smb.

AWS CLI

To update your transfer location with a new agent
The following update-location-smb example updates your DataSync SMB location with a new agent.

```bash
aws datasync update-location-smb \
  --location-arn arn:aws:datasync:us-west-2:123456789012:location/abcdef0123456789012 \ 
  --agent-arns arn:aws:datasync:us-west-2:123456789012:agent/agent-1234567890abcdef0 \ 
  --password smb-file-server-password
```

This command produces no output.

For more information, see [Replacing your agent](aws-datasync-user-guide-getting-started.html) in the *AWS DataSync User Guide*.

- For API details, see [UpdateLocationSmb](https://docs.aws.amazon.com/cli/latest/reference/datasync/update-location-smb.html) in *AWS CLI Command Reference*.

DAX examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with DAX.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- [Actions](#)

**Actions**

**create-cluster**

The following code example shows how to use `create-cluster`.
AWS CLI

To create a DAX cluster

The following `create-cluster` example creates a DAX cluster with the specified settings.

```
aws dax create-cluster \\
--cluster-name daxcluster \\
--node-type dax.r4.large \\
--replication-factor 3 \\
--iam-role-arn roleARN \\
--sse-specification Enabled=true
```

Output:

```
{
    "Cluster": {
        "ClusterName": "daxcluster",
        "TotalNodes": 3,
        "ActiveNodes": 0,
        "NodeType": "dax.r4.large",
        "Status": "creating",
        "ClusterDiscoveryEndpoint": {
            "Port": 8111
        },
        "PreferredMaintenanceWindow": "thu:13:00-thu:14:00",
        "SubnetGroup": "default",
        "SecurityGroups": [
            {
                "SecurityGroupIdentifier": "sg-1af6e36e",
                "Status": "active"
            }
        ],
        "IamRoleArn": "arn:aws:iam::123456789012:role/DAXServiceRoleForDynamoDBAccess",
        "ParameterGroup": {
            "ParameterGroupName": "default.dax1.0",
            "ParameterApplyStatus": "in-sync",
            "NodeIdsToReboot": []
        },
        "SSEDescription": {
            "Status": "ENABLED"
        }
    }
}
```
For more information, see Step 3: Create a DAX Cluster in the Amazon DynamoDB Developer Guide.

- For API details, see CreateCluster in AWS CLI Command Reference.

create-parameter-group

The following code example shows how to use create-parameter-group.

AWS CLI

To create a parameter group

The following `create-parameter-group` example creates a parameter group with the specified settings.

```bash
aws dax create-parameter-group \
   --parameter-group-name daxparametergroup \
   --description "A new parameter group"
```

Output:

```json
{
   "ParameterGroup": {
      "ParameterGroupName": "daxparametergroup",
      "Description": "A new parameter group"
   }
}
```

For more information, see Managing DAX Clusters in the Amazon DynamoDB Developer Guide.

- For API details, see CreateParameterGroup in AWS CLI Command Reference.

create-subnet-group

The following code example shows how to use create-subnet-group.
AWS CLI

To create a DAX subnet group

The following `create-subnet-group` example creates a subnet group with the specified settings.

```bash
aws dax create-subnet-group \
   --subnet-group-name daxSubnetGroup \
   --subnet-ids subnet-11111111 subnet-22222222
```

Output:

```json
{
   "SubnetGroup": {
      "SubnetGroupName": "daxSubnetGroup",
      "VpcId": "vpc-05a1fa8e00c325226",
      "Subnets": [
         {
            "SubnetIdentifier": "subnet-11111111",
            "SubnetAvailabilityZone": "us-west-2b"
         },
         {
            "SubnetIdentifier": "subnet-22222222",
            "SubnetAvailabilityZone": "us-west-2c"
         }
      ]
   }
}
```

For more information, see [Step 2: Create a Subnet Group](#) in the Amazon DynamoDB Developer Guide.

- For API details, see [CreateSubnetGroup](#) in AWS CLI Command Reference.

decrease-replication-factor

The following code example shows how to use `decrease-replication-factor`.

AWS CLI

To remove one or more nodes from the cluster
The following decrease-replication-factor example decreases the number of nodes in the specified DAX cluster to one.

```bash
aws dax decrease-replication-factor \
  --cluster-name daxcluster \
  --new-replication-factor 1
```

Output:

```json
{
  "Cluster": {
    "ClusterName": "daxcluster",
    "TotalNodes": 3,
    "ActiveNodes": 3,
    "NodeType": "dax.r4.large",
    "Status": "modifying",
    "ClusterDiscoveryEndpoint": {
      "Address": "daxcluster.ey3o9d.clustercfg.dax.usw2.cache.amazonaws.com",
      "Port": 8111
    },
    "Nodes": [
      {
        "NodeId": "daxcluster-a",
        "Endpoint": {
          "Address": "daxcluster-a.ey3o9d.0001.dax.usw2.cache.amazonaws.com",
          "Port": 8111
        },
        "NodeCreateTime": 1576625059.509,
        "AvailabilityZone": "us-west-2c",
        "NodeStatus": "available",
        "ParameterGroupStatus": "in-sync"
      },
      {
        "NodeId": "daxcluster-b",
        "Endpoint": {
          "Address": "daxcluster-b.ey3o9d.0001.dax.usw2.cache.amazonaws.com",
          "Port": 8111
        },
        "NodeCreateTime": 1576625059.509,
        "AvailabilityZone": "us-west-2a",
```

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For more information, see [Managing DAX Clusters](https://docs.aws.amazon.com/AmazonDynamoDB/latest/DeveloperGuide/dax.cluster-management.html) in the *Amazon DynamoDB Developer Guide*.

- For API details, see [DecreaseReplicationFactor](https://docs.aws.amazon.com/cli/latest/reference/dax/decrease-replication-factor.html) in *AWS CLI Command Reference*. 

---

```
"NodeStatus": "available",
"ParameterGroupStatus": "in-sync"
},

{
"NodeId": "daxcluster-c",
"Endpoint": {
  "Address": "daxcluster-c.ey3o9d.0001.dax.usw2.cache.amazonaws.com",
  "Port": 8111
},
"NodeCreateTime": 1576625059.509,
"AvailabilityZone": "us-west-2b",
"NodeStatus": "available",
"ParameterGroupStatus": "in-sync"
},

"PreferredMaintenanceWindow": "thu:13:00-thu:14:00",
"SubnetGroup": "default",
"SecurityGroups": [
  {
    "SecurityGroupIdentifier": "sg-1af6e36e",
    "Status": "active"
  }
],
"IamRoleArn": "arn:aws:iam::123456789012:role/DAXServiceRoleForDynamoDBAccess",
"ParameterGroup": {
  "ParameterGroupName": "default.dax1.0",
  "ParameterApplyStatus": "in-sync",
  "NodeIdsToReboot": []
},
"SSEDescription": {
  "Status": "ENABLED"
}
```
delete-cluster

The following code example shows how to use delete-cluster.

AWS CLI

To delete a DAX cluster

The following delete-cluster example deletes the specified DAX cluster.

```
aws dax delete-cluster \
    --cluster-name daxcluster
```

Output:

```json
{
    "Cluster": {
        "ClusterName": "daxcluster",
        "TotalNodes": 3,
        "ActiveNodes": 0,
        "NodeType": "dax.r4.large",
        "Status": "deleting",
        "ClusterDiscoveryEndpoint": {
            "Address": "dd.ey3o9d.clustercfg.dax.usw2.cache.amazonaws.com",
            "Port": 8111
        },
        "PreferredMaintenanceWindow": "fri:06:00-fri:07:00",
        "SubnetGroup": "default",
        "SecurityGroups": [
            {
                "SecurityGroupIdentifier": "sg-1af6e36e",
                "Status": "active"
            }
        ],
        "IamRoleArn": "arn:aws:iam::123456789012:role/DAXServiceRoleForDynamoDBAccess",
        "ParameterGroup": {
            "ParameterGroupName": "default.dax1.0",
            "ParameterApplyStatus": "in-sync",
            "NodeIdsToReboot": []
        },
        "SSEDescription": {
```
For more information, see Managing DAX Clusters in the Amazon DynamoDB Developer Guide.

- For API details, see DeleteCluster in AWS CLI Command Reference.

**delete-parameter-group**

The following code example shows how to use delete-parameter-group.

**AWS CLI**

**To delete a parameter group**

The following delete-parameter-group example deletes the specified DAX parameter group.

```bash
aws dax delete-parameter-group \
   --parameter-group-name daxparametergroup
```

Output:

```json
{
   "DeletionMessage": "Parameter group daxparametergroup has been deleted."
}
```

For more information, see Managing DAX Clusters in the Amazon DynamoDB Developer Guide.

- For API details, see DeleteParameterGroup in AWS CLI Command Reference.

**delete-subnet-group**

The following code example shows how to use delete-subnet-group.

**AWS CLI**

**To delete a subnet group**

The following delete-subnet-group example deletes the specified DAX subnet group.
aws dax delete-subnet-group
    --subnet-group-name daxSubnetGroup

Output:

{  
    "DeletionMessage": "Subnet group daxSubnetGroup has been deleted."
}

For more information, see Managing DAX Clusters in the Amazon DynamoDB Developer Guide.

- For API details, see DeleteSubnetGroup in AWS CLI Command Reference.

describe-clusters

The following code example shows how to use describe-clusters.

AWS CLI

To return information about all provisioned DAX clusters

The following describe-clusters example displays details about all provisioned DAX clusters.

aws dax describe-clusters

Output:

{  
    "Clusters": [  
        {  
            "ClusterName": "daxcluster",  
            "TotalNodes": 1,  
            "ActiveNodes": 1,  
            "NodeType": "dax.r4.large",  
            "Status": "available",  
            "ClusterDiscoveryEndpoint": {  
                "Address":  
                    "daxcluster.ey3o9d.clustercfg.dax.usw2.cache.amazonaws.com",  
                "Port": 8111
            }
        }
    ]
}
"Nodes": [  
  {  
    "NodeId": "daxcluster-a",  
    "Endpoint": {  
      "Address": "daxcluster-a.ey3o9d.0001.dax.usw2.cache.amazonaws.com",  
      "Port": 8111  
    },  
    "NodeCreateTime": 1576625059.509,  
    "AvailabilityZone": "us-west-2c",  
    "NodeStatus": "available",  
    "ParameterGroupStatus": "in-sync"  
  }  
],  
"PreferredMaintenanceWindow": "thu:13:00-thu:14:00",  
"SubnetGroup": "default",  
"SecurityGroups": [  
  {  
    "SecurityGroupIdentifier": "sg-1af6e36e",  
    "Status": "active"  
  }  
],  
"IamRoleArn": "arn:aws:iam::123456789012:role/DAXServiceRoleForDynamoDBAccess",  
"ParameterGroup": {  
  "ParameterGroupName": "default.dax1.0",  
  "ParameterApplyStatus": "in-sync",  
  "NodeIdsToReboot": []  
},  
"SSEDescription": {  
  "Status": "ENABLED"  
}  
]  
}

For more information, see [Managing DAX Clusters](https://docs.aws.amazon.com/dynamodb/latest/developerguide/dax-managing-clusters.html) in the *Amazon DynamoDB Developer Guide*.  
- For API details, see [DescribeClusters](https://docs.aws.amazon.com/cli/latest/reference/dynamodb/describe-clusters.html) in *AWS CLI Command Reference*. 

**describe-default-parameters**

The following code example shows how to use `describe-default-parameters`. 
To return the default system parameter information for DAX

The following `describe-default-parameters` example displays the default system parameter information for DAX.

```bash
aws dax describe-default-parameters
```

Output:

```
{
   "Parameters": [
   {
      "ParameterName": "query-ttl-millis",
      "ParameterType": "DEFAULT",
      "ParameterValue": "300000",
      "NodeTypeSpecificValues": [],
      "Description": "Duration in milliseconds for queries to remain cached",
      "Source": "user",
      "DataType": "integer",
      "AllowedValues": "0-",
      "IsModifiable": "TRUE",
      "ChangeType": "IMMEDIATE"
   },
   {
      "ParameterName": "record-ttl-millis",
      "ParameterType": "DEFAULT",
      "ParameterValue": "300000",
      "NodeTypeSpecificValues": [],
      "Description": "Duration in milliseconds for records to remain valid in cache (Default: 0 = infinite)",
      "Source": "user",
      "DataType": "integer",
      "AllowedValues": "0-",
      "IsModifiable": "TRUE",
      "ChangeType": "IMMEDIATE"
   }
   ]
}
```

For more information, see Managing DAX Clusters in the Amazon DynamoDB Developer Guide.
describe-events

The following code example shows how to use describe-events.

AWS CLI

To return all events related to DAX clusters and parameter groups

The following describe-events example displays details of events that are related to DAX clusters and parameter groups.

aws dax describe-events

Output:

```json
{
   "Events": [
   {
      "SourceName": "daxcluster",
      "SourceType": "CLUSTER",
      "Message": "Cluster deleted.",
      "Date": 1576702736.706
   },
   {
      "SourceName": "daxcluster",
      "SourceType": "CLUSTER",
      "Message": "Removed node daxcluster-b.",
      "Date": 1576702691.738
   },
   {
      "SourceName": "daxcluster",
      "SourceType": "CLUSTER",
      "Message": "Removed node daxcluster-a.",
      "Date": 1576702633.498
   },
   {
      "SourceName": "daxcluster",
      "SourceType": "CLUSTER",
      "Message": "Removed node daxcluster-c.",
      "Date": 1576702631.329
   }
```
The following code example shows how to use `describe-parameter-groups`.

**AWS CLI**

**To describe the parameter groups defined in DAX**

The following `describe-parameter-groups` example retrieves details about the parameter groups that are defined in DAX.

```bash
aws dax describe-parameter-groups
```

**Output:**

```json
{
   "ParameterGroups": [
      {
         "ParameterGroupName": "default.dax1.0",
         "Description": "Default parameter group for dax1.0"
      }
   ]
}
```

For more information, see [Managing DAX Clusters](#) in the *Amazon DynamoDB Developer Guide*.

- For API details, see [DescribeParameterGroups](#) in *AWS CLI Command Reference*.

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**describe-parameters**

The following code example shows how to use describe-parameters.

**AWS CLI**

To describe the parameters defined in a DAX parameter group

The following describe-parameters example retrieves details about the parameters that are defined in the specified DAX parameter group.

```bash
aws dax describe-parameters \
   --parameter-group-name default.dax1.0
```

Output:

```json
{
   "Parameters": [
   {
      "ParameterName": "query-ttl-millis",
      "ParameterType": "DEFAULT",
      "ParameterValue": "300000",
      "NodeTypeSpecificValues": [],
      "Description": "Duration in milliseconds for queries to remain cached",
      "Source": "user",
      "DataType": "integer",
      "AllowedValues": "0-",
      "IsModifiable": "TRUE",
      "ChangeType": "IMMEDIATE"
   },
   {
      "ParameterName": "record-ttl-millis",
      "ParameterType": "DEFAULT",
      "ParameterValue": "300000",
      "NodeTypeSpecificValues": [],
      "Description": "Duration in milliseconds for records to remain valid in cache (Default: 0 = infinite)",
      "Source": "user",
      "DataType": "integer",
      "AllowedValues": "0-",
      "IsModifiable": "TRUE",
      "ChangeType": "IMMEDIATE"
   }
   ]
}```
The following code example shows how to use `describe-subnet-groups`.

**AWS CLI**

To describe subnet groups defined in DAX

The following `describe-subnet-groups` example retrieves details for the subnet groups defined in DAX.

```bash
aws dax describe-subnet-groups
```

Output:

```json
{
    "SubnetGroups": [
    {
      "SubnetGroupName": "default",
      "Description": "Default CacheSubnetGroup",
      "VpcId": "vpc-ee70a196",
      "Subnets": [
        {
          "SubnetIdentifier": "subnet-874953af",
          "SubnetAvailabilityZone": "us-west-2d"
        },
        {
          "SubnetIdentifier": "subnet-bd3d1fc4",
          "SubnetAvailabilityZone": "us-west-2a"
        },
        {
          "SubnetIdentifier": "subnet-72c2ff28",
          "SubnetAvailabilityZone": "us-west-2c"
        },
        {
          "SubnetIdentifier": "subnet-09e6aa42",
```
For more information, see [Managing DAX Clusters](#) in the *Amazon DynamoDB Developer Guide*.  
- For API details, see [DescribeSubnetGroups](#) in *AWS CLI Command Reference*.

**increase-replication-factor**

The following code example shows how to use `increase-replication-factor`.

**AWS CLI**

*To increase the replication factor for a DAX cluster*

The following `increase-replication-factor` example increases the specified DAX cluster's replication factor to 3.

```bash
aws dax increase-replication-factor \
   --cluster-name daxcluster \
   --new-replication-factor 3
```

**Output:**

```json
{
   "Cluster": {
      "ClusterName": "daxcluster",
      "TotalNodes": 3,
      "ActiveNodes": 1,
      "NodeType": "dax.r4.large",
      "Status": "modifying",
      "ClusterDiscoveryEndpoint": {
         "Address": "daxcluster.ey3o9d.clusterconfig.dax.usw2.cache.amazonaws.com",
         "Port": 8111
      },
      "Nodes": [
      {
```
"NodeId": "daxcluster-a",
"Endpoint": {
    "Address": "daxcluster-a.ey3o9d.0001.dax.usw2.cache.amazonaws.com",
    "Port": 8111
},
"NodeCreateTime": 1576625059.509,
"AvailabilityZone": "us-west-2c",
"NodeStatus": "available",
"ParameterGroupStatus": "in-sync"
},
{
    "NodeId": "daxcluster-b",
    "NodeStatus": "creating"
},
{
    "NodeId": "daxcluster-c",
    "NodeStatus": "creating"
}
],
"PreferredMaintenanceWindow": "thu:13:00-thu:14:00",
"SubnetGroup": "default",
"SecurityGroups": [
    {
        "SecurityGroupIdentifier": "sg-1af6e36e",
        "Status": "active"
    }
],
"IamRoleArn": "arn:aws:iam::123456789012:role/DAXServiceRoleForDynamoDBAccess",
"ParameterGroup": {
    "ParameterGroupName": "default.dax1.0",
    "ParameterApplyStatus": "in-sync",
    "NodeIdsToReboot": []
},
"SSEDescription": {
    "Status": "ENABLED"
}
}

For more information, see [Managing DAX Clusters](https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/DAX.ManagingClusters.html) in the *Amazon DynamoDB Developer Guide*.

- For API details, see [IncreaseReplicationFactor](https://docs.aws.amazon.com/cli/latest/reference/dynamodb/
  IncreaseReplicationFactor.html) in *AWS CLI Command Reference*. 
list-tags

The following code example shows how to use list-tags.

AWS CLI

To list tags on a DAX resource

The following list-tags example lists the tag keys and values attached to the specified DAX cluster.

```bash
aws dax list-tags \
```

Output:

```json
{
   "Tags": [
      {
         "Key": "ClusterUsage",
         "Value": "prod"
      }
   ]
}
```

For more information, see [Managing DAX Clusters](https://docs.aws.amazon.com/dynamodb/latest/developerguide/dax-managing-clusters.html) in the *Amazon DynamoDB Developer Guide*.

- For API details, see [ListTags](https://docs.aws.amazon.com/cli/latest/reference/dax/list-tags.html) in *AWS CLI Command Reference*.

tag-resource

The following code example shows how to use tag-resource.

AWS CLI

To tag a DAX resource

The following tag-resource example attaches the specified tag key name and associated value to the specified DAX cluster to describe the cluster usage.

```bash
aws dax tag-resource \
```

Output:

```json
{
   "Tags": [
   
   
   {
   "Key": "ClusterUsage",
   "Value": "prod"
   }
   ]
}
```

For more information, see [Managing DAX Clusters](https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/dax-managed-clusters.html) in the *Amazon DynamoDB Developer Guide*.

- For API details, see [TagResource](https://docs.aws.amazon.com/cli/latest/reference/dax/tag-resource.html) in *AWS CLI Command Reference*.

### untag-resource

The following code example shows how to use `untag-resource`.

**AWS CLI**

**To remove tags from a DAX resource**

The following `untag-resource` example removes the tag with the specified key name from a DAX cluster.

```bash
aws dax untag-resource \
   --resource-name arn:aws:dax:us-west-2:123456789012:cache/daxcluster \
   --tag-keys="ClusterUsage"
```

Output:

```json
{
   "Tags": []
}
```

For more information, see [Managing DAX Clusters](https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/dax-managed-clusters.html) in the *Amazon DynamoDB Developer Guide*. 
Detective examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Detective.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics

- Actions

Actions

accept-invitation

The following code example shows how to use accept-invitation.

AWS CLI

To accept an invitation to become a member account in a behavior graph

The following accept-invitation example accepts an invitation to become a member account in behavior graph arn:aws:detective:us-east-1:111122223333:graph:123412341234.

```
aws detective accept-invitation \
```

This command produces no output.

For more information, see Responding to a behavior graph invitation in the Amazon Detective Administration Guide.
• For API details, see `AcceptInvitation` in `AWS CLI Command Reference`.

**create-graph**

The following code example shows how to use `create-graph`.

**AWS CLI**

**To enable Amazon Detective and create a new behavior graph**

The following `create-graph` example enables Detective for the AWS account that runs the command in the Region where the command is run. A new behavior graph is created that has that account as its administrator account. The command also assigns the value Finance to the Department tag.

```bash
aws detective create-graph \
   --tags '{"Department": "Finance"}'
```

Output:

```
{
   "GraphArn": "arn:aws:detective:us-east-1:111122223333:graph:027c7c4610ea4aacaf0b883093cab899"
}
```

For more information, see `Enabling Amazon Detective` in the `Amazon Detective Administration Guide`.

• For API details, see `CreateGraph` in `AWS CLI Command Reference`.

**create-members**

The following code example shows how to use `create-members`.

**AWS CLI**

**To invite member accounts to a behavior graph**

The following `create-members` example invites two AWS accounts to become member accounts in the behavior graph arn:aws:detective:us-east-1:111122223333:graph:123412341234. For each account, the request provides the AWS
account ID and the account root user email address. The request includes a custom message to insert into the invitation email.

```
aws detective create-members \
  --accounts AccountId=444455556666,EmailAddress=mmajor@example.com \
  AccountId=123456789012,EmailAddress=jstiles@example.com \ 
  --graph-arn arn:aws:detective:us-east-1:111122223333:graph:123412341234 \ 
  --message "This is Paul Santos. I need to add your account to the data we use for security investigation in Amazon Detective. If you have any questions, contact me at psantos@example.com."
```

Output:

```
{
    "Members": [
      {
        "AccountId": "444455556666",
        "AdministratorId": "111122223333",
        "EmailAddress": "mmajor@example.com",
        "GraphArn": "arn:aws:detective:us-east-1:111122223333:graph:123412341234",
        "InvitedTime": 1579826107000,
        "MasterId": "111122223333",
        "Status": "INVITED",
        "UpdatedTime": 1579826107000
      },
      {
        "AccountId": "123456789012",
        "AdministratorId": "111122223333",
        "EmailAddress": "jstiles@example.com",
        "GraphArn": "arn:aws:detective:us-east-1:111122223333:graph:123412341234",
        "InvitedTime": 1579826107000,
        "MasterId": "111122223333",
        "Status": "VERIFICATION_IN_PROGRESS",
        "UpdatedTime": 1579826107000
      }
    ],
    "UnprocessedAccounts": [
    ]
}
```

For more information, see Inviting member accounts to a behavior graph<https://docs.aws.amazon.com/detective/latest/adminguide/graph-admin-add-member-accounts.html> in the Amazon Detective Administration Guide.
To invite member accounts without sending invitation emails

The following create-members example invites two AWS accounts to become member accounts in the behavior graph arn:aws:detective:us-east-1:111122223333:graph:123412341234. For each account, the request provides the AWS account ID and the account root user email address. The member accounts do not receive invitation emails.

```
aws detective create-members \
   --accounts AccountId=444455556666,EmailAddress=mmajor@example.com \
   AccountId=123456789012,EmailAddress=jstiles@example.com \
   --graph-arn arn:aws:detective:us-east-1:111122223333:graph:123412341234 \
   --disable-email-notification
```

Output:

```
{
   "Members": [
   {
      "AccountId": "444455556666",
      "AdministratorId": "111122223333",
      "EmailAddress": "mmajor@example.com",
      "GraphArn": "arn:aws:detective:us-east-1:111122223333:graph:123412341234",
      "InvitedTime": 1579826107000,
      "MasterId": "111122223333",
      "Status": "INVITED",
      "UpdatedTime": 1579826107000
   },
   {
      "AccountId": "123456789012",
      "AdministratorId": "111122223333",
      "EmailAddress": "jstiles@example.com",
      "GraphArn": "arn:aws:detective:us-east-1:111122223333:graph:123412341234",
      "InvitedTime": 1579826107000,
      "MasterId": "111122223333",
      "Status": "VERIFICATION_IN_PROGRESS",
      "UpdatedTime": 1579826107000
   }
   ],
   "UnprocessedAccounts": [ ]
}
```
For more information, see Inviting member accounts to a behavior graph<https://docs.aws.amazon.com/detective/latest/adminguide/graph-admin-add-member-accounts.html> in the Amazon Detective Administration Guide.

- For API details, see CreateMembers in AWS CLI Command Reference.

### delete-graph

The following code example shows how to use delete-graph.

**AWS CLI**

**To disable Detective and delete the behavior graph**

The following delete-graph example disables Detective and deletes the specified behavior graph.

```
aws detective delete-graph \
```

This command produces no output.

For more information, see Disabling Amazon Detective in the Amazon Detective Administration Guide.

- For API details, see DeleteGraph in AWS CLI Command Reference.

### delete-members

The following code example shows how to use delete-members.

**AWS CLI**

**To remove member accounts from a behavior graph**

The following delete-members example removes two member accounts from the behavior graph arn:aws:detective:us-east-1:111122223333:graph:123412341234. To identify the accounts, the request provides the AWS account IDs.

```
aws detective delete-members \
   --account-ids 444455556666 123456789012 \ 
```
Output:

```json
{
   "AccountIds": [ "444455556666", "123456789012" ],
   "UnprocessedAccounts": [ ]
}
```

For more information, see Removing member accounts from a behavior graph<https://docs.aws.amazon.com/detective/latest/adminguide/graph-admin-remove-member-accounts.html> in the Amazon Detective Administration Guide.

- For API details, see DeleteMembers in AWS CLI Command Reference.

**disassociate-membership**

The following code example shows how to use disassociate-membership.

**AWS CLI**

**To resign membership from a behavior graph**

The following disassociate-membership example removes the AWS account that runs the command from the behavior graph arn:aws:detective:us-east-1:111122223333:graph:123412341234.

```bash
aws detective disassociate-membership \
```

For more information, see Removing your account from a behavior graph<https://docs.aws.amazon.com/detective/latest/adminguide/member-remove-self-from-graph.html> in the Amazon Detective Administration Guide.

- For API details, see DisassociateMembership in AWS CLI Command Reference.

**get-members**

The following code example shows how to use get-members.

**AWS CLI**

**To retrieve information about selected behavior graph member accounts**
The following `get-members` example retrieves information about two member accounts in the behavior graph `arn:aws:detective:us-east-1:111122223333:graph:123412341234`. For the two accounts, the request provides the AWS account IDs.

```
aws detective get-members \
    --account-ids 444455556666 123456789012 \
```

Output:

```
{
    "MemberDetails": [
        {
            "AccountId": "444455556666",
            "AdministratorId": "111122223333",
            "EmailAddress": "mmajor@example.com",
            "GraphArn": "arn:aws:detective:us-east-1:111122223333:graph:123412341234",
            "InvitedTime": 1579826107000,
            "MasterId": "111122223333",
            "Status": "INVITED",
            "UpdatedTime": 1579826107000
        },
        {
            "AccountId": "123456789012",
            "AdministratorId": "111122223333",
            "EmailAddress": "jstiles@example.com",
            "GraphArn": "arn:aws:detective:us-east-1:111122223333:graph:123412341234",
            "InvitedTime": 1579826107000,
            "MasterId": "111122223333",
            "Status": "INVITED",
            "UpdatedTime": 1579826107000
        }
    ],
    "UnprocessedAccounts": [ ]
}
```

For more information, see Viewing the list of accounts in a behavior graph<https://docs.aws.amazon.com/detective/latest/adminguide/graph-admin-view-accounts.html> in the Amazon Detective Administration Guide.

- For API details, see `GetMembers` in AWS CLI Command Reference.
**list-graphs**

The following code example shows how to use `list-graphs`.

**AWS CLI**

To view a list of behavior graphs that your account is the administrator for

The following `list-graphs` example retrieves the behavior graphs that the calling account is the administrator for within the current Region.

```
aws detective list-graphs
```

Output:

```
{
   "GraphList": [
   {
      "CreatedTime": 1579736111000
   }
   ]
}
```

- For API details, see [ListGraphs](https://docs.aws.amazon.com/cli/latest/reference/detective/list-graphs.html) in *AWS CLI Command Reference*.

**list-invitations**

The following code example shows how to use `list-invitations`.

**AWS CLI**

To view a list of behavior graphs that an account is a member of or is invited to

The following `list-invitations` example retrieves the behavior graphs that the calling account has been invited to. The results include only open and accepted invitations. They do not include rejected invitations or removed memberships.

```
aws detective list-invitations
```

Output:
For more information, see Viewing your list of behavior graph invitations<https://docs.aws.amazon.com/detective/latest/adminguide/member-view-graph-invitations.html> in the Amazon Detective Administration Guide.

- For API details, see ListInvitations in AWS CLI Command Reference.

**list-members**

The following code example shows how to use list-members.

**AWS CLI**

To list the member accounts in a behavior graph

The following list-members example retrieves the invited and enabled member accounts for the behavior graph arn:aws:detective:us-east-1:111122223333:graph:123412341234. The results do not include member accounts that were removed.

```bash
aws detective list-members \
```

Output:

```json
{
   "MemberDetails": [
       {

   ....
```

```json
```
For more information, see Viewing the list of accounts in a behavior graph in the Amazon Detective Administration Guide.

- For API details, see ListMembers in AWS CLI Command Reference.

**list-tags-for-resource**

The following code example shows how to use list-tags-for-resource.

**AWS CLI**

To retrieve the tags assigned to a behavior graph

The following list-tags-for-resource example returns the tags assigned to the specified behavior graph.
aws detective list-tags-for-resource \

Output:

```json
{
   "Tags": {
      "Department": "Finance"
   }
}
```

For more information, see [Managing tags for a behavior graph](https://docs.aws.amazon.com/detective/latest/adminguide/managing-tags.html) in the Amazon Detective Administration Guide.

- For API details, see [ListTagsForResource](https://docs.aws.amazon.com/cli/latest/reference/detective/list-tags-for-resource.html) in AWS CLI Command Reference.

---

### reject-invitation

The following code example shows how to use `reject-invitation`.

**AWS CLI**

To reject an invitation to become a member account in a behavior graph

The following `reject-invitation` example rejects an invitation to become a member account in the behavior graph arn:aws:detective:us-east-1:111122223333:graph:123412341234.

```bash
aws detective reject-invitation \
```

This command produces no output.

For more information, see [Responding to a behavior graph invitation](https://docs.aws.amazon.com/detective/latest/adminguide/member-invitation-response.html) in the Amazon Detective Administration Guide.

- For API details, see [RejectInvitation](https://docs.aws.amazon.com/cli/latest/reference/detective/reject-invitation.html) in AWS CLI Command Reference.
**tag-resource**

The following code example shows how to use `tag-resource`.

**AWS CLI**

To assign a tag to a resource

The following `tag-resource` example assigns a value for the Department tag to the specified behavior graph.

```bash
aws detective tag-resource \
   --tags '{"Department":"Finance"}'
```

This command produces no output.

For more information, see [Managing tags for a behavior graph](https://docs.aws.amazon.com/detective/latest/admin-guide/managing-tags.html) in the *Amazon Detective Administration Guide*.

- For API details, see [TagResource](https://docs.aws.amazon.com/cli/latest/reference/detective/tag-resource.html) in *AWS CLI Command Reference*.

**untag-resource**

The following code example shows how to use `untag-resource`.

**AWS CLI**

To remove a tag value from a resource

The following `untag-resource` example removes the Department tag from the specified behavior graph.

```bash
aws detective untag-resource \
   --tag-keys "Department"
```

This command produces no output.

For more information, see [Managing tags for a behavior graph](https://docs.aws.amazon.com/detective/latest/admin-guide/managing-tags.html) in the *Amazon Detective Administration Guide*.

- For API details, see [UntagResource](https://docs.aws.amazon.com/cli/latest/reference/detective/untag-resource.html) in *AWS CLI Command Reference*. 

Actions and scenarios
Device Farm examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Device Farm.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics
• Actions

Actions

create-device-pool

The following code example shows how to use create-device-pool.

AWS CLI

To create a device pool

The following command creates an Android device pool for a project:

```bash
```

You can get the project ARN from the output of create-project or list-projects. The file device-pool-rules.json is a JSON document in the current folder that specifies the device platform:

```json
[
   {
      "attribute": "PLATFORM",
```
"operator": "EQUALS",
"value": "\"ANDROID\"
}
]

Output:

{
    "devicePool": {
        "rules": [
            {
                "operator": "EQUALS",
                "attribute": "PLATFORM",
                "value": "\"ANDROID\"
            }
        ],
        "type": "PRIVATE",
        "name": "pool1",
        "arn": "arn:aws:devicefarm:us-west-2:123456789012:devicepool:070fc3ca-7ec1-4741-9c1f-d3e044efc506/2aa8d2a9-5e73-47ca-b929-659cb34b7dcd"
    }
}

- For API details, see CreateDevicePool in AWS CLI Command Reference.

create-project

The following code example shows how to use create-project.

AWS CLI

To create a project

The following command creates a new project named my-project:

```
aws devicefarm create-project --name my-project
```

Output:

```json
{

```
create-upload

The following code example shows how to use create-upload.

AWS CLI

To create an upload

The following command creates an upload for an Android app:

```
aws devicefarm create-upload --project-arn "arn:aws:devicefarm:us-west-2:123456789012:project:070fc3ca-7ec1-4741-9c1f-d3e044efc506" --name app.apk --type ANDROID_APP
```

You can get the project ARN from the output of create-project or list-projects.

Output:

```
{
    "upload": {
        "status": "INITIALIZED",
        "name": "app.apk",
        "created": 1503614408.769,
        "url": "https://prod-us-west-2-uploads.s3-us-west-2.amazonaws.com/arn%3Aaws%3Adevicefarm%3Aus-west-2%3A123456789012%3Aproject%3A070fc3ca-7ec1-4741-9c1f-d3e044efc506/uploads/arn%3Aaws%3Adevicefarm%3Aus-west-2%3A123456789012%3Aupload%3A070fc3ca-7ec1-4741-9c1f-d3e044efc506/dd72723a-ae9e-4087-09e6-f4cea3599514/app.apk?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Date=20170824T224008Z&X-Amz-SignedHeaders=host&X-Amz-Expires=86400&X-Amz-Credential=AKIAEXAMPLEPBUMBC3GA%2F20170824%2Fus-west-2%2Fs3%2Faws4_request&X-Amz-Signature=05050370c38894ef5bd09f5d009f36fc8f96fa4bb04e1bba9aca71b8dbe49a0f",
        "type": "ANDROID_APP"
    }
}
```
Use the signed URL in the output to upload a file to Device Farm:

```
curl -T app.apk "https://prod-us-west-2-uploads.s3-us-west-2.amazonaws.com/arn%3Aaws%3Adevicefarm%3Aus-west-2%3A123456789012%3Aproject%3A070fc3ca-c7e1-4471-91cf-d3e4efc5064/exports/arn%3Aaws%3Adevicefarm%3Aus-west-2%3A123456789012%3Aproject%3A070fc3ca-7ec1-4741-9c1f-d3e044efc506/dd72723a-ae9e-4087-09e6-f4cea3599514/app.apk?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Date=20170824T224008Z&X-Amz-SignedHeaders=host&X-Amz-Expires=86400&X-Amz-Credential=AKIAEXAMPLEPBUMBC3GA%2F20170824%2Fus-west-2%2Fs3%2Faws4_request&X-Amz-Signature=05050370c38894ef5bd09f5d009f36fc8f96fa4bb04e1bba9aca71b8d9a49a0f"
```

- For API details, see [CreateUpload](https://awscli.amazonaws.com/v2/documentation/api/latest/reference/devicefarm/create-upload.html) in *AWS CLI Command Reference*.

### get-upload

The following code example shows how to use `get-upload`.

**AWS CLI**

**To view an upload**

The following command retrieves information about an upload:

```
aws devicefarm get-upload --arn "arn:aws:devicefarm:us-west-2:123456789012:upload:070fc3ca-7ec1-4741-9c1f-d3e044efc506/dd7273a-ae9e-4087-09e6-f4cea3599514"
```

You can get the upload ARN from the output of `create-upload`.

**Output:**

```
{
    "upload": { 
        "status": "SUCCEEDED",
        "name": "app.apk",
        "created": 1505262773.186,
    }
}
```
For API details, see [GetUpload](#) in [AWS CLI Command Reference](#).

### list-projects

The following code example shows how to use list-projects.

#### AWS CLI

**To list projects**

The following retrieves a list of projects:

```bash
aws devicefarm list-projects
```

**Output:**

```
{
   "projects": [
       {
           "name": "myproject",
           "arn": "arn:aws:devicefarm:us-west-2:123456789012:project:070fc3ca-7ec1-4741-9c1f-d3e044efc506",
           "created": 1503612890.057
       },
       {
           "name": "otherproject",
           "arn": "arn:aws:devicefarm:us-west-2:123456789012:project:a5f5b752-8098-49d1-86bf-5f7682c1c77e",
           "created": 1505257519.337
       }
   ]
}
```
For API details, see [ListProjects] in *AWS CLI Command Reference*.

**AWS Direct Connect examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS Direct Connect.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- [Actions](#)

**Actions**

**accept-direct-connect-gateway-association-proposal**

The following code example shows how to use `accept-direct-connect-gateway-association-proposal`.

**AWS CLI**

**To accept a gateway association proposal**

The following `accept-direct-connect-gateway-association-proposal` accepts the specified proposal.

```
aws directconnect accept-direct-connect-gateway-association-proposal \
  --direct-connect-gateway-id 11460968-4ac1-4fd3-bdb2-00599EXAMPLE \
  --proposal-id cb7f41cb-8128-43a5-93b1-dcaedEXAMPLE \
  --associated-gateway-owner-account 111122223333
```
The following code example shows how to use `allocate-connection-on-interconnect`.

**AWS CLI**

**To create a hosted connection on an interconnect**

The following `allocate-connection-on-interconnect` command creates a hosted connection on an interconnect:

```
aws directconnect allocate-connection-on-interconnect --bandwidth 500Mbps --connection-name mydcinterconnect --owner-account 123456789012 --interconnect-id dxcon-fgktov66 --vlan 101
```

Output:
allocate-hosted-connection

The following code example shows how to use allocate-hosted-connection.

AWS CLI

To create a hosted connection on an interconnect

The following allocate-hosted-connection example creates a hosted connection on the specified interconnect.

```bash
aws directconnect allocate-hosted-connection \
  --bandwidth 500Mbps \
  --connection-name mydcinterconnect \
  --owner-account 123456789012 \
  -connection-id dxcon-fgktov66 \
  -vlan 101
```

Output:

```json
{
    "partnerName": "TIVIT",
    "vlan": 101,
    "ownerAccount": "123456789012",
    "connectionId": "dxcon-ffzc51m1",
    "connectionState": "ordering",
    "bandwidth": "500Mbps",
    "location": "TIVIT",
    "connectionName": "mydcinterconnect",
    "region": "sa-east-1"
}
```
For API details, see AllocateHostedConnection in AWS CLI Command Reference.

**allocate-private-virtual-interface**

The following code example shows how to use allocate-private-virtual-interface.

**AWS CLI**

**To provision a private virtual interface**

The following allocate-private-virtual-interface command provisions a private virtual interface to be owned by a different customer:

```
aws directconnect allocate-private-virtual-interface --connection-id dxcon-ffjrkx17 --owner-account 123456789012 --new-private-virtual-interface-allocation
virtualInterfaceName=PrivateVirtualInterface,vlan=1000,asn=65000,authKey=asdf34example,amazonAddress=192.168.1.1/30,customerAddress=192.168.1.2/30
```

**Output:**

```
{
   "virtualInterfaceState": "confirming",
   "asn": 65000,
   "vlan": 1000,
   "customerAddress": "192.168.1.2/30",
   "ownerAccount": "123456789012",
   "connectionId": "dxcon-ffjrkx17",
   "virtualInterfaceId": "dxvif-fgy8orxu",
   "authKey": "asdf34example",
   "routeFilterPrefixes": [],
   "location": "TIVIT",
   "customerRouterConfig": "<?xml version="1.0" encoding="UTF-8"?>
  <logical_connection id="dxvif-fgy8orxu">
    <vlan>1000</vlan>
    <customer_address>192.168.1.2/30</customer_address>
  <amazon_address>192.168.1.1/30</amazon_address>
    <bgp_asn>65000</bgp_asn>
    <bgp_auth_key>asdf34example</bgp_auth_key>
    <connection_type>private</connection_type>
  </logical_connection>
", "amazonAddress": "192.168.1.1/30",
```
For API details, see **AllocatePrivateVirtualInterface** in *AWS CLI Command Reference*.

### allocate-public-virtual-interface

The following code example shows how to use `allocate-public-virtual-interface`.

**AWS CLI**

**To provision a public virtual interface**

The following `allocate-public-virtual-interface` command provisions a public virtual interface to be owned by a different customer:

```bash
aws directconnect allocate-public-virtual-interface --connection-id dxcon-ffjrkkx17 --owner-account 123456789012 --new-public-virtual-interface-allocation virtualInterfaceName=PublicVirtualInterface,vlan=2000,asn=65000,authKey=asdf34example,amazonAddress=203.0.113.1/30,customerAddress=203.0.113.2/30,routeFilterPrefixes=[{cidr=203.0.113.0/30},{cidr=203.0.113.4/30}]
```

**Output:**

```json
{
    "virtualInterfaceState": "confirming",
    " asn": 65000,
    " vlan": 2000,
    " customerAddress": "203.0.113.2/30",
    " ownerAccount": "123456789012",
    " connectionId": "dxcon-ffjrkrkx17",
    " virtualInterfaceId": "dxvif-fg9xo9vp",
    " authKey": "asdf34example",
    " routeFilterPrefixes": [
        {
            " cidr": "203.0.113.0/30"
        },
        {
            " cidr": "203.0.113.4/30"
        }
    ],
    " location": "TIVIT",
}
```
"customerRouterConfig": "<?xml version="1.0" encoding="UTF-8"?
<logical_connection id="dxvif-fg9xo9vp">"n <vlan>2000</vlan>
  <customer_address>203.0.113.2/30</customer_address>
    <amazon_address>203.0.113.1/30</amazon_address>
  <bgp_asn>65000</bgp_asn>
  <bgp_auth_key>asdf34example</bgp_auth_key>
  <amazon_bgp_asn>7224</amazon_bgp_asn>
  <connection_type>public</connection_type>
</logical_connection>
",

"amazonAddress": "203.0.113.1/30",
"virtualInterfaceType": "public",
"virtualInterfaceName": "PublicVirtualInterface"
}

- For API details, see AllocatePublicVirtualInterface in AWS CLI Command Reference.

allocate-transit-virtual-interface

The following code example shows how to use allocate-transit-virtual-interface.

AWS CLI

To provision a transit virtual interface to be owned by the specified AWS account

The following allocate-transit-virtual-interface example provisions a transit virtual interface for the specified account.

```
aws directconnect allocate-transit-virtual-interface \
    --connection-id dxlag-fEXAMPLE \
    --owner-account 123456789012 \
    --new-transit-virtual-interface-allocation "virtualInterfaceName=Example Transit Virtual Interface,vlan=126,asn=65110,mtu=1500,authKey=0xzxgA9YoW9h58u8SEXAMPLE,amazonAddress=192.168.1.1/30,customerAddress=192.168.1.2/30,addressFamily=ipv4,tags=[{key=Tag,value=Example}]
```

Output:

```
{
    "virtualInterface": {
        "ownerAccount": "123456789012",
        "virtualInterfaceId": "dxvif-fEXAMPLE",
        "location": "loc1",
        "connectionId": "dxlag-fEXAMPLE",
        "virtualInterfaceType": "transit",
        "virtualInterfaceName": "Example Transit Virtual Interface",
        "vlan": 126,
```
"asn": 65110,
"amazonSideAsn": 7224,
"authKey": "0zxzgA9YoW9h58u8SEXAMPLE",
"amazonAddress": "192.168.1.1/30",
"customerAddress": "192.168.1.2/30",
"addressFamily": "ipv4",
"virtualInterfaceState": "confirming",
"customerRouterConfig": "<?xml version="1.0" encoding="UTF-8"?>
<logical_connection id="dxvif-fEXAMPLE">
  <vlan>126</vlan>
  <customer_address>192.168.1.2/30</customer_address>
  <amazon_address>192.168.1.1/30</amazon_address>
  <bgp_asn>65110</bgp_asn>
  <bgp_auth_key>0zxzgA9YoW9h58u8SEXAMPLE</bgp_auth_key>
  <amazon_bgp_asn>7224</amazon_bgp_asn>
  <connection_type>transit</connection_type>
</logical_connection>
",
"mtu": 1500,
"jumboFrameCapable": true,
"virtualGatewayId": 
"directConnectGatewayId": 
"routeFilterPrefixes": [],
"bgpPeers": [
  {
    "bgpPeerId": "dxpeer-fEXAMPLE",
    "asn": 65110,
    "authKey": "0zxzgA9YoW9h58u8SEXAMPLE",
    "addressFamily": "ipv4",
    "amazonAddress": "192.168.1.1/30",
    "customerAddress": "192.168.1.2/30",
    "bgpPeerState": "pending",
    "bgpStatus": "down",
    "awsDeviceV2": "loc1-26wz6vEXAMPLE"
  }
],
"region": "sa-east-1",
"awsDeviceV2": "loc1-26wz6vEXAMPLE",
"tags": [
  {
    "key": "Tag",
    "value": "Example"
  }
]
For more information, see Creating a Hosted Transit Virtual Interface in the AWS Direct Connect User Guide.

- For API details, see AllocateTransitVirtualInterface in AWS CLI Command Reference.

**associate-connection-with-lag**

The following code example shows how to use `associate-connection-with-lag`.

**AWS CLI**

**To associate a connection with a LAG**

The following example associates the specified connection with the specified LAG.

**Command:**

```
aws directconnect associate-connection-with-lag --lag-id dxlag-fhccu14t --connection-id dxcon-fg9607vm
```

**Output:**

```
{
   "ownerAccount": "123456789012",
   "connectionId": "dxcon-fg9607vm",
   "lagId": "dxlag-fhccu14t",
   "connectionState": "requested",
   "bandwidth": "1Gbps",
   "location": "EqDC2",
   "connectionName": "Con2ForLag",
   "region": "us-east-1"
}
```

- For API details, see AssociateConnectionWithLag in AWS CLI Command Reference.

**associate-hosted-connection**

The following code example shows how to use `associate-hosted-connection`.

**AWS CLI**

**To associate a hosted connection with a LAG**
The following example associates the specified hosted connection with the specified LAG.

Command:

```
aws directconnect associate-hosted-connection --parent-connection-id dxlag-fhccu14t --connection-id dxcon-fg9607vm
```

Output:

```
{
   "partnerName": "TIVIT",
   "vlan": 101,
   "ownerAccount": "123456789012",
   "connectionId": "dxcon-fg9607vm",
   "lagId": "dxlag-fhccu14t",
   "connectionState": "ordering",
   "bandwidth": "500Mbps",
   "location": "TIVIT",
   "connectionName": "mydcinterconnect",
   "region": "sa-east-1"
}
```

- For API details, see [AssociateHostedConnection](#) in *AWS CLI Command Reference*.

**associate-virtual-interface**

The following code example shows how to use `associate-virtual-interface`.

**AWS CLI**

**To associate a virtual interface with a connection**

The following example associates the specified virtual interface with the specified LAG. Alternatively, to associate the virtual interface with a connection, specify the ID of an AWS Direct Connect connection for `--connection-id`; for example, `dxcon-ffnikghc`.

Command:

```
aws directconnect associate-virtual-interface --connection-id dxlag-ffjhj9lx --virtual-interface-id dxvif-fgputw0j
```
Output:

```json
{
    "virtualInterfaceState": "pending",
    "asn": 65000,
    "vlan": 123,
    "customerAddress": "169.254.255.2/30",
    "ownerAccount": "123456789012",
    "connectionId": "dxlag-ffjhj9lx",
    "addressFamily": "ipv4",
    "virtualGatewayId": "vgw-38e90b51",
    "virtualInterfaceId": "dxvif-fgputw0j",
    "authKey": "0x123pK5_VBqv.UQ3kJ4123_",
    "routeFilterPrefixes": [],
    "location": "CSVA1",
    "bgpPeers": [
        {
            "bgpStatus": "down",
            "customerAddress": "169.254.255.2/30",
            "addressFamily": "ipv4",
            "authKey": "0x123pK5_VBqv.UQ3kJ4123_",
            "bgpPeerState": "deleting",
            "amazonAddress": "169.254.255.1/30",
            "asn": 65000
        },
        {
            "bgpStatus": "down",
            "customerAddress": "169.254.255.2/30",
            "addressFamily": "ipv4",
            "authKey": "0x123pK5_VBqv.UQ3kJ4123_",
            "bgpPeerState": "pending",
            "amazonAddress": "169.254.255.1/30",
            "asn": 65000
        }
    ],
    "customerRouterConfig": "<?xml version="1.0" encoding="UTF-8"?
"<! logical_connection id="dxvif-fgputw0j">
    <vlan>123</vlan>
    <customer_address>169.254.255.2/30</customer_address>
    <amazon_address>169.254.255.1/30</amazon_address>
    <bgp_asn>65000</bgp_asn>
    <bgp_auth_key>0x123pK5_VBqv.UQ3kJ4123_</bgp_auth_key>
    <amazon_bgp_asn>7224</amazon_bgp_asn>
    <connection_type>private</connection_type>
</logical_connection>

    "amazonAddress": "169.254.255.1/30",
    "virtualInterfaceType": "private",
```
confirm-connection

The following code example shows how to use confirm-connection.

**AWS CLI**

To confirm the creation of a hosted connection on an interconnect

The following confirm-connection command confirms the creation of a hosted connection on an interconnect:

```bash
aws directconnect confirm-connection --connection-id dxcon-fg2wi7hy
```

Output:

```
{
   "connectionState": "pending"
}
```

For API details, see [ConfirmConnection](https://docs.aws.amazon.com/cli/latest/reference/directconnect/confirm-connection.html) in *AWS CLI Command Reference*.

confirm-private-virtual-interface

The following code example shows how to use confirm-private-virtual-interface.

**AWS CLI**

To accept ownership of a private virtual interface

The following confirm-private-virtual-interface command accepts ownership of a private virtual interface created by another customer:

```bash
aws directconnect confirm-private-virtual-interface --virtual-interface-id dxvif-fgy8orxu --virtual-gateway-id vgw-e4a47df9
```
Output:

```json
{
    "virtualInterfaceState": "pending"
}
```

- For API details, see [ConfirmPrivateVirtualInterface](#) in *AWS CLI Command Reference*.

**confirm-public-virtual-interface**

The following code example shows how to use `confirm-public-virtual-interface`.

**AWS CLI**

**To accept ownership of a public virtual interface**

The following `confirm-public-virtual-interface` command accepts ownership of a public virtual interface created by another customer:

```bash
aws directconnect confirm-public-virtual-interface --virtual-interface-id dxvif-fg9xo9vp
```

Output:

```json
{
    "virtualInterfaceState": "verifying"
}
```

- For API details, see [ConfirmPublicVirtualInterface](#) in *AWS CLI Command Reference*.

**confirm-transit-virtual-interface**

The following code example shows how to use `confirm-transit-virtual-interface`.

**AWS CLI**

**To accept ownership of a transit virtual interface**

The following `confirm-transit-virtual-interface` accepts ownership of a transit virtual interface created by another customer.
aws directconnect confirm-transit-virtual-interface \
   --virtual-interface-id dxvif-fEXAMPLE \
   --direct-connect-gateway-id 4112ccf9-25e9-4111-8237-b6c5dEXAMPLE

Output:

{  
   "virtualInterfaceState": "pending"
}

For more information, see [Accepting a Hosted Virtual Interface](https://docs.aws.amazon.com/directconnect/latest/userguide/AWS_Direct_Connect_User_Guide.html) in the AWS Direct Connect User Guide.


create-bgp-peer

The following code example shows how to use create-bgp-peer.

**AWS CLI**

**To create an IPv6 BGP peering session**

The following example creates an IPv6 BGP peering session on private virtual interface `dxvif-fg1vuj3d`. The peer IPv6 addresses are automatically allocated by Amazon.

Command:

```bash
aws directconnect create-bgp-peer --virtual-interface-id dxvif-fg1vuj3d --new-bgp-peer asn=64600,addressFamily=ipv6
```

Output:

```json
{
   "virtualInterface": {
      "virtualInterfaceState": "available",
      "asn": 65000,
      "vlan": 125,
      "customerAddress": "169.254.255.2/30",
      "ownerAccount": "123456789012",
      
   
   
}
```
"connectionId": "dxcon-fguhmqlc",
"addressFamily": "ipv4",
"virtualGatewayId": "vgw-f9eb0c90",
"virtualInterfaceId": "dxvif-fglvuj3d",
"authKey": "0xC_ukbCerl6EYA0example",
"routeFilterPrefixes": [],
"location": "EqDC2",
"bgpPeers": [
  {
    "bgpStatus": "down",
    "customerAddress": "169.254.255.2/30",
    "addressFamily": "ipv4",
    "authKey": "0xC_ukbCerl6EYA0example",
    "bgpPeerState": "available",
    "amazonAddress": "169.254.255.1/30",
    "asn": 65000
  },
  {
    "bgpStatus": "down",
    "customerAddress": "2001:db8:1100:2f0:0:1:9cb4:4216/125",
    "addressFamily": "ipv6",
    "authKey": "0xS27kAIU_VHPjjAexample",
    "bgpPeerState": "pending",
    "amazonAddress": "2001:db8:1100:2f0:0:1:9cb4:4211/125",
    "asn": 64600
  }
],
"customerRouterConfig": "<?xml version="1.0" encoding=
"UTF-8"?>
<logical_connection id="dxvif-fglvuj3d">
  <vlan>125</vlan>
  <customer_address>169.254.255.2/30</customer_address>
  <amazon_address>169.254.255.1/30</amazon_address>
  <bgp_asn>65000</bgp_asn>
  <ipv6_customer_address>2001:db8:1100:2f0:0:1:9cb4:4216/125</ipv6_customer_address>
  <ipv6_amazon_address>2001:db8:1100:2f0:0:1:9cb4:4211/125</ipv6_amazon_address>
  <ipv6_bgp_asn>64600</ipv6_bgp_asn>
</logical_connection>
",
"amazonAddress": "169.254.255.1/30",
"virtualInterfaceType": "private",
"virtualInterfaceName": "Test"
}]

- For API details, see [CreateBgpPeer](https://awscli.amazonaws.com/v2/documentation/api_reference/cli-reference/commands/bgppeer/createbgppeer.html) in *AWS CLI Command Reference*.
create-connection

The following code example shows how to use create-connection.

AWS CLI

To create a connection from your network to an AWS Direct Connect location

The following create-connection command creates a connection from your network to an AWS Direct Connect location:

```
aws directconnect create-connection --location TIVIT --bandwidth 1Gbps --connection-name "Connection to AWS"
```

Output:

```
{
    "ownerAccount": "123456789012",
    "connectionId": "dxcon-fg31dyv6",
    "connectionState": "requested",
    "bandwidth": "1Gbps",
    "location": "TIVIT",
    "connectionName": "Connection to AWS",
    "region": "sa-east-1"
}
```

- For API details, see CreateConnection in AWS CLI Command Reference.

create-direct-connect-gateway

The following code example shows how to use create-direct-connect-gateway.

AWS CLI

To create a Direct Connect gateway

The following example creates a Direct Connect gateway with the name DxGateway1.

Command:

```
aws directconnect create-direct-connect-gateway --direct-connect-gateway-name "DxGateway1"
```
Output:

```json
{
   "directConnectGateway": {
      "amazonSideAsn": 64512,
      "directConnectGatewayId": "5f294f92-bafb-4011-916d-9b0bdexample",
      "ownerAccount": "123456789012",
      "directConnectGatewayName": "DxGateway1",
      "directConnectGatewayState": "available"
   }
}
```

- For API details, see [CreateDirectConnectGateway](#) in *AWS CLI Command Reference*.

**create-direct-connect-gateway-association**

The following code example shows how to use `create-direct-connect-gateway-association`.

**AWS CLI**

**To associate a virtual private gateway with a Direct Connect gateway**

The following example associates virtual private gateway `vgw-6efe725e` with Direct Connect gateway `5f294f92-bafb-4011-916d-9b0bdexample`. You must run the command in the region in which the virtual private gateway is located.

**Command:**

```
aws directconnect create-direct-connect-gateway-association --direct-connect-gateway-id 5f294f92-bafb-4011-916d-9b0bdexample --virtual-gateway-id vgw-6efe725e
```

**Output:**

```json
{
   "directConnectGatewayAssociation": {
      "associationState": "associating",
      "virtualGatewayOwnerAccount": "123456789012",
      "directConnectGatewayId": "5f294f92-bafb-4011-916d-9b0bdexample",
      "virtualGatewayId": "vgw-6efe725e",
      "virtualGatewayRegion": "us-east-2"
   }
}
```
create-direct-connect-gateway-association-proposal

The following code example shows how to use create-direct-connect-gateway-association-proposal.

AWS CLI

To create a proposal to associate the specified transit gateway with the specified Direct Connect gateway

The following create-direct-connect-gateway-association-proposal example creates a proposal that associates the specified transit gateway with the specified Direct Connect gateway.

```bash
aws directconnect create-direct-connect-gateway-association-proposal \
  --direct-connect-gateway-id 11460968-4ac1-4fd3-bdb2-00599EXAMPLE \
  --direct-connect-gateway-owner-account 111122223333 \
  --gateway-id tgw-02f776b1a7EXAMPLE \
  --add-allowed-prefixes-to-direct-connect-gateway cidr=192.168.1.0/30
```

Output:

```json
{
  "directConnectGatewayAssociationProposal": {
    "proposalId": "cb7f41cb-8128-43a5-93b1-dcaedEXAMPLE",
    "directConnectGatewayId": "11460968-4ac1-4fd3-bdb2-00599EXAMPLE",
    "directConnectGatewayOwnerAccount": "111122223333",
    "proposalState": "requested",
    "associatedGateway": {
      "id": "tgw-02f776b1a7EXAMPLE",
      "type": "transitGateway",
      "ownerAccount": "111122223333",
      "region": "us-east-1"
    },
    "requestedAllowedPrefixesToDirectConnectGateway": [
      {
        "cidr": "192.168.1.0/30"
      }
    ]
  }
}
```

For API details, see [CreateDirectConnectGatewayAssociation](#) in AWS CLI Command Reference.
create-interconnect

The following code example shows how to use create-interconnect.

AWS CLI

To create an interconnect between a partner's network and AWS

The following create-interconnect command creates an interconnect between an AWS Direct Connect partner's network and a specific AWS Direct Connect location:

```
aws directconnect create-interconnect --interconnect-name "1G Interconnect to AWS" --bandwidth 1Gbps --location TIVIT
```

Output:

```
{
   "region": "sa-east-1",
   "bandwidth": "1Gbps",
   "location": "TIVIT",
   "interconnectName": "1G Interconnect to AWS",
   "interconnectId": "dxcon-fgktov66",
   "interconnectState": "requested"
}
```

For API details, see CreateInterconnect in AWS CLI Command Reference.

create-lag

The following code example shows how to use create-lag.
AWS CLI

**To create a LAG with new connections**

The following example creates a LAG and requests two new AWS Direct Connect connections for the LAG with a bandwidth of 1 Gbps.

**Command:**

```bash
aws directconnect create-lag --location CSVA1 --number-of-connections 2 --connections-bandwidth 1Gbps --lag-name 1GBLag
```

**Output:**

```
{
   "awsDevice": "CSVA1-23u8tlpaz8iks",
   "numberOfConnections": 2,
   "lagState": "pending",
   "ownerAccount": "123456789012",
   "lagName": "1GBLag",
   "connections": [
      {
         "ownerAccount": "123456789012",
         "connectionId": "dxcon-ffqr6x5q",
         "lagId": "dxlag-ffjhj91x",
         "connectionState": "requested",
         "bandwidth": "1Gbps",
         "location": "CSVA1",
         "connectionName": "Requested Connection 1 for Lag dxlag-ffjhj91x",
         "region": "us-east-1"
      },
      {
         "ownerAccount": "123456789012",
         "connectionId": "dxcon-fflqyj95",
         "lagId": "dxlag-ffjhj91x",
         "connectionState": "requested",
         "bandwidth": "1Gbps",
         "location": "CSVA1",
         "connectionName": "Requested Connection 2 for Lag dxlag-ffjhj91x",
         "region": "us-east-1"
      }
   ],
   "lagId": "dxlag-ffjhj91x",
```

To create a LAG using an existing connection

The following example creates a LAG from an existing connection in your account, and requests a second new connection for the LAG with the same bandwidth and location as the existing connection.

Command:

```bash
aws directconnect create-lag --location EqDC2 --number-of-connections 2 --connections-bandwidth 1Gbps --lag-name 2ConnLAG --connection-id dxcon-fgk145dr
```

Output:

```json
{
    "awsDevice": "EqDC2-4h6ce2r1bes6",
    "numberOfConnections": 2,
    "lagState": "pending",
    "ownerAccount": "123456789012",
    "lagName": "2ConnLAG",
    "connections": [
        {
            "ownerAccount": "123456789012",
            "connectionId": "dxcon-fh6ljcvo",
            "lagId": "dxlag-fhccu14t",
            "connectionState": "requested",
            "bandwidth": "1Gbps",
            "location": "EqDC2",
            "connectionName": "Requested Connection 1 for Lag dxlag-fhccu14t",
            "region": "us-east-1"
        },
        {
            "ownerAccount": "123456789012",
            "connectionId": "dxcon-fgk145dr",
            "lagId": "dxlag-fhccu14t",
            "connectionState": "down",
            "bandwidth": "1Gbps",
            "location": "EqDC2",
```

```json
```
• For API details, see CreateLag in AWS CLI Command Reference.

create-private-virtual-interface

The following code example shows how to use create-private-virtual-interface.

AWS CLI

To create a private virtual interface

The following create-private-virtual-interface command creates a private virtual interface:

```
aws directconnect create-private-virtual-interface --
connection-id dxcon-ffjrkx17 --new-private-virtual-interface
virtualInterfaceName=PrivateVirtualInterface,vlan=101,asn=65000,authKey=asdf34example,amazonAddress=192.168.1.1/30,customerAddress=192.168.1.2/30,virtualGatewayId=vgw-aba37db6
```

Output:

```
{
  "virtualInterfaceState": "pending",
  "asn": 65000,
  "vlan": 101,
  "customerAddress": "192.168.1.2/30",
  "ownerAccount": "123456789012",
  "connectionId": "dxcon-ffjrkx17",
  "virtualGatewayId": "vgw-aba37db6",
  "virtualInterfaceId": "dxvif-ffhhk74f",
  "authKey": "asdf34example",
  "routeFilterPrefixes": []
}
```
"location": "TIVIT",
"customerRouterConfig": "<?xml version="1.0" encoding="UTF-8"?>
<logical_connection id="dxvif-ffhhk74f">
  <vlan>101</vlan>
  <customer_address>192.168.1.2/30</customer_address>
  <amazon_address>192.168.1.1/30</amazon_address>
  <bgp_asn>65000</bgp_asn>
  <bgp_auth_key>asdf34example</bgp_auth_key>
  <amazon_bgp_asn>7224</amazon_bgp_asn>
  <connection_type>private</connection_type>
</logical_connection>"

"amazonAddress": "192.168.1.1/30",
"virtualInterfaceType": "private",
"virtualInterfaceName": "PrivateVirtualInterface"
}

• For API details, see CreatePrivateVirtualInterface in AWS CLI Command Reference.

create-public-virtual-interface

The following code example shows how to use create-public-virtual-interface.

AWS CLI

To create a public virtual interface

The following create-public-virtual-interface command creates a public virtual interface:

```
aws directconnect create-public-virtual-interface --
  connection-id dxcon-ffjrkx17 --new-public-virtual-interface
  virtualInterfaceName=PublicVirtualInterface,vlan=2000,asn=65000,authKey=asdf34example,amazonAddress=203.0.113.1/30,customerAddress=203.0.113.2/30,routeFilterPrefixes=
  [{cidr=203.0.113.0/30},
   {cidr=203.0.113.4/30}]
```

Output:

```json
{
    "virtualInterfaceState": "verifying",
    "asn": 65000,
    "vlan": 2000,
    "customerAddress": "203.0.113.2/30",
    "ownerAccount": "123456789012",
    "connectionId": "dxcon-ffjrkx17",
    "virtualInterfaceId": "dxvif-fgh0hcrl",
    "authKey": "asdf34example",
    "routeFilterPrefixes": [ ]
}
```
create-transit-virtual-interface

The following code example shows how to use create-transit-virtual-interface.

AWS CLI

To create a transit virtual interface

The following create-transit-virtual-interface example creates a transit virtual interface for the specified connection.

```
aws directconnect create-transit-virtual-interface \
  --connection-id dxlag-fEXAMPLE \
  --new-transit-virtual-interface "virtualInterfaceName=Example Transit Virtual Interface,vlan=126,asn=65110,mtu=1500,authKey=0zx9Yo9h58u8SvEXAMPLE,amazonAddress=192.168.1.1/30,customerAddress=192.168.1.2/30,addressFamily=ipv4,directConnectGatewayId=8384da05-13ce-4a91-aada-5a1baEXAMPLE,tags=[{key=Tag,value=Example}]"
```

Output:

```
{
  "virtualInterface": {
```

- For API details, see [CreatePublicVirtualInterface](#) in *AWS CLI Command Reference*. 

```
"ownerAccount": "1111222233333",
"virtualInterfaceId": "dxvif-fEXAMPLE",
"location": "loc1",
"connectionId": "dxlag-fEXAMPLE",
"virtualInterfaceType": "transit",
"virtualInterfaceName": "Example Transit Virtual Interface",
"vlan": 126,
"asn": 65110,
"amazonSideAsn": 4200000000,
"authKey": "0zxgA9YoW9h58u8SEXAMPLE",
"amazonAddress": "192.168.1.1/30",
"customerAddress": "192.168.1.2/30",
"addressFamily": "ipv4",
"virtualInterfaceState": "pending",
"customerRouterConfig": "<?xml version="1.0" encoding=\\"UTF-8\\"?>
<logical_connection id="dxvif-fEXAMPLE">
  <vlan>126</vlan>
  <customer_address>192.168.1.2/30</customer_address>
  <amazon_address>192.168.1.1/30</amazon_address>
  <bgp_asn>65110</bgp_asn>
  <bgp_auth_key>0zxgA9YoW9h58u8SvOmXRTw</bgp_auth_key>
  <amazon_bgp_asn>4200000000</amazon_bgp_asn>
  <connection_type>transit</connection_type>
</logical_connection>",
"mtu": 1500,
"jumboFrameCapable": true,
"virtualGatewayId": "",
"directConnectGatewayId": "8384da05-13ce-4a91-aada-5a1baEXAMPLE",
"routeFilterPrefixes": [],
"bgpPeers": [
  {
    "bgpPeerId": "dxpeer-EXAMPLE",
    "asn": 65110,
    "authKey": "0zxgA9YoW9h58u8SEXAMPLE",
    "addressFamily": "ipv4",
    "amazonAddress": "192.168.1.1/30",
    "customerAddress": "192.168.1.2/30",
    "bgpPeerState": "pending",
    "bgpStatus": "down",
    "awsDeviceV2": "loc1-26wz6vEXAMPLE"
  }]
},
"region": "sa-east-1",
"awsDeviceV2": "loc1-26wz6vEXAMPLE",
"tags": [
  {
    "key": "Tag",
    "value": "An Example Tag Value"
  }
]
For more information, see [Creating a Transit Virtual Interface to the Direct Connect Gateway](https://docs.aws.amazon.com/directconnect/latest/userguide/) in the *AWS Direct Connect User Guide*.

- For API details, see [CreateTransitVirtualInterface](https://docs.aws.amazon.com/cli/latest/reference/directconnect/create-transit-virtual-interface.html) in *AWS CLI Command Reference*.

**delete-bgp-peer**

The following code example shows how to use `delete-bgp-peer`.

### AWS CLI

**To delete a BGP peer from a virtual interface**

The following example deletes the IPv6 BGP peer from virtual interface `dxvif-fg1vuj3d`.

**Command:**

```bash
aws directconnect delete-bgp-peer --virtual-interface-id dxvif-fg1vuj3d --asn 64600 --customer-address 2001:db8:1100:2f0:0:1:9cb4:4216/125
```

**Output:**

```json
{
    "virtualInterface": {
        "virtualInterfaceState": "available",
        "asn": 65000,
        "vlan": 125,
        "customerAddress": "169.254.255.2/30",
        "ownerAccount": "123456789012",
        "connectionId": "dxcon-fguhmqlc",
        "addressFamily": "ipv4",
        "virtualGatewayId": "vgw-f9eb0c90",
        "virtualInterfaceId": "dxvif-fg1vuj3d",
        "authKey": "0xC_ukbCerl6EYA0example",
        "routeFilterPrefixes": [],
        "location": "EqDC2",
        "bgpPeers": [
```
{
   "bgpStatus": "down",
   "customerAddress": "169.254.255.2/30",
   "addressFamily": "ipv4",
   "authKey": "0xC_ukbCerl6EYA0uexample",
   "bgpPeerState": "available",
   "amazonAddress": "169.254.255.1/30",
   "asn": 65000
},
{
   "bgpStatus": "down",
   "customerAddress": "2001:db8:1100:2f0:0:1:9cb4:4216/125",
   "addressFamily": "ipv6",
   "authKey": "0xS27kAIU_VHPjjAexample",
   "bgpPeerState": "deleting",
   "amazonAddress": "2001:db8:1100:2f0:0:1:9cb4:4211/125",
   "asn": 64600
},
"customerRouterConfig": "<?xml version="1.0" encoding="UTF-8"?><logical_connection id="dxvif-fg1vuj3d">
  <vlan>125</vlan>
  <customer_address>169.254.255.2/30</customer_address>
  <amazon_address>169.254.255.1/30</amazon_address>
  <bgp_asn>65000</bgp_asn>
  <bgp_auth_key>0xC_ukbCerl6EYA0uexample</bgp_auth_key>
  <amazon_bgp_asn>7224</amazon_bgp_asn>
  <connection_type>private</connection_type>
</logical_connection>
",
"amazonAddress": "169.254.255.1/30",
"virtualInterfaceType": "private",
"virtualInterfaceName": "Test"
}


### delete-connection

The following code example shows how to use `delete-connection`.

**AWS CLI**

**To delete a connection**

The following `delete-connection` command deletes the specified connection:
aws directconnect delete-connection --connection-id dxcon-fg31dyv6

Output:

```
{
    "ownerAccount": "123456789012",
    "connectionId": "dxcon-fg31dyv6",
    "connectionState": "deleted",
    "bandwidth": "1Gbps",
    "location": "TIVIT",
    "connectionName": "Connection to AWS",
    "region": "sa-east-1"
}
```

- For API details, see [DeleteConnection](#) in *AWS CLI Command Reference*.

**delete-direct-connect-gateway**

The following code example shows how to use `delete-direct-connect-gateway`.

**AWS CLI**

**To delete a Direct Connect gateway**

The following example deletes Direct Connect gateway 5f294f92-bafb-4011-916d-9b0bexample.

Command:

```
aws directconnect delete-direct-connect-gateway --direct-connect-gateway-id 5f294f92-bafb-4011-916d-9b0bexample
```

Output:

```
{
    "directConnectGateway": {
        "amazonSideAsn": 64512,
        "directConnectGatewayId": "5f294f92-bafb-4011-916d-9b0bexample",
        "ownerAccount": "123456789012",
        "directConnectGatewayName": "DxGateway1",
        "directConnectGatewayState": "deleting"
    }
}
```
For API details, see `DeleteDirectConnectGateway` in *AWS CLI Command Reference*.

**delete-direct-connect-gateway-association**

The following code example shows how to use `delete-direct-connect-gateway-association`.

**AWS CLI**

**To delete a Direct Connect gateway association**

The following `delete-direct-connect-gateway-association` example deletes the Direct Connect gateway association with a transit gateway that has the specified association ID.

```
aws directconnect delete-direct-connect-gateway-association --association-id be85116d-46eb-4b43-a27a-da0c2ad648de
```

**Output:**

```
{
   "directConnectGatewayAssociation": {
      "directConnectGatewayId": "11460968-4ac1-4fd3-bdb2-00599EXAMPlE",
      "directConnectGatewayOwnerId": "123456789012",
      "associationState": "disassociating",
      "associatedGateway": {
         "id": "tgw-095b3b054EXAMPLE",
         "type": "transitGateway",
         "ownerAccount": "123456789012",
         "region": "us-east-1"
      },
      "associationId": "be85116d-46eb-4b43-a27a-da0c2ad648deEXAMPLE",
      "allowedPrefixesToDirectConnectGateway": [
         {
            "cidr": "192.0.1.0/28"
         }
      ]
   }
}
```
For more information, see Associating and Disassociating Transit Gateways in the AWS Direct Connect User Guide.

- For API details, see DeleteDirectConnectGatewayAssociation in AWS CLI Command Reference.

**delete-interconnect**

The following code example shows how to use `delete-interconnect`.

**AWS CLI**

**To delete an interconnect**

The following `delete-interconnect` command deletes the specified interconnect:

```
aws directconnect delete-interconnect --interconnect-id dxcon-fgktov66
```

Output:

```
{
   "interconnectState": "deleted"
}
```

- For API details, see DeleteInterconnect in AWS CLI Command Reference.

**delete-lag**

The following code example shows how to use `delete-lag`.

**AWS CLI**

**To delete a LAG**

The following example deletes the specified LAG.

Command:

```
aws directconnect delete-lag --lag-id dxlag-ffrhowd9
```

Output:

```
{
}
```
For API details, see DeleteLag in AWS CLI Command Reference.

delete-virtual-interface

The following code example shows how to use delete-virtual-interface.

AWS CLI

To delete a virtual interface

The following delete-virtual-interface command deletes the specified virtual interface:

```
aws directconnect delete-virtual-interface --virtual-interface-id dxvif-ffhhk74f
```

Output:

```
{
   "virtualInterfaceState": "deleting"
}
```

For API details, see DeleteVirtualInterface in AWS CLI Command Reference.

describe-connection-loa

The following code example shows how to use describe-connection-loa.

AWS CLI

To describe your LOA-CFA for a connection using Linux or Mac OS X
The following example describes your LOA-CFA for connection dxcon-fh6ayh1d. The contents of the LOA-CFA are base64-encoded. This command uses the --output and --query parameters to control the output and extract the contents of the loaContent structure. The final part of the command decodes the content using the base64 utility, and sends the output to a PDF file.

```
aws directconnect describe-connection-loa --connection-id dxcon-fh6ayh1d --output text --query loa.loaContent|base64 --decode > myLoaCfa.pdf
```

**To describe your LOA-CFA for a connection using Windows**

The previous example requires the use of the base64 utility to decode the output. On a Windows computer, you can use certutil instead. In the following example, the first command describes your LOA-CFA for connection dxcon-fh6ayh1d and uses the --output and --query parameters to control the output and extract the contents of the loaContent structure to a file called myLoaCfa.base64. The second command uses the certutil utility to decode the file and send the output to a PDF file.

```
aws directconnect describe-connection-loa --connection-id dxcon-fh6ayh1d --output text --query loa.loaContent > myLoaCfa.base64

certutil -decode myLoaCfa.base64 myLoaCfa.pdf
```

For more information about controlling AWS CLI output, see [Controlling Command Output from the AWS Command Line Interface](https://docs.aws.amazon.com/cli/latest/reference/index.html) in the *AWS Command Line Interface User Guide*.

- For API details, see [DescribeConnectionLoa](https://docs.aws.amazon.com/cli/latest/reference/directconnect/describe-connection-loa.html) in *AWS CLI Command Reference*.

**describe-connections**

The following code example shows how to use describe-connections.

**AWS CLI**

**To list all connections in the current region**

The following describe-connections command lists all connections in the current region:

```
aws directconnect describe-connections
```
Output:

```json
{
    "connections": [
        {
            "awsDevice": "EqDC2-123h49s71dabc",
            "ownerAccount": "123456789012",
            "connectionId": "dxcon-fguhmqlc",
            "lagId": "dxlag-ffrz71kw",
            "connectionState": "down",
            "bandwidth": "1Gbps",
            "location": "EqDC2",
            "connectionName": "My_Connection",
            "loaIssueTime": 1491568964.0,
            "region": "us-east-1"
        }
    ]
}
```

- For API details, see [DescribeConnections](#) in *AWS CLI Command Reference*.

**describe-connections-on-interconnect**

The following code example shows how to use `describe-connections-on-interconnect`.

**AWS CLI**

**To list connections on an interconnect**

The following `describe-connections-on-interconnect` command lists connections that have been provisioned on the given interconnect:

```
aws directconnect describe-connections-on-interconnect --interconnect-id dxcon-fgktov66
```

Output:

```json
{
    "connections": [
        {
            "partnerName": "TIVIT",
            "vlan": 101,
        }
    ]
}
```
For API details, see DescribeConnectionsOnInterconnect in AWS CLI Command Reference.

describe-direct-connect-gateway-association-proposals

The following code example shows how to use describe-direct-connect-gateway-association-proposals.

AWS CLI

To describe your Direct Connect gateway association proposals

The following describe-direct-connect-gateway-association-proposals example displays details about your Direct Connect gateway association proposals.

```
aws directconnect describe-direct-connect-gateway-association-proposals
```

Output:

```
{
   "directConnectGatewayAssociationProposals": [
      {
         "proposalId": "c2ede9b4-bbc6-4d33-923c-bc4feEXAMPLE",
         "directConnectGatewayId": "11460968-4ac1-4fd3-bdb2-00599EXAMPLE",
         "directConnectGatewayOwnerAccount": "111122223333",
         "proposalState": "requested",
         "associatedGateway": {
            "id": "tgw-02f776b1a7EXAMPLE",
            "type": "transitGateway",
            "ownerAccount": "111122223333",
            "region": "us-east-1"
         }
      }
   ]
}
```
"existingAllowedPrefixesToDirectConnectGateway": [
    {
        "cidr": "192.168.2.0/30"
    },
    {
        "cidr": "192.168.1.0/30"
    }
],
"requestedAllowedPrefixesToDirectConnectGateway": [
    {
        "cidr": "192.168.1.0/30"
    }
],
"proposalId": "cb7f41cb-8128-43a5-93b1-dcaedEXAMPLE",
"directConnectGatewayId": "11560968-4ac1-4fd3-bcb2-00599EXAMPLE",
"directConnectGatewayOwnerAccount": "111122223333",
"proposalState": "accepted",
"associatedGateway": {
    "id": "tgw-045776b1a7EXAMPLE",
    "type": "transitGateway",
    "ownerAccount": "111122223333",
    "region": "us-east-1"
},
"existingAllowedPrefixesToDirectConnectGateway": [
    {
        "cidr": "192.168.4.0/30"
    },
    {
        "cidr": "192.168.5.0/30"
    }
],
"requestedAllowedPrefixesToDirectConnectGateway": [
    {
        "cidr": "192.168.5.0/30"
    }
]
For more information, see [Associating and Disassociating Transit Gateways](https://docs.aws.amazon.com/awsdirectconnect/latest/userguide/associating-disassociating-transit-gateways.html) in the *AWS Direct Connect User Guide*.

- For API details, see **DescribeDirectConnectGatewayAssociationProposals** in *AWS CLI Command Reference*.

---

**describe-direct-connect-gateway-associations**

The following code example shows how to use `describe-direct-connect-gateway-associations`.

**AWS CLI**

**To describe Direct Connect gateway associations**

The following example describes all the associations with Direct Connect gateway `5f294f92-bafb-4011-916d-9b0bexample`.

**Command:**

```bash
aws directconnect describe-direct-connect-gateway-associations --direct-connect-gateway-id 5f294f92-bafb-4011-916d-9b0bexample
```

**Output:**

```
{
   "nextToken": "eyJ2IjoxLCJzIjoxLCJpIjoiOU83OTFodzdycnZCbtkNDk4MExHeHVwQT09IiwiYyI6InIxTEN0UEVHV0I1UF1kaWFnNlJle1lFbHRrYWMwZ0dENmdQZ1Y4d2w0PSJ9",
   "directConnectGatewayAssociations": [
      {
         "associationState": "associating",
         "virtualGatewayOwnerAccount": "123456789012",
         "directConnectGatewayId": "5f294f92-bafb-4011-916d-9b0bexample",
         "virtualGatewayId": "vgw-6efe725e",
         "virtualGatewayRegion": "us-east-2"
      },
      {
         "associationState": "disassociating",
         "virtualGatewayOwnerAccount": "123456789012",
         "directConnectGatewayId": "5f294f92-bafb-4011-916d-9b0bexample",
         "virtualGatewayId": "vgw-ebaa27db",
         "virtualGatewayRegion": "us-east-2"
      }
   ]
}
```
describe-direct-connect-gateway-attachments

The following code example shows how to use describe-direct-connect-gateway-attachments.

**AWS CLI**

**To describe Direct Connect gateway attachments**

The following example describes the virtual interfaces that are attached to Direct Connect gateway 5f294f92-bafb-4011-916d-9b0bexample.

Command:

```
aws directconnect describe-direct-connect-gateway-attachments --direct-connect-gateway-id 5f294f92-bafb-4011-916d-9b0bexample
```

Output:

```
{
    "directConnectGatewayAttachments": [
        {
            "virtualInterfaceOwnerAccount": "123456789012",
            "directConnectGatewayId": "5f294f92-bafb-4011-916d-9b0bexample",
            "virtualInterfaceRegion": "us-east-2",
            "attachmentState": "attaching",
            "virtualInterfaceId": "dxvif-fg9zyabc"
        }
    ],
    "nextToken": "eyJ2IjoxLCJzIjoxLCJpIjoibEhXdlNpUXF5RzhoL1JyUW52SlV2QT09IiwiYyI6Im5wQjFHQ0RyQUdRS3puNnNXcUJ9"
}
```

* For API details, see [DescribeDirectConnectGatewayAssociations](https://docs.aws.amazon.com/cli/latest/reference/directconnect/describe-direct-connect-gateway-attachments.html) in *AWS CLI Command Reference*. 
**describe-direct-connect-gateways**

The following code example shows how to use `describe-direct-connect-gateways`.

**AWS CLI**

**To describe your Direct Connect gateways**

The following example describe all of your Direct Connect gateways.

Command:

```bash/aws directconnect describe-direct-connect-gateways
```

Output:

```json
{
  "directConnectGateways": [
    {
      "amazonSideAsn": 64512,
      "directConnectGatewayId": "cf68415c-f4ae-48f2-87a7-3b52cexample",
      "ownerAccount": "123456789012",
      "directConnectGatewayName": "DxGateway2",
      "directConnectGatewayState": "available"
    },
    {
      "amazonSideAsn": 64512,
      "directConnectGatewayId": "5f294f92-bafb-4011-916d-9b0bdexample",
      "ownerAccount": "123456789012",
      "directConnectGatewayName": "DxGateway1",
      "directConnectGatewayState": "available"
    }
  ]
}
```

- For API details, see [DescribeDirectConnectGateways](https://docs.aws.amazon.com/cli/latest/reference/directconnect/describe-direct-connect-gateways.html) in *AWS CLI Command Reference*.

**describe-hosted-connections**

The following code example shows how to use `describe-hosted-connections`.

```bash
```

```json
```
**AWS CLI**

**To list connections on an interconnect**

The following example lists connections that have been provisioned on the given interconnect.

Command:

```
aws directconnect describe-hosted-connections --connection-id dxcon-fgktov66
```

Output:

```
{
    "connections": [
        {
            "partnerName": "TIVIT",
            "vlan": 101,
            "ownerAccount": "123456789012",
            "connectionId": "dxcon-ffzc51m1",
            "connectionState": "ordering",
            "bandwidth": "500Mbps",
            "location": "TIVIT",
            "connectionName": "mydcinterconnect",
            "region": "sa-east-1"
        }
    ]
}
```


**describe-interconnect-loa**

The following code example shows how to use `describe-interconnect-loa`.

**AWS CLI**

**To describe your LOA-CFA for an interconnect using Linux or Mac OS X**

The following example describes your LOA-CFA for interconnect `dxcon-fh6ayh1d`. The contents of the LOA-CFA are base64-encoded. This command uses the `--output` and `--query` parameters to control the output and extract the contents of the `loaContent` structure. The
final part of the command decodes the content using the `base64` utility, and sends the output to a PDF file.

```bash
aws directconnect describe-interconnect-loa --interconnect-id dxcon-fh6ayh1d --output text --query loa.loaContent|base64 --decode > myLoaCfa.pdf
```

To describe your LOA-CFA for an interconnect using Windows

The previous example requires the use of the `base64` utility to decode the output. On a Windows computer, you can use `certutil` instead. In the following example, the first command describes your LOA-CFA for interconnect `dxcon-fh6ayh1d` and uses the `--output` and `--query` parameters to control the output and extract the contents of the `loaContent` structure to a file called `myLoaCfa.base64`. The second command uses the `certutil` utility to decode the file and send the output to a PDF file.

```bash
aws directconnect describe-interconnect-loa --interconnect-id dxcon-fh6ayh1d --output text --query loa.loaContent > myLoaCfa.base64

certutil -decode myLoaCfa.base64 myLoaCfa.pdf
```

For more information about controlling AWS CLI output, see [Controlling Command Output from the AWS Command Line Interface](#) in the [AWS Command Line Interface User Guide](#).

- For API details, see [DescribeInterconnectLoa](#) in [AWS CLI Command Reference](#).

describe-interconnects

The following code example shows how to use `describe-interconnects`.

AWS CLI

To list interconnects

The following `describe-interconnects` command lists the interconnects owned by your AWS account:

```bash
aws directconnect describe-interconnects
```

Output:
• For API details, see DescribeInterconnects in AWS CLI Command Reference.

describe-lags

The following code example shows how to use describe-lags.

AWS CLI

To describe your LAGs

The following command describes all of your LAGs for the current region.

Command:

```
aws directconnect describe-lags
```

Output:

```json
{
   "lags": [
      {
         "awsDevice": "EqDC2-19y7z3m17xpuz",
         "numberOfConnections": 2,
         "lagState": "down",
         "ownerAccount": "123456789012",
         "lagName": "DA-LAG",
         "connections": []
      }
   ]
}
```
For API details, see **DescribeLags** in *AWS CLI Command Reference*.

**describe-loa**

The following code example shows how to use `describe-loa`.

**AWS CLI**

**To describe your LOA-CFA for a connection using Linux or Mac OS X**

The following example describes your LOA-CFA for connection `dxcon-fh6ayh1d`. The contents of the LOA-CFA are base64-encoded. This command uses the `--output` and `--query` parameters to control the output and extract the contents of the `loaContent` structure. The
final part of the command decodes the content using the base64 utility, and sends the output to a PDF file.

```
aws directconnect describe-loa --connection-id dxcon-fh6ayh1d --output text --query loa.loaContent|base64 --decode > myLoaCfa.pdf
```

**To describe your LOA-CFA for a connection using Windows**

The previous example requires the use of the base64 utility to decode the output. On a Windows computer, you can use certutil instead. In the following example, the first command describes your LOA-CFA for connection dxcon-fh6ayh1d and uses the --output and --query parameters to control the output and extract the contents of the loaContent structure to a file called myLoaCfa.base64. The second command uses the certutil utility to decode the file and send the output to a PDF file.

```
aws directconnect describe-loa --connection-id dxcon-fh6ayh1d --output text --query loa.loaContent > myLoaCfa.base64

certutil -decode myLoaCfa.base64 myLoaCfa.pdf
```

For more information about controlling AWS CLI output, see [Controlling Command Output from the AWS Command Line Interface](https://docs.aws.amazon.com/cli/latest/userguide/cli-aws-about-controlling-output.html) in the *AWS Command Line Interface User Guide*.

- For API details, see [DescribeLoa](https://docs.aws.amazon.com/cli/latest/reference/directconnect/describe-loa.html) in *AWS CLI Command Reference*.

**describe-locations**

The following code example shows how to use `describe-locations`.

**AWS CLI**

**To list AWS Direct Connect partners and locations**

The following `describe-locations` command lists AWS Direct Connect partners and locations in the current region:

```
aws directconnect describe-locations
```

Output:
For API details, see DescribeLocations in AWS CLI Command Reference.

describe-tags

The following code example shows how to use describe-tags.

AWS CLI

To describe tags for your AWS Direct Connect resources

The following command describes the tags for the connection dxcon-abcabc12.

Command:

```
```

Output:

```
{
    "resourceTags": [
        {
            "tags": [
                {
                    "value": "VAConnection",
                    "key": "Name"
                }
            ]
        }
    ]
}
```
describe-virtual-gateways

The following code example shows how to use describe-virtual-gateways.

AWS CLI

To list virtual private gateways

The following describe-virtual-gateways command lists virtual private gateways owned by your AWS account:

```bash
aws directconnect describe-virtual-gateways
```

Output:

```json
{
  "virtualGateways": [
    {
      "virtualGatewayId": "vgw-aba37db6",
      "virtualGatewayState": "available"
    }
  ]
}
```

- For API details, see DescribeTags in AWS CLI Command Reference.

describe-virtual-interfaces

The following code example shows how to use describe-virtual-interfaces.

AWS CLI

To list all virtual interfaces
The following `describe-virtual-interfaces` command lists the information about all virtual interfaces associated with your AWS account:

```
aws directconnect describe-virtual-interfaces --connection-id dxcon-ffjrkx17
```

Output:

```
{
   "virtualInterfaces": [
   {
      "virtualInterfaceState": "down",
      "asn": 65000,
      "vlan": 101,
      "customerAddress": "192.168.1.2/30",
      "ownerAccount": "123456789012",
      "connectionId": "dxcon-ffjrkx17",
      "virtualGatewayId": "vgw-aba37db6",
      "virtualInterfaceId": "dxvif-ffhhk74f",
      "authKey": "asdf34example",
      "routeFilterPrefixes": [],
      "location": "TIVIT",
      "customerRouterConfig": "<?xml version="1.0" encoding="UTF-8"?>
<logical_connection id="dxvif-ffhhk74f">
  <vlan>101</vlan>
  <customer_address>192.168.1.2/30</customer_address>
  <amazon_address>192.168.1.1/30</amazon_address>
  <bgp_asn>65000</bgp_asn>
  <bgp_auth_key>asdf34example</bgp_auth_key>
  <amazon_bgp_asn>7224</amazon_bgp_asn>
  <connection_type>private</connection_type>
</logical_connection>",
      "amazonAddress": "192.168.1.1/30",
      "virtualInterfaceType": "private",
      "virtualInterfaceName": "PrivateVirtualInterface"
   },
   {
      "virtualInterfaceState": "verifying",
      "asn": 65000,
      "vlan": 2000,
      "customerAddress": "203.0.113.2/30",
      "ownerAccount": "123456789012",
      "connectionId": "dxcon-ffjrkx17",
      "virtualGatewayId": "",
      "virtualInterfaceId": "dxvif-fgh0hcrk",
      "authKey": "asdf34example",
      "routeFilterPrefixes": [
      {
```
"cidr": "203.0.113.4/30"
  },
  {
    "cidr": "203.0.113.0/30"
  }
],
"location": "TIVIT",
"customerRouterConfig": "<xml version="1.0" encoding="UTF-8">
<logical_connection id="dxvif-fgh0hcrk">
  <vlan>2000</vlan>
  <customer_address>203.0.113.2/30</customer_address>
  <amazon_address>203.0.113.1/30</amazon_address>
  <bgp_asn>65000</bgp_asn>
  <bgp_auth_key>asdf34example</bgp_auth_key>
  <amazon_bgp_asn>7224</amazon_bgp_asn>
  <connection_type>public</connection_type>
</logical_connection>"
"
"amazonAddress": "203.0.113.1/30",
"virtualInterfaceType": "public",
"virtualInterfaceName": "PublicVirtualInterface"
}

**Actions and scenarios**

- For API details, see [DescribeVirtualInterfaces](#) in *AWS CLI Command Reference*.

### disassociate-connection-from-lag

The following code example shows how to use `disassociate-connection-from-lag`.

**AWS CLI**

**To disassociate a connection from a LAG**

The following example disassociates the specified connection from the specified LAG.

**Command:**

```
aws directconnect disassociate-connection-from-lag --lag-id dxlag-fhccu14t --connection-id dxcon-fg9607vm
```

**Output:**

```
{
  "ownerAccount": "123456789012",
}
For API details, see DisassociateConnectionFromLag in AWS CLI Command Reference.

**tag-resource**

The following code example shows how to use `tag-resource`.

**AWS CLI**

To add a tag to an AWS Direct Connect resource

The following command adds a tag with a key of `Name` and a value of `VAConnection` to the connection `dxcon-ababc12`. If the command succeeds, no output is returned.

Command:

```
aws directconnect tag-resource --resource-arn arn:aws:directconnect:us-east-1:123456789012:dxcon/dxcon-ababc12 --tags "key=Name,value=VAConnection"
```

For API details, see TagResource in AWS CLI Command Reference.

**untag-resource**

The following code example shows how to use `untag-resource`.

**AWS CLI**

To remove a tag from an AWS Direct Connect resource

The following command removes the tag with the key `Name` from connection `dxcon-ababc12`. If the command succeeds, no output is returned.

Command:

```
aws directconnect untag-resource --resource-arn arn:aws:directconnect:us-east-1:123456789012:dxcon/dxcon-ababc12 --resources dxcon-ababc12 --tags "key=Name"
```

- For API details, see UntagResource in AWS CLI Command Reference.

**update-direct-connect-gateway-association**

The following code example shows how to use update-direct-connect-gateway-association.

**AWS CLI**

**To update the specified attributes of the Direct Connect gateway association**

The following update-direct-connect-gateway-association example adds the specified CIDR block to a Direct Connect gateway association.

```bash
aws directconnect update-direct-connect-gateway-association \
    --association-id 820a6e4f-5374-4004-8317-3f64bEXAMPLE \
    --add-allowed-prefixes-to-direct-connect-gateway cidr=192.168.2.0/30
```

**Output:**

```json
{
    "directConnectGatewayAssociation": {
        "directConnectGatewayId": "11460968-4ac1-4fd3-bdb2-00599EXAMPLE",
        "directConnectGatewayOwnerAccount": "111122223333",
        "associationState": "updating",
        "associatedGateway": {
            "id": "tgw-02f776b1a7EXAMPLE",
            "type": "transitGateway",
            "ownerAccount": "111122223333",
            "region": "us-east-1"
        },
        "associationId": "820a6e4f-5374-4004-8317-3f64bEXAMPLE",
        "allowedPrefixesToDirectConnectGateway": [
            {
                "cidr": "192.168.2.0/30"
            },
            {
                "cidr": "192.168.1.0/30"
            }
        ]
    }
}
```
For more information, see [Working with Direct Connect Gateways](#) in the *AWS Direct Connect User Guide*.

- For API details, see [UpdateDirectConnectGatewayAssociation](#) in *AWS CLI Command Reference*.

**update-lag**

The following code example shows how to use update-lag.

**AWS CLI**

**To update a LAG**

The following example changes the name of the specified LAG.

**Command:**

```
aws directconnect update-lag --lag-id dxlag-ffjhj9lx --lag-name 2ConnLag
```

**Output:**

```json
{
   "awsDevice": "CSVA1-23u8tlpaz8iks",
   "numberOfConnections": 2,
   "lagState": "down",
   "ownerAccount": "123456789012",
   "lagName": "2ConnLag",
   "connections": [
      {
         "ownerAccount": "123456789012",
         "connectionId": "dxcon-fflqyj95",
         "lagId": "dxlag-ffjhj9lx",
         "connectionState": "requested",
         "bandwidth": "1Gbps",
         "location": "CSVA1",
         "connectionName": "Requested Connection 2 for Lag dxlag-ffjhj9lx",
         "region": "us-east-1"
      }
   ]
}
```
For API details, see [UpdateLag](#) in *AWS CLI Command Reference*.

**update-virtual-interface-attributes**

The following code example shows how to use `update-virtual-interface-attributes`.

**AWS CLI**

**To update the MTU of a virtual interface**

The following `update-virtual-interface-attributes` example updates the MTU of the specified virtual interface.

```
aws directconnect update-virtual-interface-attributes \
    --virtual-interface-id dxvif-fEXAMPLE \
    --mtu 1500
```

**Output:**

```
{
    "ownerAccount": "1111222233333",
    "virtualInterfaceId": "dxvif-fEXAMPLE",
    "location": "loc1",
    "connectionId": "dxlag-fEXAMPLE",
    "connectionName": "Requested Connection 1 for Lag dxlag-ffjhj9lx",
    "region": "us-east-1"
}
```
"virtualInterfaceType": "transit",
"virtualInterfaceName": "example trasit virtual interface",
"vlan": 125,
"asn": 650001,
"amazonSideAsn": 64512,
"authKey": "0xzxoA9YoW9h58u8SEXAMPLE",
"amazonAddress": "169.254.248.1/30",
"customerAddress": "169.254.248.2/30",
"addressFamily": "ipv4",
"virtualInterfaceState": "down",
"customerRouterConfig": "<?xml version="1.0" encoding="UTF-8"?"/>

<logical_connection id="dxvif-fEXAMPLE">
  <vlan>125</vlan>
  <customer_address>169.254.248.2/30</customer_address>
  <amazon_address>169.254.248.1/30</amazon_address>
  <bgp_asn>650001</bgp_asn>
  <bgp_auth_key>0xzxoA9YoW9h58u8SEXAMPLE</bgp_auth_key>
  <amazon_bgp_asn>64512</amazon_bgp_asn>
  <connection_type>transit</connection_type>
</logical_connection>

"mtu": 1500,
"jumboFrameCapable": true,
"virtualGatewayId": "",
"directConnectGatewayId": "879b76a1-403d-4700-8b53-4a56ed85436e",
"routeFilterPrefixes": [],
"bgpPeers": [
  {
    "bgpPeerId": "dxpeer-fEXAMPLE",
    "asn": 650001,
    "authKey": "0xzxoA9YoW9h58u8SEXAMPLE",
    "addressFamily": "ipv4",
    "amazonAddress": "169.254.248.1/30",
    "customerAddress": "169.254.248.2/30",
    "bgpPeerState": "available",
    "bgpStatus": "down",
    "awsDeviceV2": "loc1-26wz6vEXAMPLE"
  }
],
"region": "sa-east-1",
"awsDeviceV2": "loc1-26wz6vEXAMPLE",
"tags": []
"}

For more information, see Setting Network MTU for Private Virtual Interfaces or Transit Virtual Interfaces in the AWS Direct Connect User Guide.

- For API details, see UpdateVirtualInterfaceAttributes in AWS CLI Command Reference.
AWS Directory Service examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS Directory Service.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**
- **Actions**

**Actions**

describe-directories

The following code example shows how to use `describe-directories`.

**AWS CLI**

*To get details about your directories*

The following `describe-directories` example displays details about the specified directory.

```
aws ds describe-directories \
    --directory-id d-a1b2c3d4e5
```

**Output:**

```
{
    "DirectoryDescriptions": [
        {
            "DirectoryId": "d-a1b2c3d4e5",
        }
    ]
}
```
"Name": "mydirectory.example.com",
"ShortName": "mydirectory",
"Size": "Small",
"Edition": "Standard",
"Alias": "d-a1b2c3d4e5",
"AccessUrl": "d-a1b2c3d4e5.awsapps.com",
"Stage": "Active",
"ShareStatus": "Shared",
"ShareMethod": "HANDSHAKE",
"ShareNotes": "These are my share notes",
"LaunchTime": "2019-07-08T15:33:46.327000-07:00",
"StageLastUpdatedDateTime": "2019-07-08T15:59:12.307000-07:00",
"Type": "SharedMicrosoftAD",
"SsoEnabled": false,
"DesiredNumberOfDomainControllers": 0,
"OwnerDirectoryDescription": {
  "DirectoryId": "d-b2c3d4e5f6",
  "AccountId": "123456789111",
  "DnsIpAddrs": ["203.113.0.248", "203.113.0.253"],
  "VpcSettings": {
    "VpcId": "vpc-a1b2c3d4",
    "SubnetIds": ["subnet-a1b2c3d4", "subnet-d4c3b2a1"],
    "AvailabilityZones": ["us-west-2a", "us-west-2c"
  ]
  }
}
]

• For API details, see DescribeDirectories in AWS CLI Command Reference.

describe-trusts

The following code example shows how to use describe-trusts.
AWS CLI

To get details about your trust relationships

The following `describe-trusts` example displays details about the trust relationships for the specified directory.

```bash
aws ds describe-trusts \
   --directory-id d-a1b2c3d4e5
```

Output:

```json
{
   "Trusts": [  
       {
           "DirectoryId": "d-a1b2c3d4e5",
           "TrustId": "t-9a8b7c6d5e",
           "RemoteDomainName": "other.example.com",
           "TrustType": "Forest",
           "TrustDirection": "Two-Way",
           "TrustState": "Verified",
           "CreatedDateTime": "2017-06-20T18:08:45.614000-07:00",
           "LastUpdatedDateTime": "2019-06-04T10:52:12.410000-07:00",
           "StateLastUpdatedDateTime": "2019-06-04T10:52:12.410000-07:00",
           "SelectiveAuth": "Disabled"
       }
   ]
}
```

- For API details, see `DescribeTrusts` in AWS CLI Command Reference.

AWS DMS examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS DMS.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.
Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- **Actions**

**Actions**

**add-tags-to-resource**

The following code example shows how to use `add-tags-to-resource`.

**AWS CLI**

**To add tags to a resource**

The following `add-tags-to-resource` example adds tags to a replication instance.

```bash
aws dms add-tags-to-resource \
   --resource-arn arn:aws:dms:us-east-1:123456789012:rep:T3OM7OUB5NM2LCVZF7JPGJRNUE \
   --tags Key=Environment,Value=PROD Key=Project,Value=dbMigration
```

This command produces no output.

For more information, see [Tagging Resources](#) in the [AWS Database Migration Service User Guide](#).

- For API details, see [AddTagsToResource](#) in [AWS CLI Command Reference](#).

**create-endpoint**

The following code example shows how to use `create-endpoint`.

**AWS CLI**

**To create an endpoint**

The following `create-endpoint` example creates an endpoint for an Amazon S3 source.

```bash
aws dms create-endpoint \
   --endpoint-type source \
   --engine-name s3 \
```
--endpoint-identifier src-endpoint \
--s3-settings file://s3-settings.json

Contents of s3-settings.json:

```
{
    "BucketName":"my-corp-data",
    "BucketFolder":"sourcedata",
    "ServiceAccessRoleArn":"arn:aws:iam::123456789012:role/my-s3-access-role"
}
```

Output:

```
{
    "Endpoint": {
        "EndpointIdentifier": "src-endpoint",
        "EndpointType": "SOURCE",
        "EngineName": "s3",
        "EngineDisplayName": "Amazon S3",
        "ExtraConnectionAttributes": "bucketFolder=sourcedata;bucketName=my-corp-data;compressionType=NONE;csvDelimiter=,;csvRowDelimiter=\n;",
        "Status": "active",
        "EndpointArn": "arn:aws:dms:us-east-1:123456789012:endpoint:GUVAFG34ECCUJQVZ56DAHT3U",
        "SslMode": "none",
        "ServiceAccessRoleArn": "arn:aws:iam::123456789012:role/my-s3-access-role",
        "S3Settings": {
            "ServiceAccessRoleArn": "arn:aws:iam::123456789012:role/my-s3-access-role",
            "CsvRowDelimiter": "\n",
            "CsvDelimiter": ",",
            "BucketFolder": "sourcedata",
            "BucketName": "my-corp-data",
            "CompressionType": "NONE",
            "EnableStatistics": true
        }
    }
}
```

For more information, see Working with AWS DMS Endpoints in the AWS Database Migration Service User Guide.

- For API details, see CreateEndpoint in AWS CLI Command Reference.
create-event-subscription

The following code example shows how to use create-event-subscription.

AWS CLI

To list event subscriptions

The following create-event-subscription example creates an event subscription to an Amazon SNS topic (my-sns-topic).

```
aws dms create-event-subscription \\
--subscription-name my-dms-events \\
```

Output:

```
{
   "EventSubscription": {
      "CustomerAwsId": "123456789012",
      "CustSubscriptionId": "my-dms-events",
      "Status": "creating",
      "SubscriptionCreationTime": "2020-05-21 21:58:38.598",
      "Enabled": true
   }
}
```

For more information, see Working with Events and Notifications in the AWS Database Migration Service User Guide.

- For API details, see CreateEventSubscription in AWS CLI Command Reference.

create-replication-instance

The following code example shows how to use create-replication-instance.

AWS CLI

To create a replication instance

The following create-replication-instance example creates a replication instance.
aws dms create-replication-instance \
   --replication-instance-identifier my-repl-instance \
   --replication-instance-class dms.t2.micro \
   --allocated-storage 5

Output:

{
    "ReplicationInstance": {
        "ReplicationInstanceIdentifier": "my-repl-instance",
        "ReplicationInstanceClass": "dms.t2.micro",
        "ReplicationInstanceStatus": "creating",
        "AllocatedStorage": 5,
        "VpcSecurityGroups": [
            {
                "VpcSecurityGroupId": "sg-f839b688",
                "Status": "active"
            }
        ],
        "ReplicationSubnetGroup": {
            "ReplicationSubnetGroupIdentifier": "default",
            "ReplicationSubnetGroupDescription": "default",
            "VpcId": "vpc-136a4c6a",
            "SubnetGroupStatus": "Complete",
            "Subnets": [
                {
                    "SubnetIdentifier": "subnet-da327bf6",
                    "SubnetAvailabilityZone": {
                        "Name": "us-east-1a"
                    },
                    "SubnetStatus": "Active"
                },
                {
                    "SubnetIdentifier": "subnet-42599426",
                    "SubnetAvailabilityZone": {
                        "Name": "us-east-1d"
                    },
                    "SubnetStatus": "Active"
                },
                {
                    "SubnetIdentifier": "subnet-bac383e0",
                    "SubnetAvailabilityZone": {
                        "Name": "us-east-1c"
                    }
                }
            ]
        }
    }
}


For more information, see Working with an AWS DMS Replication Instance in the AWS Database Migration Service User Guide.

- For API details, see CreateReplicationInstance in AWS CLI Command Reference.
create-replication-subnet-group

The following code example shows how to use create-replication-subnet-group.

AWS CLI

To create a subnet group

The following create-replication-subnet-group example creates a group consisting of 3 subnets.

```bash
aws dms create-replication-subnet-group \
   --replication-subnet-group-identifier my-subnet-group \
   --replication-subnet-group-description "my subnet group" \
   --subnet-ids subnet-da327bf6 subnet-bac383e0 subnet-d7c825e8
```

Output:

```json
{
   "ReplicationSubnetGroup": {
      "ReplicationSubnetGroupIdentifier": "my-subnet-group",
      "ReplicationSubnetGroupDescription": "my subnet group",
      "VpcId": "vpc-136a4c6a",
      "SubnetGroupStatus": "Complete",
      "Subnets": [
      {
         "SubnetIdentifier": "subnet-da327bf6",
         "SubnetAvailabilityZone": {
            "Name": "us-east-1a"
         },
         "SubnetStatus": "Active"
      },
      {
         "SubnetIdentifier": "subnet-bac383e0",
         "SubnetAvailabilityZone": {
            "Name": "us-east-1c"
         },
         "SubnetStatus": "Active"
      },
      {
         "SubnetIdentifier": "subnet-d7c825e8",
         "SubnetAvailabilityZone": {
            "Name": "us-east-1e"
         },
         "SubnetStatus": "Active"
      }
   ]
}
```
For more information, see [Setting Up a Network for a Replication Instance](#) in the *AWS Database Migration Service User Guide*.

- For API details, see [CreateReplicationSubnetGroup](#) in *AWS CLI Command Reference*.

### create-replication-task

The following code example shows how to use `create-replication-task`.

**AWS CLI**

**To create a replication task**

The following `create-replication-task` example creates a replication task.

```bash
aws dms create-replication-task \
   --replication-task-identifier movedata \
   --target-endpoint-arn arn:aws:dms:us-east-1:123456789012:endpoint:EOM4SFZCZYB3FZBFGAGZT3QEC5U \
   --replication-instance-arn $RI_ARN \
   --migration-type full-load \
   --table-mappings file://table-mappings.json
```

**Contents of `table-mappings.json`:**

```json
{
   "rules": [
      {
         "rule-type": "selection",
         "rule-id": "1",
         "rule-name": "1",
         "object-locator": {
            "schema-name": "prodrep",
            "table-name": "%"
         }
      }
   ]
}
```
Output:

```
{
  "ReplicationTask": {
    "ReplicationTaskIdentifier": "moveit2",
    "TargetEndpointArn": "arn:aws:dms:us-east-1:123456789012:endpoint:EOM4SFKZCEYHBFAGZT3QEC5U",
    "ReplicationInstanceArn": "arn:aws:dms:us-east-1:123456789012:rep:T3OM70UB5NM2LCVF7JPGJRNUE",
    "MigrationType": "full-load",
    "TableMappings": ...output omitted...,
    "ReplicationTaskSettings": ...output omitted...,
    "Status": "creating",
    "ReplicationTaskCreationDate": 1590524772.505,
    "ReplicationTaskArn": "arn:aws:dms:us-east-1:123456789012:task:K55IUCGBASJS5VH2JNA45FII"
  }
}
```

For more information, see [Working with AWS DMS Tasks](https://docs.aws.amazon.com/AmazonDMS/latest/DG/Working-with-Replication-Tasks.html) in the *AWS Database Migration Service User Guide*.

- For API details, see [CreateReplicationTask](https://docs.aws.amazon.com/AmazonDMS/latest/APIReference/API_CreateReplicationTask.html) in *AWS CLI Command Reference*.

### delete-connection

The following code example shows how to use `delete-connection`.

**AWS CLI**

**To delete a connection**

The following `delete-connection` example disassociates an endpoint from a replication instance.
aws dms delete-connection
    --replication-instance-arn arn:aws:dms:us-east-1:123456789012:rep:T3OM70UB5NM2LCVZF73PJRGJRNUE

Output:

{
    "Connection": { 
        "ReplicationInstanceArn": "arn:aws:dms:us-east-1:123456789012:rep:T3OM70UB5NM2LCVZF73PJRGJRNUE",
        "Status": "deleting",
        "EndpointIdentifier": "src-database-1",
        "ReplicationInstanceIdentifier": "my-repl-instance"
    }
}

For more information, see https://docs.aws.amazon.com/dms/latest/userguide/CHAP_Endpoints.Creating.html in the AWS Database Migration Service User Guide.

- For API details, see DeleteConnection in AWS CLI Command Reference.

**delete-endpoint**

The following code example shows how to use delete-endpoint.

**AWS CLI**

**To delete an endpoint**

The following delete-endpoint example deletes an endpoint.

aws dms delete-endpoint
    --endpoint-arn arn:aws:dms:us-east-1:123456789012:endpoint:OUJJVXO4XZ4CYTSEG5XGMN2R3Y

Output:

{

"Endpoint": {
  "EndpointIdentifier": "src-endpoint",
  "EndpointType": "SOURCE",
  "EngineName": "s3",
  "EngineDisplayName": "Amazon S3",
  "ExtraConnectionAttributes": "bucketFolder=sourcedata;bucketName=my-corp-data;compressionType=NONE;csvDelimiter=,;csvRowDelimiter=\n;",
  "Status": "deleting",
  "EndpointArn": "arn:aws:dms:us-east-1:123456789012:endpoint:OUJJVXO4XZ4CYTSEG5XGMN2R3Y",
  "SslMode": "none",
  "ServiceAccessRoleArn": "arn:aws:iam::123456789012:role/my-s3-access-role",
  "S3Settings": {
    "ServiceAccessRoleArn": "arn:aws:iam::123456789012:role/my-s3-access-role",
    "CsvRowDelimiter": "\n",
    "CsvDelimiter": ",",
    "BucketFolder": "sourcedata",
    "BucketName": "my-corp-data",
    "CompressionType": "NONE",
    "EnableStatistics": true
  }
}

For more information, see Working with AWS DMS Endpoints in the AWS Database Migration Service User Guide.

- For API details, see DeleteEndpoint in AWS CLI Command Reference.

download-event-subscription

The following code example shows how to use download-event-subscription.

AWS CLI

To delete an event subscription

The following delete-event-subscription example deletes a subscription to an Amazon SNS topic.

```
aws dms delete-event-subscription
  --subscription-name "my-dms-events"
```
For more information, see Working with Events and Notifications in the AWS Database Migration Service User Guide.

- For API details, see DeleteEventSubscription in AWS CLI Command Reference.

deletereplication-instance

The following code example shows how to use delete-replication-instance.

AWS CLI

To delete a replication instance

The following delete-replication-instance example deletes a replication instance.

```bash
aws dms delete-replication-instance \
   --replication-instance-arn arn:aws:dms:us-east-1:123456789012:rep:T3OM7OUB5NM2LCVZF7JPGJRNUE
```

Output:

```json
{
   "ReplicationInstance": {
      "ReplicationInstanceIdentifier": "my-repl-instance",
      "ReplicationInstanceClass": "dms.t2.micro",
      "ReplicationInstanceStatus": "deleting",
      "AllocatedStorage": 5,
      "InstanceCreateTime": 1590011235.952,
      "VpcSecurityGroups": [
      ]
   }
}
```
"VpcSecurityGroupId": "sg-f839b688",
"Status": "active"
},

"AvailabilityZone": "us-east-1e",
"ReplicationSubnetGroup": {
  "ReplicationSubnetGroupIdentifier": "default",
  "ReplicationSubnetGroupDescription": "default",
  "VpcId": "vpc-136a4c6a",
  "SubnetGroupStatus": "Complete",
  "Subnets": [
    {
      "SubnetIdentifier": "subnet-da327bf6",
      "SubnetAvailabilityZone": {
        "Name": "us-east-1a"
      },
      "SubnetStatus": "Active"
    },
    {
      "SubnetIdentifier": "subnet-42599426",
      "SubnetAvailabilityZone": {
        "Name": "us-east-1d"
      },
      "SubnetStatus": "Active"
    },
    {
      "SubnetIdentifier": "subnet-bac383e0",
      "SubnetAvailabilityZone": {
        "Name": "us-east-1c"
      },
      "SubnetStatus": "Active"
    },
    {
      "SubnetIdentifier": "subnet-6746046b",
      "SubnetAvailabilityZone": {
        "Name": "us-east-1f"
      },
      "SubnetStatus": "Active"
    },
    {
      "SubnetIdentifier": "subnet-d7c825e8",
      "SubnetAvailabilityZone": {
        "Name": "us-east-1e"
      },
      "SubnetStatus": "Active"
    }
  ]
}


For more information, see Working with an AWS DMS Replication Instance in the AWS Database Migration Service User Guide.

- For API details, see DeleteReplicationInstance in AWS CLI Command Reference.

**delete-replication-subnet-group**

The following code example shows how to use delete-replication-subnet-group.
AWS CLI

To delete a subnet group

The following delete-replication-subnet-group example deletes a subnet group.

```bash
aws dms delete-replication-subnet-group \
   --replication-subnet-group-identifier my-subnet-group
```

Output:

```lua
(none)
```

For more information, see [Setting Up a Network for a Replication Instance](https://docs.aws.amazon.com/dms/latest/userguide/Setting-Up-a-Network-for-a-Replication-Instance) in the *AWS Database Migration Service User Guide*.

- For API details, see [DeleteReplicationSubnetGroup](https://docs.aws.amazon.com/cli/latest/reference/dms/delete-replication-subnet-group.html) in *AWS CLI Command Reference*.

delete-replication-task

The following code example shows how to use delete-replication-task.

AWS CLI

To delete a replication task

The following delete-replication-task example deletes a replication task.

```bash
aws dms delete-replication-task \
   --replication-task-arn arn:aws:dms:us-east-1:123456789012:task:K55IUCGBASJS5VHZJIINA45FII
```

Output:

```json
{
   "ReplicationTask": {
      "ReplicationTaskIdentifier": "moveit2",
      "TargetEndpointArn": "arn:aws:dms:us-east-1:123456789012:endpoint:EOM4SFKCZEYHZBFAGZT3QEC5U",
```
For more information, see [Working with AWS DMS Tasks](#) in the *AWS Database Migration Service User Guide*.

- For API details, see [DeleteReplicationTask](#) in *AWS CLI Command Reference*.

### describe-account-attributes

The following code example shows how to use describe-account-attributes.

**AWS CLI**

**To describe account attributes**

The following `describe-account-attributes` example lists the attributes for your AWS account.

```bash
aws dms describe-account-attributes
```

**Output:**

```json
{
   "AccountQuotas": [
   {
      "AccountQuotaName": "ReplicationInstances",
      "Used": 1,
      "Max": 20
   },
   {
```
For API details, see DescribeAccountAttributes in AWS CLI Command Reference.

describe-certificates

The following code example shows how to use describe-certificates.

AWS CLI

To list the available certificates

The following describe-certificates example lists the available certificates in your AWS account.

```bash
aws dms describe-certificates
```

Output:

```json
{
  "Certificates": [
    {
      "CertificateIdentifier": "my-cert",
      "CertificateCreationDate": 1543259542.506,
      "CertificatePem": "-----BEGIN CERTIFICATE-----
MIID9DCCAtygAwIBAgIBQjANBgkqhkiG9w0BAQ ...U"

      ... remaining output omitted ...
    }
  ]
}
```
For more information, see Using SSL in the AWS Database Migration Service User Guide.

- For API details, see DescribeCertificates in AWS CLI Command Reference.

describe-connections

The following code example shows how to use describe-connections.

AWS CLI

To describe connections

The following describe-connections example lists the connections that you have tested between a replication instance and an endpoint.

```bash
aws dms describe-connections
```

Output:

```json
{
  "Connections": [
    {
      "Status": "successful",
      "ReplicationInstanceIdentifier": "test",
      "EndpointIdentifier": "testsrc1",
      "ReplicationInstanceArn": "arn:aws:dms:us-east-1:123456789012:rep:6UTDJGBOUS3VI3SUWA66XFJCJQ"
    }
  ]
}
```

For more information, see Creating Source and Target Endpoints in the AWS Database Migration Service User Guide.

- For API details, see DescribeConnections in AWS CLI Command Reference.

describe-endpoint-types

The following code example shows how to use describe-endpoint-types.
**AWS CLI**

**To list the available endpoint types**

The following `describe-endpoint-types` example lists the MySQL endpoint types that are available.

```bash
aws dms describe-endpoint-types \
   --filters "Name=engine-name,Values=mysql"
```

Output:

```json
{
   "SupportedEndpointTypes": [
      {
         "EngineName": "mysql",
         "SupportsCDC": true,
         "EndpointType": "source",
         "EngineDisplayName": "MySQL"
      },
      {
         "EngineName": "mysql",
         "SupportsCDC": true,
         "EndpointType": "target",
         "EngineDisplayName": "MySQL"
      }
   ]
}
```

For more information, see Working with AWS DMS Endpoints <https://docs.aws.amazon.com/dms/latest/userguide/CHAP_Endpoints.html>`__ in the *AWS Database Migration Service User Guide*.

- For API details, see `DescribeEndpointTypes` in *AWS CLI Command Reference*.

**describe-endpoints**

The following code example shows how to use `describe-endpoints`.

**AWS CLI**

**To describe endpoints**
The following describe-endpoints example lists the endpoints in your AWS account.

```
aws dms describe-endpoints
```

Output:

```
{
   "Endpoints": [
   {
      "Username": "dms",
      "Status": "active",
      "EndpointArn": "arn:aws:dms:us-east-1:123456789012:endpoint:SF2WOFLYWVKE0HID2EKLP33JI",
      "ServerName": "ec2-52-32-48-61.us-west-2.compute.amazonaws.com",
      "EndpointType": "SOURCE",
      "KmsKeyId": "arn:aws:kms:us-east-1:123456789012:key/94d5c4e7-4e4c-44be-b58a-c8da7ad5f57cd",
      "DatabaseName": "test",
      "EngineName": "mysql",
      "EndpointIdentifier": "pri100",
      "Port": 8193
   },
   {
      "Username": "admin",
      "Status": "active",
      "ServerName": "test.example.com",
      "EndpointType": "SOURCE",
      "KmsKeyId": "arn:aws:kms:us-east-1:123456789012:key/2431021b-1cf2-a2d4-77b2-59a9e4bce323",
      "DatabaseName": "EMPL",
      "EngineName": "oracle",
      "EndpointIdentifier": "test",
      "Port": 1521
   }
   ]
}
```

For more information, see Working with AWS DMS Endpoints in the AWS Database Migration Service User Guide.

- For API details, see DescribeEndpoints in AWS CLI Command Reference.
describe-event-categories

The following code example shows how to use describe-event-categories.

**AWS CLI**

**To describe event categories**

The following describe-event-categories example lists the available event categories.

```bash
aws dms describe-event-categories
```

**Output:**

```json
{
   "EventCategoryGroupList": [
      {
         "SourceType": "replication-instance",
         "EventCategories": [
            "low storage",
            "configuration change",
            "maintenance",
            "deletion",
            "creation",
            "failover",
            "failure"
         ]
      },
      {
         "SourceType": "replication-task",
         "EventCategories": [
            "configuration change",
            "state change",
            "deletion",
            "creation",
            "failure"
         ]
      }
   ]
}
```

For more information, see [Working with Events and Notifications](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/事件.html) in the *AWS Database Migration Service User Guide*. 
• For API details, see DescribeEventCategories in AWS CLI Command Reference.

describe-event-subscriptions

The following code example shows how to use describe-event-subscriptions.

AWS CLI

To describe event subscriptions

The following describe-event-subscriptions example lists the event subscriptions to an Amazon SNS topic.

```bash
aws dms describe-event-subscriptions
```

Output:

```
{
   "EventSubscriptionsList": [
   {
      "CustomerAwsId": "123456789012",
      "CustSubscriptionId": "my-dms-events",
      "Status": "deleting",
      "Enabled": true
   }
   ]
}
```

For more information, see Working with Events and Notifications in the AWS Database Migration Service User Guide.

• For API details, see DescribeEventSubscriptions in AWS CLI Command Reference.

describe-events

The following code example shows how to use describe-events.

AWS CLI

To list DMS events
The following `describe-events` example lists the events that originated from a replication instance.

```bash
aws dms describe-events 
   --source-type "replication-instance"
```

Output:

```
{
   "Events": [
   {
   "SourceIdentifier": "my-repl-instance",
   "SourceType": "replication-instance",
   "Message": "Replication application shutdown",
   "EventCategories": [],
   "Date": 1590771645.776
   }
   ]
}
```

For more information, see [Working with Events and Notifications](#) in the *AWS Database Migration Service User Guide*.

- For API details, see [DescribeEvents](#) in *AWS CLI Command Reference*.

### describe-orderable-replication-instances

The following code example shows how to use `describe-orderable-replication-instances`.

**AWS CLI**

**To describe orderable replication instances**

The following `describe-orderable-replication-instances` example lists replication instance types that you can order.

```bash
aws dms describe-orderable-replication-instances
```

Output:

```
{
```
"OrderableReplicationInstances": [ 
    {
        "EngineVersion": "3.3.2",
        "ReplicationInstanceClass": "dms.c4.2xlarge",
        "StorageType": "gp2",
        "MinAllocatedStorage": 5,
        "MaxAllocatedStorage": 6144,
        "DefaultAllocatedStorage": 100,
        "IncludedAllocatedStorage": 100,
        "AvailabilityZones": [
            "us-east-1a",
            "us-east-1b",
            "us-east-1c",
            "us-east-1d",
            "us-east-1e",
            "us-east-1f"
        ]
    },
    {
        "EngineVersion": "3.3.2",
        "ReplicationInstanceClass": "dms.c4.4xlarge",
        "StorageType": "gp2",
        "MinAllocatedStorage": 5,
        "MaxAllocatedStorage": 6144,
        "DefaultAllocatedStorage": 100,
        "IncludedAllocatedStorage": 100,
        "AvailabilityZones": [
            "us-east-1a",
            "us-east-1b",
            "us-east-1c",
            "us-east-1d",
            "us-east-1e",
            "us-east-1f"
        ]
    },
    ...
    remaining output omitted...
} 


**describe-refresh-schemas-status**

The following code example shows how to use `describe-refresh-schemas-status`.

**AWS CLI**

To list the refresh status for an endpoint

The following `describe-refresh-schemas-status` example returns the status of a previous refresh request.

```bash
aws dms describe-refresh-schemas-status \\
```

Output:

```json
{
   "RefreshSchemasStatus": {
      "ReplicationInstanceArn": "arn:aws:dms:us-east-1:123456789012:rep:T3OM70UB5NM2LCVZF73PGJRNU E",
      "Status": "successful",
      "LastRefreshDate": 1590786544.605
   }
}
```

- For API details, see [DescribeRefreshSchemasStatus](#) in *AWS CLI Command Reference*.

**describe-replication-instances**

The following code example shows how to use `describe-replication-instances`.

**AWS CLI**

To describe replication instances

The following `describe-replication-instances` example lists the replication instances in your AWS account.

```bash
aws dms describe-replication-instances
```
Output:

```json
{
    "ReplicationInstances": [
        {
            "ReplicationInstanceIdentifier": "my-repl-instance",
            "ReplicationInstanceClass": "dms.t2.micro",
            "ReplicationInstanceStatus": "available",
            "AllocatedStorage": 5,
            "InstanceCreateTime": 1590011235.952,
            "VpcSecurityGroups": [
                {
                    "VpcSecurityGroupId": "sg-f839b688",
                    "Status": "active"
                }
            ],
            "AvailabilityZone": "us-east-1e",
            "ReplicationSubnetGroup": {
                "ReplicationSubnetGroupIdentifier": "default",
                "ReplicationSubnetGroupDescription": "default",
                "VpcId": "vpc-136a4c6a",
                "SubnetGroupStatus": "Complete",
                "Subnets": [
                    {
                        "SubnetIdentifier": "subnet-da327bf6",
                        "SubnetAvailabilityZone": {
                            "Name": "us-east-1a"
                        },
                        "SubnetStatus": "Active"
                    },
                    {
                        "SubnetIdentifier": "subnet-42599426",
                        "SubnetAvailabilityZone": {
                            "Name": "us-east-1d"
                        },
                        "SubnetStatus": "Active"
                    },
                    {
                        "SubnetIdentifier": "subnet-bac383e0",
                        "SubnetAvailabilityZone": {
                            "Name": "us-east-1c"
                        },
                        "SubnetStatus": "Active"
                    }
                ]
            }
        }
    ]
}
```
{
    "SubnetIdentifier": "subnet-6746046b",
    "SubnetAvailabilityZone": {
        "Name": "us-east-1f"
    },
    "SubnetStatus": "Active"
},
{
    "SubnetIdentifier": "subnet-d7c825e8",
    "SubnetAvailabilityZone": {
        "Name": "us-east-1e"
    },
    "SubnetStatus": "Active"
},
{
    "SubnetIdentifier": "subnet-cbfff283",
    "SubnetAvailabilityZone": {
        "Name": "us-east-1b"
    },
    "SubnetStatus": "Active"
}
"PreferredMaintenanceWindow": "wed:11:42-wed:12:12",
"PendingModifiedValues": {
    "MultiAZ": true
},
"MultiAZ": false,
"EngineVersion": "3.3.2",
"AutoMinorVersionUpgrade": true,
"KmsKeyId": "arn:aws:kms:us-east-1:123456789012:key/f7bc0f8e-1a3a-4ace-9faa-e849fa3921a",
"ReplicationInstanceArn": "arn:aws:dms:us-east-1:123456789012:rep:T3OM7OUB5NM2L5CZVF7JPGJRNUE",
"ReplicationInstancePublicIpAddress": "3.230.18.248",
"ReplicationInstancePrivateIpAddress": "172.31.75.90",
"ReplicationInstancePublicIpAddresses": ["3.230.18.248"],
"ReplicationInstancePrivateIpAddresses": ["172.31.75.90"],
"PubliclyAccessible": true,
"FreeUntil": 1590194829.267
For more information, see Working with an AWS DMS Replication Instance in the AWS Database Migration Service User Guide.

- For API details, see DescribeReplicationInstances in AWS CLI Command Reference.

describe-replication-subnet-groups

The following code example shows how to use describe-replication-subnet-groups.

AWS CLI

To display the available subnet groups

The following describe-replication-subnet-groups example lists the available subnet groups.

```shell
aws dms describe-replication-subnet-groups \
  --filter "Name=replication-subnet-group-id,Values=my-subnet-group"
```

Output:

```json
{
  "ReplicationSubnetGroups": [
    {
      "ReplicationSubnetGroupIdentifier": "my-subnet-group",
      "ReplicationSubnetGroupDescription": "my subnet group",
      "VpcId": "vpc-136a46a",
      "SubnetGroupStatus": "Complete",
      "Subnets": [
        {
          "SubnetIdentifier": "subnet-da327bf6",
          "SubnetAvailabilityZone": {
            "Name": "us-east-1a"
          },
          "SubnetStatus": "Active"
        },
        {
          "SubnetIdentifier": "subnet-bac383e0",
```
For more information, see [Setting Up a Network for a Replication Instance](https://docs.aws.amazon.com/awsdms/latest/userguide/replication-task-assessments.html) in the *AWS Database Migration Service User Guide*.

- For API details, see [DescribeReplicationSubnetGroups](https://docs.aws.amazon.com/cli/latest/reference/rds/describe-replication-subnet-groups.html) in *AWS CLI Command Reference*.

### describe-replication-task-assessment-results

The following code example shows how to use `describe-replication-task-assessment-results`.

**AWS CLI**

**To list the results of replication task assessment**

The following `describe-replication-task-assessment-results` example lists the results of a prior task assessment.

```bash
aws dms describe-replication-task-assessment-results
```

**Output:**

```json
{
   "ReplicationTaskAssessmentResults": [
      {
      }
   ]
}
```
For more information, see Creating a Task Assessment Report in the AWS Database Migration Service User Guide.

- For API details, see DescribeReplicationTaskAssessmentResults in AWS CLI Command Reference.

describe-replication-tasks

The following code example shows how to use describe-replication-tasks.

AWS CLI

To describe a replication task

The following describe-replication-tasks example describes current replication tasks.

aws dms describe-replication-tasks

Output:

```json
{
   "ReplicationTasks": [
       {
           "ReplicationTaskIdentifier": "moveit2",
           "TargetEndpointArn": "arn:aws:dms:us-east-1:123456789012:endpoint:EOM4SFKCZHYBFAGZT3QEC5U",
           "ReplicationInstanceArn": "arn:aws:dms:us-east-1:123456789012:rep:T3OM70UB5NM2LCVZFA73PGJRMUE",
           "MigrationType": "full-load",
           "TableMappings": "output omitted"
       }
   ]
}
```
For more information, see [Working with AWS DMS Tasks](#) in the *AWS Database Migration Service User Guide*.

- For API details, see [DescribeReplicationTasks](#) in *AWS CLI Command Reference*.

**describe-schemas**

The following code example shows how to use `describe-schemas`.

**AWS CLI**

**To describe database schemas**

The following `describe-schemas` example lists the available tables at an endpoint.

```

Output:
For more information, see This is the topic title in the AWS Database Migration Service User Guide.

- For API details, see DescribeSchemas in AWS CLI Command Reference.

list-tags-for-resource

The following code example shows how to use list-tags-for-resource.

**AWS CLI**

To list the tags for a resource

The following list-tags-for-resource example lists the tags for a replication instance.

```
aws dms list-tags-for-resource \
    --resource-arn arn:aws:dms:us-east-1:123456789012:rep:T3OM7OUB5NM2LCVZF7JPGJRNUE
```

Output:

```
{
    "TagList": [
    {
        "Key": "Project",
        "Value": "dbMigration"
    },
    {
        "Key": "Environment",
        "Value": "PROD"
    }
    ]
}
```

For more information, see Tagging Resources in the AWS Database Migration Service User Guide.
modify-endpoint

The following code example shows how to use modify-endpoint.

AWS CLI

To modify an endpoint

The following modify-endpoint example adds an extra connection attribute to an endpoint.

```bash
aws dms modify-endpoint \
    --endpoint-arn "arn:aws:dms:us-east-1:123456789012:endpoint:GUVAFG34EECUO36QVZ56DAHT3U" \
    --extra-connection-attributes "compressionType=GZIP"
```

Output:

```json
{
    "Endpoint": {
        "EndpointIdentifier": "src-endpoint",
        "EndpointType": "SOURCE",
        "EngineName": "s3",
        "EngineDisplayName": "Amazon S3",
        "ExtraConnectionAttributes": "compressionType=GZIP;csvDelimiter=,;csvRowDelimiter=\n;",
        "Status": "active",
        "EndpointArn": "arn:aws:dms:us-east-1:123456789012:endpoint:GUVAFG34EECUO36QVZ56DAHT3U",
        "SslMode": "none",
        "ServiceAccessRoleArn": "arn:aws:iam::123456789012:role/my-s3-access-role",
        "S3Settings": {
            "ServiceAccessRoleArn": "arn:aws:iam::123456789012:role/my-s3-access-role",
            "CsvRowDelimiter": "\n",
            "CsvDelimiter": "",
            "BucketFolder": "",
            "BucketName": "",
            "CompressionType": "GZIP",
            "EnableStatistics": true
        }
    }
}
```
For more information, see Working with AWS DMS Endpoints <https://docs.aws.amazon.com/dms/latest/userguide/CHAP_Endpoints.html>`__ in the AWS Database Migration Service User Guide.

- For API details, see `ModifyEndpoint` in AWS CLI Command Reference.

**modify-event-subscription**

The following code example shows how to use `modify-event-subscription`.

**AWS CLI**

**To modify an event subscription**

The following `modify-event-subscription` example changes the source type of an event subscription.

```bash
aws dms modify-event-subscription 
  --subscription-name "my-dms-events" 
  --source-type replication-task
```

**Output:**

```json
{
  "EventSubscription": {
    "CustomerAwsId": "123456789012",
    "CustSubscriptionId": "my-dms-events",
    "Status": "modifying",
    "SubscriptionCreationTime": "2020-05-29 17:04:40.262",
    "SourceType": "replication-task",
    "Enabled": true
  }
}
```

For more information, see `Working with Events and Notifications` in the AWS Database Migration Service User Guide.
modify-replication-instance

The following code example shows how to use modify-replication-instance.

AWS CLI

To modify a replication instance

The following modify-replication-instance example modifies a replication instance so that it uses a Multi-AZ deployment.

```
aws dms modify-replication-instance \
   --replication-instance-arn arn:aws:dms:us-east-1:123456789012:rep:T3OM70UB5NM2LCVZF7JPGJRNUE \
   --multi-az
```

Output:

```
{
   "ReplicationInstance": {
      "ReplicationInstanceIdentifier": "my-repl-instance",
      "ReplicationInstanceClass": "dms.t2.micro",
      "ReplicationInstanceStatus": "available",
      "AllocatedStorage": 5,
      "InstanceCreateTime": 1590011235.952,
      "PendingModifiedValues": {
         "MultiAZ": true,
      },
      "MultiAZ": false,
      "EngineVersion": "3.3.2",
      "AutoMinorVersionUpgrade": true,
      "KmsKeyId": "arn:aws:kms:us-east-1:123456789012:key/f7bc0f8e-1a3a-4ace-9fae-e849fa3921a",
   }
}
```
modify-replication-subnet-group

The following code example shows how to use modify-replication-subnet-group.

AWS CLI

To modify a subnet group

The following modify-replication-subnet-group example changes the lists of subnets associated with a subnet group.

```
aws dms modify-replication-subnet-group \
   --replication-subnet-group-identifier my-subnet-group \
   --subnet-id subnet-da327bf6 subnet-bac383e0
```

Output:

```
{
   "ReplicationSubnetGroup": {
      "ReplicationSubnetGroupIdentifier": "my-subnet-group",
      "ReplicationSubnetGroupDescription": "my subnet group",
      "VpcId": "vpc-136a4c6a",
      "SubnetGroupStatus": "Complete",
      "Subnets": [
         {
            "SubnetIdentifier": "subnet-da327bf6",
            "SubnetAvailabilityZone": {
               "Name": "us-east-1a"
            },
            "SubnetStatus": "Active"
         },
         {
            "SubnetIdentifier": "subnet-bac383e0",
            "SubnetAvailabilityZone": {
               "Name": "us-east-1c"
            }
         }
      ]
   }
}
```
modify-replication-task

The following code example shows how to use modify-replication-task.

AWS CLI

To modify a replication task

The following modify-replication-task example changes the table mappings for a task.

```bash
aws dms modify-replication-task \
   --replication-task-arn "arn:aws:dms:us-east-1:123456789012:task:K55IUCGBASJS5VHZJIINA45FII" \
   --table-mappings file://table-mappings.json
```

Contents of table-mappings.json:

```json
{
   "rules": [
      {
         "rule-type": "selection",
         "rule-id": "1",
         "rule-name": "1",
         "object-locator": {
            "schema-name": "prodrep",
            "table-name": "ACCT_%"
         },
         "rule-action": "include",
         "filters": []
      }
   ]
}
```
Output:

```json
{
  "ReplicationTask": {
    "ReplicationTaskIdentifier": "moveit2",
    "TargetEndpointArn": "arn:aws:dms:us-east-1:123456789012:endpoint:EOM4SFKCEYHZBFGAGZT3QEC5U",
    "ReplicationInstanceArn": "arn:aws:dms:us-east-1:123456789012:rep:T30M7OUB5NM2LCVZF7JPGJRNUE",
    "MigrationType": "full-load",
    "TableMappings": ...output omitted...
    "ReplicationTaskSettings": ...output omitted...
    "Status": "modifying",
    "StopReason": "Stop Reason FULL_LOAD_ONLY_FINISHED",
    "ReplicationTaskCreationDate": 1590524772.505,
    "ReplicationTaskStartDate": 1590789424.653,
    "ReplicationTaskArn": "arn:aws:dms:us-east-1:123456789012:task:K55IUCGBASJS5VHZJINNA45FII"
  }
}
```


### reboot-replication-instance

The following code example shows how to use `reboot-replication-instance`.

**AWS CLI**

To reboot a replication instance

The following `reboot-replication-instance` example reboots a replication instance.

```bash
aws dms reboot-replication-instance \
```
refresh-schemas

The following code example shows how to use refresh-schemas.

AWS CLI

To refresh database schemas

The following refresh-schemas example requests that AWS DMS refresh the list of schemas at an endpoint.

```
aws dms refresh-schemas \
   --replication-instance-arn arn:aws:dms:us-east-1:123456789012:rep:T30M70UB5NM2LCVZF7JPGJRNUE \
```

Output:

```
{
   "RefreshSchemasStatus": {

   }
}
```
For API details, see `RefreshSchemas` in `AWS CLI Command Reference`.

**reload-tables**

The following code example shows how to use `reload-tables`.

**AWS CLI**

**To refresh the list of tables available at an endpoint**

The following `reload-tables` example reloads the list of available tables at an endpoint.

```bash
aws dms reload-tables \
  --replication-task-arn "arn:aws:dms:us-east-1:123456789012:task:K55IUCGBASJS5VHZJIINA45FII" \
  --tables-to-reload "SchemaName=prodrep,TableName=ACCT_BAL"
```

Output:

```
{
   "ReplicationTaskArn": "arn:aws:dms:us-east-1:123456789012:task:K55IUCGBASJS5VHZJIINA45FII"
}
```

For API details, see `ReloadTables` in `AWS CLI Command Reference`.

**remove-tags-from-resource**

The following code example shows how to use `remove-tags-from-resource`.

**AWS CLI**

**To remove tags from a replication instance**
The following remove-tags-from-resource example removes tags from a replication instance.

```
aws dms remove-tags-from-resource \
    --resource-arn arn:aws:dms:us-east-1:123456789012:rep:T3OM70UB5NM2LCVZF7JPGJRNUE \
    --tag-keys Environment Project
```

This command produces no output.

For more information, see Tagging Resources in the AWS Database Migration Service User Guide.
- For API details, see RemoveTagsFromResource in AWS CLI Command Reference.

**start-replication-task**

The following code example shows how to use start-replication-task.

**AWS CLI**

**To start a replication task**

The following command-name example lists the available widgets in your AWS account.

```
aws dms start-replication-task \
    --replication-task-arn arn:aws:dms:us-east-1:123456789012:task:K55IUCGBASJS5VHZJIINA45FII \n    --start-replication-task-type reload-target
```

Output:

```
{
    "ReplicationTask": {
        "ReplicationTaskIdentifier": "moveit2",
        "TargetEndpointArn": "arn:aws:dms:us-east-1:123456789012:endpoint:EOM4SFKCZEYHZBFAGZT3QEC5U",
        "ReplicationInstanceArn": "arn:aws:dms:us-east-1:123456789012:rep:T3OM70UB5NM2LCVZF7JPGJRNUE",
        "MigrationType": "full-load",
        "TableMappings": ...output omitted..., 
        "ReplicationTaskSettings": ...output omitted..., 
    }
}```
For more information, see [Working with AWS DMS Tasks](https://docs.aws.amazon.com/AmazonDMS/latest/UserGuide/working-with-tasks.html) in the *AWS Database Migration Service User Guide*.

- For API details, see [StartReplicationTask](https://docs.aws.amazon.com/cli/latest/reference/dms/start-replication-task-assessment.html) in *AWS CLI Command Reference*.

---

### start-replication-task-assessment

The following code example shows how to use `start-replication-task-assessment`.

**AWS CLI**

#### To start a task assessment

The following `start-replication-task-assessment` example starts a replication task assessment.

```bash
aws dms start-replication-task-assessment \
  --replication-task-arn arn:aws:dms:us-east-1:123456789012:task:K55IUCGBASJS5VHZJIINA45FII
```

**Output:**

```json
{
  "ReplicationTask": {
    "ReplicationTaskIdentifier": "moveit2",
    "TargetEndpointArn": "arn:aws:dms:us-east-1:123456789012:endpoint:EOM4SFCKZEYHZBGAGZT3QEC5U",
    "ReplicationInstanceArn": "arn:aws:dms:us-east-1:123456789012:rep:T3OM70UB5NM2LCVZF7JPGJRNUE",
    "MigrationType": "full-load",
    "TableMappings": "output omitted...",
    "ReplicationTaskSettings": "output omitted...",
  }
}
```
"Status": "testing",
"StopReason": "Stop Reason FULL_LOAD_ONLY_FINISHED",
"ReplicationTaskCreationDate": 1590524772.505,
"ReplicationTaskStartDate": 1590789988.677,
"ReplicationTaskArn": "arn:aws:dms:us-east-1:123456789012:task:K55IUCGBASJS5VHZJIINA45FII"
}
}

For more information, see Creating a Task Assessment Report in the AWS Database Migration Service User Guide.

- For API details, see StartReplicationTaskAssessment in AWS CLI Command Reference.

**stop-replication-task**

The following code example shows how to use stop-replication-task.

**AWS CLI**

**To stop a task**

The following stop-replication-task example stops a task.

```bash
aws dms stop-replication-task \
  --replication-task-arn arn:aws:dms:us-east-1:123456789012:task:K55IUCGBASJS5VHZJIINA45FII
```

Output:

```
{
   "ReplicationTask": {
      "ReplicationTaskIdentifier": "moveit2",
      "TargetEndpointArn": "arn:aws:dms:us-east-1:123456789012:endpoint:EOM4SFKZVZBYF2AGZT3QC5U",
      "ReplicationInstanceArn": "arn:aws:dms:us-east-1:123456789012:rep:T3M70UBSNM2LCVZTFJPGJRNUE",
      "MigrationType": "full-load",
      "TableMappings": ...output omitted...,
      "ReplicationTaskSettings": ...output omitted...,
      "Status": "stopping",
```
For more information, see Working with AWS DMS Tasks in the AWS Database Migration Service User Guide.

- For API details, see StopReplicationTask in AWS CLI Command Reference.

**test-connection**

The following code example shows how to use test-connection.

**AWS CLI**

**To test a connection to an endpoint**

The following test-connection example tests whether an endpoint can be accessed from a replication instance.

```bash
```

**Output:**

```json
{
  "Connection": {
    "ReplicationInstanceArn": "arn:aws:dms:us-east-1:123456789012:rep:T3OM70UB5NM2LCVZF7JPGJRNUE",
    "Status": "testing",
    "EndpointIdentifier": "src-database-1",
    "ReplicationInstanceIdentifier": "my-repl-instance"
  }
}
```
For more information, see Creating source and target endpoints in the AWS Database Migration Service User Guide.

- For API details, see TestConnection in AWS CLI Command Reference.

Amazon DocumentDB examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon DocumentDB.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics
- Actions

Actions

add-tags-to-resource

The following code example shows how to use add-tags-to-resource.

AWS CLI

To add one or more tags to a specified resource

The following add-tags-to-resource example adds three tags to sample-cluster. One tag (CropB) has a key name but no value.

```bash
aws docdb add-tags-to-resource \
   --tags Key="CropA",Value="Apple" Key="CropB" Key="CropC",Value="Corn"
```

This command produces no output.
For more information, see Tagging Amazon DocumentDB Resources in the Amazon DocumentDB Developer Guide.

- For API details, see AddTagsToResource in AWS CLI Command Reference.

**apply-pending-maintenance-action**

The following code example shows how to use apply-pending-maintenance-action.

**AWS CLI**

To have pending maintenance actions take place during the next maintenance window

The following apply-pending-maintenance-action example causes all system-update actions to be performed during the next scheduled maintenance window.

```bash
aws docdb apply-pending-maintenance-action \
--apply-action system-update \
--opt-in-type next-maintenance
```

This command produces no output.

For more information, see Applying Amazon DocumentDB Updates in the Amazon DocumentDB Developer Guide.

- For API details, see ApplyPendingMaintenanceAction in AWS CLI Command Reference.

**copy-db-cluster-parameter-group**

The following code example shows how to use copy-db-cluster-parameter-group.

**AWS CLI**

To duplicate an existing DB cluster parameter group

The following copy-db-cluster-parameter-group example makes a copy of the parameter group custom-docdb3-6 named custom-docdb3-6-copy. When making the copy it adds tags to the new parameter group.

```bash
aws docdb copy-db-cluster-parameter-group \
```
--source-db-cluster-parameter-group-identifier custom-docdb3-6 \
--target-db-cluster-parameter-group-identifier custom-docdb3-6-copy \
--target-db-cluster-parameter-group-description "Copy of custom-docdb3-6" \
--tags Key="CopyNumber",Value="1" Key="Modifiable",Value="Yes"

Output:

```
{
    "DBClusterParameterGroup": {
        "DBParameterGroupFamily": "docdb3.6",
        "DBClusterParameterGroupArn": "arn:aws:rds:us-east-1:12345678901:cluster-pg:custom-docdb3-6-copy",
        "DBClusterParameterGroupName": "custom-docdb3-6-copy",
        "Description": "Copy of custom-docdb3-6"
    }
}
```

For more information, see [Copying an Amazon DocumentDB Cluster Parameter Group](https://docs.aws.amazon.com/documentdb/latest/developerguide/using-parameter-groups.html) in the *Amazon DocumentDB Developer Guide*.

- For API details, see [CopyDbClusterParameterGroup](https://docs.aws.amazon.com/cli/latest/reference/rds/copy-db-cluster-parameter-group.html) in *AWS CLI Command Reference*.

### copy-db-cluster-snapshot

The following code example shows how to use `copy-db-cluster-snapshot`.

**AWS CLI**

**To create a copy of a snapshot**

The following `copy-db-cluster-snapshot` example makes a copy of `sample-cluster-snapshot` named `sample-cluster-snapshot-copy`. The copy has all the tags of the original plus a new tag with the key name CopyNumber.

```
aws docdb copy-db-cluster-snapshot \
   --source-db-cluster-snapshot-identifier sample-cluster-snapshot \
   --target-db-cluster-snapshot-identifier sample-cluster-snapshot-copy \
   --copy-tags \
   --tags Key="CopyNumber",Value="1"
```

This command produces no output.
For more information, see Copying a Cluster Snapshot in the Amazon DocumentDB Developer Guide.

- For API details, see CopyDbClusterSnapshot in AWS CLI Command Reference.

**create-db-cluster**

The following code example shows how to use create-db-cluster.

**AWS CLI**

**To create an Amazon DocumentDB cluster**

The following create-db-cluster example creates an Amazon DocumentDB cluster named sample-cluster with the preferred maintenance window on Sundays between 20:30 and 11:00.

```bash
aws docdb create-db-cluster \
  --db-cluster-identifier sample-cluster \
  --engine docdb \
  --master-username master-user \
  --master-user-password password \
  --preferred-maintenance-window Sun:20:30-Sun:21:00
```

**Output:**

```json
{
  "DBCluster": {
    "DBClusterParameterGroup": "default.docdb3.6",
    "AssociatedRoles": [],
    "DBSubnetGroup": "default",
    "ClusterCreateTime": "2019-03-18T18:06:34.616Z",
    "Status": "creating",
    "Port": 27017,
    "PreferredMaintenanceWindow": "sun:20:30-sun:21:00",
    "HostedZoneId": "ZNKXH85TT8WVW",
    "DBClusterMembers": [],
    "Engine": "docdb",
    "DBClusterIdentifier": "sample-cluster",
    "PreferredBackupWindow": "10:12-10:42",
    "AvailabilityZones": [
      "us-west-2d",
      "us-west-2f",
    ]
  }
}
```
For more information, see Creating an Amazon DocumentDB Cluster in the Amazon DocumentDB Developer Guide.

- For API details, see CreateDbCluster in AWS CLI Command Reference.

create-db-cluster-parameter-group

The following code example shows how to use create-db-cluster-parameter-group.

AWS CLI

To create an Amazon DocumentDB cluster parameter group

The following create-db-cluster-parameter-group example creates the DB cluster parameter group sample-parameter-group using the docdb3.6 family.

```
aws docdb create-db-cluster-parameter-group \
    --db-cluster-parameter-group-name sample-parameter-group \
    --db-parameter-group-family docdb3.6 \
    --description "Sample parameter group based on docdb3.6"
```
Output:

```json
{
  "DBClusterParameterGroup": {
    "Description": "Sample parameter group based on docdb3.6",
    "DBParameterGroupFamily": "docdb3.6",
    "DBClusterParameterGroupName": "sample-parameter-group"
  }
}
```

For more information, see [Creating an Amazon DocumentDB Cluster Parameter Group](https://docs.aws.amazon.com/documentdb/latest/developerguide/cluster-parameter-groups.html) in the Amazon DocumentDB Developer Guide.

- For API details, see [CreateDbClusterParameterGroup](https://docs.aws.amazon.com/cli/latest/reference/docdb/create-db-cluster-parameter-group.html) in AWS CLI Command Reference.

### `create-db-cluster-snapshot`

The following code example shows how to use `create-db-cluster-snapshot`.

**AWS CLI**

**To create a manual Amazon DocumentDB cluster snapshot**

The following `create-db-cluster-snapshot` example creates an Amazon DB cluster snapshot named `sample-cluster-snapshot`.

```
aws docdb create-db-cluster-snapshot \
  --db-cluster-identifier sample-cluster \
  --db-cluster-snapshot-identifier sample-cluster-snapshot
```

Output:

```json
{
  "DBClusterSnapshot": {
    "MasterUsername": "master-user",
    "AvailabilityZones": [
      "us-west-2a",
      "us-west-2b",
      "us-west-2c"
    ]
  }
}
```
For more information, see Creating a Manual Cluster Snapshot in the Amazon DocumentDB Developer Guide.

- For API details, see CreateDbClusterSnapshot in AWS CLI Command Reference.

create-db-instance

The following code example shows how to use create-db-instance.

AWS CLI

To create an Amazon DocumentDB cluster instance

The following create-db-instance example code creates the instance sample-cluster-instance-2 in the Amazon DocumentDB cluster sample-cluster.

```
aws docdb create-db-instance \
    --db-cluster-identifier sample-cluster \
    --db-instance-class db.r4.xlarge \
    --db-instance-identifier sample-cluster-instance-2 \
    --engine docdb
```
Output:

```json
{
    "DBInstance": {
        "DBInstanceStatus": "creating",
        "PendingModifiedValues": {
            "PendingCloudwatchLogsExports": {
                "LogTypesToEnable": [
                    "audit"
                ]
            }
        },
        "PubliclyAccessible": false,
        "PreferredBackupWindow": "00:00-00:30",
        "PromotionTier": 1,
        "EngineVersion": "3.6.0",
        "BackupRetentionPeriod": 3,
        "DBInstanceIdentifier": "sample-cluster-instance-2",
        "PreferredMaintenanceWindow": "tue:10:28-tue:10:58",
        "StorageEncrypted": false,
        "Engine": "docdb",
        "DBClusterIdentifier": "sample-cluster",
        "DBSubnetGroup": {
            "Subnets": [
                {
                    "SubnetAvailabilityZone": {
                        "Name": "us-west-2a"
                    },
                    "SubnetStatus": "Active",
                    "SubnetIdentifier": "subnet-4e26d263"
                },
                {
                    "SubnetAvailabilityZone": {
                        "Name": "us-west-2c"
                    },
                    "SubnetStatus": "Active",
                    "SubnetIdentifier": "subnet-afc329f4"
                },
                {
                    "SubnetAvailabilityZone": {
                        "Name": "us-west-2d"
                    },
                    "SubnetStatus": "Active",
                    "SubnetIdentifier": "subnet-53ab3636"
                }
            ]
        }
    }
}
```


```json
{
    "SubnetAvailabilityZone": {
        "Name": "us-west-2b"
    },
    "SubnetStatus": "Active",
    "SubnetIdentifier": "subnet-991cb8d0"
},
"DBSubnetGroupDescription": "default",
"SubnetGroupStatus": "Complete",
"VpcId": "vpc-91280df6",
"DBSubnetGroupName": "default"
},
"DBInstanceClass": "db.r4.xlarge",
"VpcSecurityGroups": [
    {
        "Status": "active",
        "VpcSecurityGroupId": "sg-77186e0d"
    }
],
"DbiResourceId": "db-XEKJLEMGRV5ZKCARUVA4H03ITE"
}
```

For more information, see [Adding an Amazon DocumentDB Instance to a Cluster](https://docs.aws.amazon.com/documentdb/latest/developerguide/adding-db-instance-to-cluster.html) in the *Amazon DocumentDB Developer Guide*.

- For API details, see [CreateDbInstance](https://docs.aws.amazon.com/cli/latest/reference/rds/create-db-instance.html) in *AWS CLI Command Reference*.

### create-db-subnet-group

The following code example shows how to use `create-db-subnet-group`.

#### AWS CLI

**To create an Amazon DocumentDB subnet group**

The following `create-db-subnet-group` example creates an Amazon DocumentDB subnet group named `sample-subnet-group`. 
aws docdb create-db-subnet-group \
  --db-subnet-group-description "a sample subnet group" \
  --db-subnet-group-name sample-subnet-group \
  --subnet-ids "subnet-29ab1025" "subnet-991cb8d0" "subnet-53ab3636"

Output:

```json
{
  "DBSubnetGroup": {
    "SubnetGroupStatus": "Complete",
    "DBSubnetGroupName": "sample-subnet-group",
    "DBSubnetGroupDescription": "a sample subnet group",
    "VpcId": "vpc-91280df6",
    "Subnets": [
      {
        "SubnetStatus": "Active",
        "SubnetIdentifier": "subnet-53ab3636",
        "SubnetAvailabilityZone": {
          "Name": "us-west-2d"
        }
      },
      {
        "SubnetStatus": "Active",
        "SubnetIdentifier": "subnet-991cb8d0",
        "SubnetAvailabilityZone": {
          "Name": "us-west-2b"
        }
      },
      {
        "SubnetStatus": "Active",
        "SubnetIdentifier": "subnet-29ab1025",
        "SubnetAvailabilityZone": {
          "Name": "us-west-2c"
        }
      }
    ]
  }
}
```
For more information, see Creating an Amazon DocumentDB Subnet Group in the Amazon DocumentDB Developer Guide.

- For API details, see CreateDbSubnetGroup in AWS CLI Command Reference.

**delete-db-cluster**

The following code example shows how to use delete-db-cluster.

**AWS CLI**

**To delete an Amazon DocumentDB cluster**

The following delete-db-cluster example deletes the Amazon DocumentDB cluster sample-cluster. No backup of the cluster is made prior to deleting it. NOTE: You must delete all instances associated with the cluster before you can delete it.

```bash
aws docdb delete-db-cluster \
   --db-cluster-identifier sample-cluster \
   --skip-final-snapshot
```

Output:

```
{
  "DBCluster": {
    "DBClusterIdentifier": "sample-cluster",
    "DBSubnetGroup": "default",
    "EngineVersion": "3.6.0",
    "Engine": "docdb",
    "PreferredMaintenanceWindow": "sun:20:30-sun:21:00",
    "StorageEncrypted": false,
    "Port": 27017,
    "VpcSecurityGroups": [
      {
        "Status": "active",
        "VpcSecurityGroupId": "sg-77186e0d"
      }
    ],
    "MultiAZ": false,
    "MasterUsername": "master-user",
  }
}
```
For more information, see Deleting an Amazon DocumentDB Cluster in the Amazon DocumentDB Developer Guide.

- For API details, see DeleteDbCluster in AWS CLI Command Reference.

delete-db-cluster-parameter-group

The following code example shows how to use delete-db-cluster-parameter-group.

AWS CLI

To delete an Amazon DocumentDB cluster parameter group

The following delete-db-cluster-parameter-group example deletes the Amazon DocumentDB parameter group sample-parameter-group.

aws docdb delete-db-cluster-parameter-group \
--db-cluster-parameter-group-name sample-parameter-group

This command produces no output.
For more information, see [Deleting an Amazon DocumentDB Cluster Parameter Group](https://docs.aws.amazon.com/documentdb/latest/developerguide/parametergroup-deleting.html) in the *Amazon DocumentDB Developer Guide*.

- For API details, see [DeleteDbClusterParameterGroup](https://docs.aws.amazon.com/cli/latest/reference/docdb/delete-db-cluster-parameter-group.html) in *AWS CLI Command Reference*.

### delete-db-cluster-snapshot

The following code example shows how to use `delete-db-cluster-snapshot`.

**AWS CLI**

**To delete an Amazon DocumentDB cluster snapshot**

The following `delete-db-cluster-snapshot` example deletes the Amazon DocumentDB cluster snapshot `sample-cluster-snapshot`.

```
aws docdb delete-db-cluster-snapshot \\
    --db-cluster-snapshot-identifier sample-cluster-snapshot
```

**Output:**

```
{
    "DBClusterSnapshot": {
        "DBClusterIdentifier": "sample-cluster",
        "AvailabilityZones": [
            "us-west-2a",
            "us-west-2b",
            "us-west-2c",
            "us-west-2d"
        ],
        "DBClusterSnapshotIdentifier": "sample-cluster-snapshot",
        "VpcId": "vpc-91280df6",
        "EngineVersion": "3.6.0",
        "Engine": "docdb",
        "Status": "available",
        "MasterUsername": "master-user",
        "PercentProgress": 100,
        "StorageEncrypted": false,
        "SnapshotType": "manual",
    }
}
```
For more information, see Deleting a Cluster Snapshot in the Amazon DocumentDB Developer Guide.

- For API details, see DeleteDbClusterSnapshot in AWS CLI Command Reference.

delete-db-instance

The following code example shows how to use delete-db-instance.

AWS CLI

To delete an Amazon DocumentDB instance

The following delete-db-instance example deletes the Amazon DocumentDB instance sample-cluster-instance-2.

```bash
aws docdb delete-db-instance \
    --db-instance-identifier sample-cluster-instance-2
```

Output:

```json
{
    "DBInstance": {
        "DBSubnetGroup": {
            "Subnets": [
                {
                    "SubnetAvailabilityZone": {
                        "Name": "us-west-2a"
                    },
                    "SubnetStatus": "Active",
                    "SubnetIdentifier": "subnet-4e26d263"
                },
                {
                    "SubnetAvailabilityZone": {
                        "Name": "us-west-2c"
                    },
                    "SubnetStatus": "Active",
                    "SubnetIdentifier": "subnet-afc329f4"
                }
            ]
        }
    }
}
```
{
    "SubnetAvailabilityZone": {
        "Name": "us-west-2d"
    },
    "SubnetStatus": "Active",
    "SubnetIdentifier": "subnet-53ab3636"
},
{
    "SubnetAvailabilityZone": {
        "Name": "us-west-2b"
    },
    "SubnetStatus": "Active",
    "SubnetIdentifier": "subnet-991cb8d0"
}
],
"DBSubnetGroupName": "default",
"DBSubnetGroupDescription": "default",
"VpcId": "vpc-91280df6",
"SubnetGroupStatus": "Complete"
},
"PreferredBackupWindow": "00:00-00:30",
"InstanceCreateTime": "2019-03-18T18:37:33.709Z",
"DBInstanceClass": "db.r4.xlarge",
"DbiResourceId": "db-XEKJLEMGRV5ZKCARUVA4HO3ITE",
"BackupRetentionPeriod": 3,
"Engine": "docdb",
"VpcSecurityGroups": [
    {
        "Status": "active",
        "VpcSecurityGroupId": "sg-77186e0d"
    }
],
"AutoMinorVersionUpgrade": true,
"PromotionTier": 1,
"EngineVersion": "3.6.0",
"Endpoint": {
    "Address": "sample-cluster-instance-2.corcjozrlsfc.us-west-2.docdb.amazonaws.com",
    "HostedZoneId": "ZNKXH85TT8WVW",
    "Port": 27017
},
"DBInstanceIdentifier": "sample-cluster-instance-2",
"PreferredMaintenanceWindow": "tue:10:28-tue:10:58",
"EnabledCloudwatchLogsExports": [
For more information, see Deleting an Amazon DocumentDB Instance in the Amazon DocumentDB Developer Guide.

- For API details, see DeleteDbInstance in AWS CLI Command Reference.

**delete-db-subnet-group**

The following code example shows how to use delete-db-subnet-group.

**AWS CLI**

**To delete an Amazon DocumentDB subnet group**

The following delete-db-subnet-group example deletes the Amazon DocumentDB subnet group sample-subnet-group.

```bash
aws docdb delete-db-subnet-group \
  --db-subnet-group-name sample-subnet-group
```

This command produces no output.

For more information, see Deleting an Amazon DocumentDB Subnet Group in the Amazon DocumentDB Developer Guide.

- For API details, see DeleteDbSubnetGroup in AWS CLI Command Reference.

**describe-db-cluster-parameter-groups**

The following code example shows how to use describe-db-cluster-parameter-groups.
AWS CLI

**To see the details of one or more Amazon DocumentDB cluster parameter groups**

The following `describe-db-cluster-parameter-groups` example displays details for the Amazon DocumentDB cluster parameter group `custom3-6-param-grp`.

```bash
aws docdb describe-db-cluster-parameter-groups \
  --db-cluster-parameter-group-name custom3-6-param-grp
```

Output:

```json
{
  "DBClusterParameterGroups": [
    {
      "DBParameterGroupFamily": "docdb3.6",
      "Description": "Custom docdb3.6 parameter group",
      "DBClusterParameterGroupName": "custom3-6-param-grp"
    }
  ]
}
```


**describe-db-cluster-parameters**

The following code example shows how to use `describe-db-cluster-parameters`.

AWS CLI

**To view the detailed parameter list for an Amazon DocumentDB cluster parameter group.**

The following `describe-db-cluster-parameters` example lists the parameters for the Amazon DocumentDB parameter group `custom3-6-param-grp`.

```bash
aws docdb describe-db-cluster-parameters \
  --db-cluster-parameter-group-name custom3-6-param-grp
```
Output:

```
{
    "Parameters": [
    {
        "DataType": "string",
        "ParameterName": "audit_logs",
        "IsModifiable": true,
        "ApplyMethod": "pending-reboot",
        "Source": "system",
        "ApplyType": "dynamic",
        "AllowedValues": "enabled,disabled",
        "Description": "Enables auditing on cluster.",
        "ParameterValue": "disabled"
    },
    {
        "DataType": "string",
        "ParameterName": "tls",
        "IsModifiable": true,
        "ApplyMethod": "pending-reboot",
        "Source": "system",
        "ApplyType": "static",
        "AllowedValues": "disabled,enabled",
        "Description": "Config to enable/disable TLS",
        "ParameterValue": "enabled"
    },
    {
        "DataType": "string",
        "ParameterName": "ttl_monitor",
        "IsModifiable": true,
        "ApplyMethod": "pending-reboot",
        "Source": "user",
        "ApplyType": "dynamic",
        "AllowedValues": "disabled,enabled",
        "Description": "Enables TTL Monitoring",
        "ParameterValue": "enabled"
    }
    ]
}
```

For more information, see [Viewing Amazon DocumentDB Cluster Parameters](https://docs.aws.amazon.com/documentdb/latest/developerguide/docdb-parameters.html) in the *Amazon DocumentDB Developer Guide*.

- For API details, see [DescribeDbClusterParameters](https://docs.aws.amazon.com/cli/latest/reference/dynamodbdb-instance/describe-db-cluster-parameters.html) in *AWS CLI Command Reference*.
describe-db-cluster-snapshot-attributes

The following code example shows how to use describe-db-cluster-snapshot-attributes.

AWS CLI

To list an Amazon DocumentDB snapshot attribute names and values

The following describe-db-cluster-snapshot-attributes example lists the attribute names and values for the Amazon DocumentDB snapshot sample-cluster-snapshot.

```
aws docdb describe-db-cluster-snapshot-attributes \
    --db-cluster-snapshot-identifier sample-cluster-snapshot
```

Output:

```
{
    "DBClusterSnapshotAttributesResult": {
        "DBClusterSnapshotAttributes": [
            {
                "AttributeName": "restore",
                "AttributeValues": []
            }
        ],
        "DBClusterSnapshotIdentifier": "sample-cluster-snapshot"
    }
}
```

For more information, see DescribeDBClusterSnapshotAttributes in the Amazon DocumentDB Developer Guide.

• For API details, see DescribeDbClusterSnapshotAttributes in AWS CLI Command Reference.

describe-db-cluster-snapshots

The following code example shows how to use describe-db-cluster-snapshots.

AWS CLI

To describe Amazon DocumentDB snapshots

The following describe-db-cluster-snapshots example displays details for the Amazon DocumentDB snapshot sample-cluster-snapshot.
aws docdb describe-db-cluster-snapshots \
   --db-cluster-snapshot-identifier sample-cluster-snapshot

Output:

```json
{
    "DBClusterSnapshots": [
        {
            "AvailabilityZones": [
                "us-west-2a",
                "us-west-2b",
                "us-west-2c",
                "us-west-2d"
            ],
            "Status": "available",
            "SnapshotType": "manual",
            "DBClusterSnapshotIdentifier": "sample-cluster-snapshot",
            "DBClusterIdentifier": "sample-cluster",
            "MasterUsername": "master-user",
            "StorageEncrypted": false,
            "VpcId": "vpc-91280df6",
            "EngineVersion": "3.6.0",
            "PercentProgress": 100,
            "Port": 0,
            "Engine": "docdb",
            "ClusterCreateTime": "2019-03-15T20:29:58.836Z"
        }
    ]
}
```

For more information, see [DescribeDBClusterSnapshots](https://docs.aws.amazon.com/documentdb/latest/developerguide/db-cluster-snapshots.html) in the *Amazon DocumentDB Developer Guide*.

- For API details, see [DescribeDbClusterSnapshots](https://docs.aws.amazon.com/cli/latest/reference/docdb/describe-db-cluster-snapshots.html) in *AWS CLI Command Reference*.

**describe-db-clusters**

The following code example shows how to use describe-db-clusters.
AWS CLI

To get detailed information about one or more Amazon DocumentDB clusters.

The following describe-db-clusters example displays details for the Amazon DocumentDB cluster sample-cluster. By omitting the --db-cluster-identifier parameter you can get information of up to 100 clusters.

```bash
aws docdb describe-db-clusters
   --db-cluster-identifier sample-cluster
```

Output:

```json
{
   "DBClusters": [
       {
           "DBClusterParameterGroup": "default.docdb3.6",
           "Endpoint": "sample-cluster.cluster-corcjozrlsfc.us-west-2.docdb.amazonaws.com",
           "PreferredBackupWindow": "00:00-00:30",
           "DBClusterIdentifier": "sample-cluster",
           "LatestRestorableTime": "2019-03-18T20:28:03.239Z",
           "MasterUsername": "master-user",
           "DBClusterMembers": [
               {
                   "PromotionTier": 1,
                   "DBClusterParameterGroupStatus": "in-sync",
                   "IsClusterWriter": false,
                   "DBInstanceIdentifier": "sample-cluster"
               },
               {
                   "PromotionTier": 1,
                   "DBClusterParameterGroupStatus": "in-sync",
                   "IsClusterWriter": true,
                   "DBInstanceIdentifier": "sample-cluster2"
               }
           ],
           "PreferredMaintenanceWindow": "sat:04:30-sat:05:00",
           "VpcSecurityGroups": [
               {
                   "VpcSecurityGroupId": "sg-77186e0d",
                   "Status": "active"
               }
           ]
       }
   ]
}
```
For more information, see [Describing Amazon DocumentDB Clusters](https://docs.aws.amazon.com/documentdb/latest/developerguide/) in the *Amazon DocumentDB Developer Guide*.

- For API details, see [DescribeDbClusters](https://docs.aws.amazon.com/cli/latest/reference/rds/describe-db-clusters.html) in *AWS CLI Command Reference*.

describe-db-engine-versions

The following code example shows how to use `describe-db-engine-versions`.

**AWS CLI**

**To list available Amazon DocumentDB engine versions**
The following `describe-db-engine-versions` example lists all available Amazon DocumentDB engine versions.

```bash
aws docdb describe-db-engine-versions \
  --engine docdb
```

Output:

```json
{
  "DBEngineVersions": [
    {
      "DBEngineVersionDescription": "DocDB version 1.0.200837",
      "DBParameterGroupFamily": "docdb3.6",
      "EngineVersion": "3.6.0",
      "ValidUpgradeTarget": [],
      "DBEngineDescription": "Amazon DocumentDB (with MongoDB compatibility)",
      "SupportsLogExportsToCloudwatchLogs": true,
      "Engine": "docdb",
      "ExportableLogTypes": [
        "audit"
      ]
    }
  ]
}
```

For more information, see [DescribeDBEngineVersions](https://docs.aws.amazon.com/documentdb/latest/developerguide/DescribeDBEngineVersions.html) in the *Amazon DocumentDB Developer Guide*.

- For API details, see [DescribeDbEngineVersions](https://docs.aws.amazon.com/cli/latest/reference/docdb/describe-db-engine-versions.html) in *AWS CLI Command Reference*.

**describe-db-instances**

The following code example shows how to use `describe-db-instances`.

**AWS CLI**

To find information about provisioned Amazon DocumentDB instances

The following `describe-db-instances` example displays details for about the Amazon DocumentDB instance `sample-cluster-instance`. By omitting the `--db-instance-identifier` parameter you get information on up to 100 instances.
aws docdb describe-db-instances
   --db-instance-identifier sample-cluster-instance

Output:

{
   "DBInstances": [
   {
      "Endpoint": {
         "HostedZoneId": "ZNKXH85TT8WVVw",
         "Address": "sample-cluster-instance.corcjozrlsfc.us-west-2.docdb.amazonaws.com",
         "Port": 27017
      },
      "PreferredBackupWindow": "00:00-00:30",
      "DBInstanceStatus": "available",
      "DBInstanceClass": "db.r4.large",
      "EnabledCloudwatchLogsExports": ["audit"]
   },
   "DBInstanceIdentifier": "sample-cluster-instance",
   "DBSubnetGroup": {
      "Subnets": [
         {
            "SubnetStatus": "Active",
            "SubnetIdentifier": "subnet-4e26d263",
            "SubnetAvailabilityZone": {
               "Name": "us-west-2a"
            }
         },
         {
            "SubnetStatus": "Active",
            "SubnetIdentifier": "subnet-a6c329f4",
            "SubnetAvailabilityZone": {
               "Name": "us-west-2c"
            }
         },
         {
            "SubnetStatus": "Active",
            "SubnetIdentifier": "subnet-53ab3636",
            "SubnetAvailabilityZone": {
               "Name": "us-west-2d"
            }
         }
      ]
   }
}
For more information, see **Describing Amazon DocumentDB Instances** in the *Amazon DocumentDB Developer Guide*.

- For API details, see **DescribeDbInstances** in *AWS CLI Command Reference*. 
describe-db-subnet-groups

The following code example shows how to use describe-db-subnet-groups.

AWS CLI

To retrieve a list of Amazon DocumentDB subnet descriptions

The following describe-db-subnet-groups example describes details for the Amazon DocumentDB subnet named default.

```
aws docdb describe-db-subnet-groups \
   --db-subnet-group-name default
```

Output:

```json
{
   "DBSubnetGroups": [
      {
         "VpcId": "vpc-91280df6",
         "Subnets": [
            {
               "SubnetIdentifier": "subnet-4e26d263",
               "SubnetStatus": "Active",
               "SubnetAvailabilityZone": {
                  "Name": "us-west-2a"
               }
            },
            {
               "SubnetIdentifier": "subnet-afc329f4",
               "SubnetStatus": "Active",
               "SubnetAvailabilityZone": {
                  "Name": "us-west-2c"
               }
            },
            {
               "SubnetIdentifier": "subnet-53ab3636",
               "SubnetStatus": "Active",
               "SubnetAvailabilityZone": {
                  "Name": "us-west-2d"
               }
            }
         ]
      }
   ]
}
```
{  
  "SubnetIdentifier": "subnet-991cb8d0",
  "SubnetStatus": "Active",
  "SubnetAvailabilityZone": {  
    "Name": "us-west-2b"
  }
},

"DBSubnetGroupName": "default",
"SubnetGroupStatus": "Complete",
"DBSubnetGroupDescription": "default"
]}

For more information, see [Describing Subnet Groups](#) in the [Amazon DocumentDB Developer Guide](#).

- For API details, see [DescribeDbSubnetGroups](#) in [AWS CLI Command Reference](#).

describe-engine-default-cluster-parameters

The following code example shows how to use describe-engine-default-cluster-parameters.

**AWS CLI**

To describe the default engine and system parameter information for Amazon DocumentDB

The following describe-engine-default-cluster-parameters example displays details for the default engine and system parameter information for the Amazon DocumentDB parameter group docdb3.6.

```
aws docdb describe-engine-default-cluster-parameters  
   --db-parameter-group-family docdb3.6
```

Output:

```json
{
   "EngineDefaults": {
      "DBParameterGroupFamily": "docdb3.6",
```
"Parameters": [
  {
    "ApplyType": "dynamic",
    "ParameterValue": "disabled",
    "Description": "Enables auditing on cluster.",
    "Source": "system",
    "DataType": "string",
    "MinimumEngineVersion": "3.6.0",
    "AllowedValues": "enabled,disabled",
    "ParameterName": "audit_logs",
    "IsModifiable": true
  },
  {
    "ApplyType": "static",
    "ParameterValue": "enabled",
    "Description": "Config to enable/disable TLS",
    "Source": "system",
    "DataType": "string",
    "MinimumEngineVersion": "3.6.0",
    "AllowedValues": "disabled,enabled",
    "ParameterName": "tls",
    "IsModifiable": true
  },
  {
    "ApplyType": "dynamic",
    "ParameterValue": "enabled",
    "Description": "Enables TTL Monitoring",
    "Source": "system",
    "DataType": "string",
    "MinimumEngineVersion": "3.6.0",
    "AllowedValues": "disabled,enabled",
    "ParameterName": "ttl_monitor",
    "IsModifiable": true
  }
]

For more information, see DescribeEngineDefaultClusterParameters in the Amazon DocumentDB Developer Guide.

- For API details, see DescribeEngineDefaultClusterParameters in AWS CLI Command Reference.
describe-event-categories

The following code example shows how to use describe-event-categories.

AWS CLI

To describe all Amazon DocumentDB event categories

The following describe-event-categories example lists all categories for the Amazon DocumentDB event source type db-instance.

```
aws docdb describe-event-categories \
  --source-type db-cluster
```

Output:

```
{
  "EventCategoriesMapList": [
    {
      "SourceType": "db-cluster",
      "EventCategories": [
        "failover",
        "maintenance",
        "notification",
        "failure"
      ]
    }
  ]
}
```

For more information, see Viewing Event Categories in the Amazon DocumentDB Developer Guide.

- For API details, see DescribeEventCategories in AWS CLI Command Reference.

describe-events

The following code example shows how to use describe-events.

AWS CLI

To list Amazon DocumentDB events
The following `describe-events` example lists all the Amazon DocumentDB events for the last 24 hours (1440 minutes).

```
aws docdb describe-events
   --duration 1440
```

This command produces no output. Output:

```
{
   "Events": [
    {
      "EventCategories": [
        "failover"
      ],
      "Message": "Started cross AZ failover to DB instance: sample-cluster",
      "Date": "2019-03-18T21:36:29.807Z",
      "SourceIdentifier": "sample-cluster",
      "SourceType": "db-cluster"
    },
    {
      "EventCategories": [
        "availability"
      ],
      "Message": "DB instance restarted",
      "Date": "2019-03-18T21:36:40.793Z",
      "SourceIdentifier": "sample-cluster",
      "SourceType": "db-instance"
    },
    {
      "EventCategories": [],
      "Message": "A new writer was promoted. Restarting database as a reader."
    },
    {
      "EventCategories": [
        "availability"
      ],
      "Message": "DB instance restarted",
      "Date": "2019-03-18T21:36:43.873Z",
      "SourceIdentifier": "sample-cluster2",
      "SourceType": "db-instance"
    }
  ]
}
```
"Message": "DB instance restarted",
"Date": "2019-03-18T21:36:51.257Z",
"SourceIdentifier": "sample-cluster2",
"SourceType": "db-instance"
],
{
  "EventCategories": [
    "failover"
  ],
  "Message": "Completed failover to DB instance: sample-cluster",
  "Date": "2019-03-18T21:36:53.462Z",
  "SourceIdentifier": "sample-cluster",
  "SourceType": "db-cluster"
},
{
  "Date": "2019-03-19T16:51:48.847Z",
  "EventCategories": [
    "configuration change"
  ],
  "Message": "Updated parameter audit_logs to enabled with apply method pending-reboot",
  "SourceIdentifier": "custom3-6-param-grp",
  "SourceType": "db-parameter-group"
},
{
  "EventCategories": [
    "configuration change"
  ],
  "Message": "Applying modification to database instance class",
  "Date": "2019-03-19T17:55:20.095Z",
  "SourceIdentifier": "sample-cluster2",
  "SourceType": "db-instance"
},
{
  "EventCategories": [
    "availability"
  ],
  "Message": "DB instance shutdown",
  "Date": "2019-03-19T17:56:31.127Z",
}
"SourceIdentifier": "sample-cluster2",
"SourceType": "db-instance"
},
{
"EventCategories": [
   "configuration change"
],
"Message": "Finished applying modification to DB instance class",
"Date": "2019-03-19T18:00:45.822Z",
"SourceIdentifier": "sample-cluster2",
"SourceType": "db-instance"
},
{
"EventCategories": [
   "availability"
],
"Message": "DB instance restarted",
"Date": "2019-03-19T18:00:53.397Z",
"SourceIdentifier": "sample-cluster2",
"SourceType": "db-instance"
},
{
"EventCategories": [
   "availability"
],
"Message": "DB instance shutdown",
"Date": "2019-03-19T18:23:36.045Z",
"SourceIdentifier": "sample-cluster2",
"SourceType": "db-instance"
},
{
"EventCategories": [
   "availability"
],
"Message": "DB instance restarted",
"Date": "2019-03-19T18:23:46.209Z",
"SourceIdentifier": "sample-cluster2",
"SourceType": "db-instance"
}
For more information, see Viewing Amazon DocumentDB Events in the Amazon DocumentDB Developer Guide.

- For API details, see DescribeEvents in AWS CLI Command Reference.

describe-orderable-db-instance-options

The following code example shows how to use describe-orderable-db-instance-options.

AWS CLI

To find the Amazon DocumentDB instance options you can order

The following describe-orderable-db-instance-options example lists all instance options for Amazon DocumentDB for a region.

```
aws docdb describe-orderable-db-instance-options \
    --engine docdb \
    --region us-east-1
```
Output:

```json
{
    "OrderableDBInstanceOptions": [
        {
            "Vpc": true,
            "AvailabilityZones": [
                {
                    "Name": "us-east-1a"
                },
                {
                    "Name": "us-east-1b"
                },
                {
                    "Name": "us-east-1c"
                },
                {
                    "Name": "us-east-1d"
                }
            ],
            "EngineVersion": "3.6.0",
            "DBInstanceClass": "db.r4.16xlarge",
            "LicenseModel": "na",
            "Engine": "docdb"
        },
        {
            "Vpc": true,
            "AvailabilityZones": [
                {
                    "Name": "us-east-1a"
                },
                {
                    "Name": "us-east-1b"
                },
                {
                    "Name": "us-east-1c"
                },
                {
                    "Name": "us-east-1d"
                }
            ],
            "EngineVersion": "3.6.0",
            "DBInstanceClass": "db.r4.2xlarge",
            "LicenseModel": "na",
            "Engine": "docdb"
        }
    ]
}
```
"LicenseModel": "na",
"Engine": "docdb"
},
{
"Vpc": true,
"AvailabilityZones": [
{
 "Name": "us-east-1a"
 },
{
 "Name": "us-east-1b"
 },
{
 "Name": "us-east-1c"
 },
{
 "Name": "us-east-1d"
 }
],
"EngineVersion": "3.6.0",
"DBInstanceClass": "db.r4.4xlarge",
"LicenseModel": "na",
"Engine": "docdb"
},
{
"Vpc": true,
"AvailabilityZones": [
{
 "Name": "us-east-1a"
 },
{
 "Name": "us-east-1b"
 },
{
 "Name": "us-east-1c"
 },
{
 "Name": "us-east-1d"
 }
],
"EngineVersion": "3.6.0",
"DBInstanceClass": "db.r4.8xlarge",
"LicenseModel": "na",
"Engine": "docdb"
{
  "Vpc": true,
  "AvailabilityZones": [
    {
      "Name": "us-east-1a"
    },
    {
      "Name": "us-east-1b"
    },
    {
      "Name": "us-east-1c"
    },
    {
      "Name": "us-east-1d"
    }
  ],
  "EngineVersion": "3.6.0",
  "DBInstanceClass": "db.r4.large",
  "LicenseModel": "na",
  "Engine": "docdb"
},
{
  "Vpc": true,
  "AvailabilityZones": [
    {
      "Name": "us-east-1a"
    },
    {
      "Name": "us-east-1b"
    },
    {
      "Name": "us-east-1c"
    },
    {
      "Name": "us-east-1d"
    }
  ],
  "EngineVersion": "3.6.0",
  "DBInstanceClass": "db.r4.xlarge",
  "LicenseModel": "na",
  "Engine": "docdb"
}
For more information, see Adding an Amazon DocumentDB Instance to a Cluster in the Amazon DocumentDB Developer Guide.

- For API details, see DescribeOrderableDbInstanceOptions in AWS CLI Command Reference.

describe-pending-maintenance-actions

The following code example shows how to use describe-pending-maintenance-actions.

AWS CLI

To list your pending Amazon DocumentDB maintenance actions

The following describe-pending-maintenance-actions example lists all your pending Amazon DocumentDB maintenance actions.

```bash
aws docdb describe-pending-maintenance-actions
```

Output:

```json
{
   "PendingMaintenanceActions": []
}
```

For more information, see Maintaining Amazon DocumentDB in the Amazon DocumentDB Developer Guide.

- For API details, see DescribePendingMaintenanceActions in AWS CLI Command Reference.

failover-db-cluster

The following code example shows how to use failover-db-cluster.

AWS CLI

To force an Amazon DocumentDB cluster to failover to a replica

The following failover-db-cluster example causes the primary instance in the Amazon DocumentDB cluster sample-cluster to failover to a replica.
aws docdb failover-db-cluster \
   --db-cluster-identifier sample-cluster

Output:

```json
{
   "DBCluster": {
      "AssociatedRoles": [],
      "DBClusterIdentifier": "sample-cluster",
      "EngineVersion": "3.6.0",
      "DBSubnetGroup": "default",
      "MasterUsername": "master-user",
      "EarliestRestorableTime": "2019-03-15T20:30:47.020Z",
      "Endpoint": "sample-cluster.cluster-corcjozrlsfc.us-west-2.docdb.amazonaws.com",
      "AvailabilityZones": [
         "us-west-2a",
         "us-west-2c",
         "us-west-2b"
      ],
      "PreferredMaintenanceWindow": "sat:04:30-sat:05:00",
      "PreferredBackupWindow": "00:00-00:30",
      "Port": 27017,
      "VpcSecurityGroups": [
         {
            "VpcSecurityGroupId": "sg-77186e0d",
            "Status": "active"
         }
      ],
      "StorageEncrypted": false,
      "MultiAZ": true,
      "Status": "available",
      "DBClusterMembers": [
         {
            "DBClusterParameterGroupStatus": "in-sync",
            "IsClusterWriter": false,
            "DBInstanceIdentifier": "sample-cluster",
            "PromotionTier": 1
         },
         {
            "DBClusterParameterGroupStatus": "in-sync",
```
For more information, see Amazon DocumentDB Failover in the Amazon DocumentDB Developer Guide.

- For API details, see FailoverDbCluster in AWS CLI Command Reference.

**list-tags-for-resource**

The following code example shows how to use list-tags-for-resource.

**AWS CLI**

**To list all the tags on an Amazon DocumentDB resource**

The following list-tags-for-resource example lists all tags on the Amazon DocumentDB cluster sample-cluster.

```
aws docdb list-tags-for-resource \
```

Output:

```
{
    "TagList": [
```
modify-db-cluster

The following code example shows how to use modify-db-cluster.

AWS CLI

To modify an Amazon DocumentDB cluster

The following modify-db-cluster example modifies the Amazon DocumentDB cluster sample-cluster by making the retention period for automatic backups 7 days, and changing the preferred windows for both backups and maintenance. All changes are applied at the next maintenance window.

```bash
aws docdb modify-db-cluster \
   --db-cluster-identifier sample-cluster \
   --no-apply-immediately \
   --backup-retention-period 7 \
   --preferred-backup-window 18:00-18:30 \
   --preferred-maintenance-window sun:20:00-sun:20:30
```

Output:

```json
{
}
```
"DBCluster": {
  "Endpoint": "sample-cluster.cluster-corcjozrlsfc.us-west-2.docdb.amazonaws.com",
  "DBClusterMembers": [
    {
      "DBClusterParameterGroupStatus": "in-sync",
      "DBInstanceIdentifier": "sample-cluster",
      "IsClusterWriter": true,
      "PromotionTier": 1
    },
    {
      "DBClusterParameterGroupStatus": "in-sync",
      "DBInstanceIdentifier": "sample-cluster2",
      "IsClusterWriter": false,
      "PromotionTier": 2
    }
  ],
  "HostedZoneId": "ZNKXH85TT8WVW",
  "StorageEncrypted": false,
  "PreferredBackupWindow": "18:00-18:30",
  "MultiAZ": true,
  "EngineVersion": "3.6.0",
  "MasterUsername": "master-user",
  "ReaderEndpoint": "sample-cluster.cluster-ro-corcjozrlsfc.us-west-2.docdb.amazonaws.com",
  "DBSubnetGroup": "default",
  "EarliestRestorableTime": "2019-03-15T20:30:47.020Z",
  "PreferredMaintenanceWindow": "sun:20:00-sun:20:30",
  "AssociatedRoles": [],
  "EnabledCloudwatchLogsExports": ["audit"]
},
"Engine": "docdb",
"DBClusterParameterGroup": "default.docdb3.6",
"BackupRetentionPeriod": 7,
"DBClusterIdentifier": "sample-cluster",
"AvailabilityZones": [
  "us-west-2a",
  "us-west-2c",
  "us-west-2b"
],
"Status": "available"
The following code example shows how to use `modify-db-cluster-parameter-group`.

```bash/aws docdb modify-db-cluster-parameter-group \
   --db-cluster-parameter-group-name custom3-6-param-grp \ 
   --parameters ParameterName=audit_logs,ParameterValue=enabled,ApplyMethod=pending-reboot \ 
   ParameterName=ttl_monitor,ParameterValue=enabled,ApplyMethod=pending-reboot
```

Output:

```json
{
   "DBClusterParameterGroupName": "custom3-6-param-grp"
}
```
modify-db-cluster-snapshot-attribute

The following code example shows how to use modify-db-cluster-snapshot-attribute.

AWS CLI

Example 1: To add an attribute to an Amazon DocumentDB snapshot

The following modify-db-cluster-snapshot-attribute example adds four attribute values to an Amazon DocumentDB cluster snapshot.

```
aws docdb modify-db-cluster-snapshot-attribute \
--db-cluster-snapshot-identifier sample-cluster-snapshot \
--attribute-name restore \
--values-to-add all 123456789011 123456789012 123456789013
```

Output:

```
{
   "DBClusterSnapshotAttributesResult": {
      "DBClusterSnapshotAttributes": [
         {
            "AttributeName": "restore",
            "AttributeValues": [
               "all",
               "123456789011",
               "123456789012",
               "123456789013"
            ]
         }
      ],
      "DBClusterSnapshotIdentifier": "sample-cluster-snapshot"
   }
}
```

Example 2: To remove attributes from an Amazon DocumentDB snapshot
The following `modify-db-cluster-snapshot-attribute` example removes two attribute values from an Amazon DocumentDB cluster snapshot.

```
aws docdb modify-db-cluster-snapshot-attribute \
--db-cluster-snapshot-identifier sample-cluster-snapshot \
--attribute-name restore \
--values-to-remove 123456789012 all
```

Output:

```
{
   "DBClusterSnapshotAttributesResult": {
      "DBClusterSnapshotAttributes": [
         {
          "AttributeName": "restore",
          "AttributeValues": [
            "123456789011",
            "123456789013"
          ]
        }
      ],
      "DBClusterSnapshotIdentifier": "sample-cluster-snapshot"
   }
}
```

For more information, see `ModifyDBClusterSnapshotAttribute` in the *Amazon DocumentDB Developer Guide*.

- For API details, see `ModifyDbClusterSnapshotAttribute` in *AWS CLI Command Reference*.

modify-db-instance

The following code example shows how to use `modify-db-instance`.

**AWS CLI**

**To modify an Amazon DocumentDB instance**

The following `modify-db-instance` example modifies the Amazon DocumentDB instance `sample-cluster2` by changing its instance class to `db.r4.4xlarge` and its promotion tier to 5. The changes are applied immediately but can only be seen after the instances status is available.
aws docdb modify-db-instance \
   --db-instance-identifier sample-cluster2 \
   --apply-immediately \
   --db-instance-class db.r4.4xlarge \
   --promotion-tier 5

Output:

{
   "DBInstance": {
      "EngineVersion": "3.6.0",
      "StorageEncrypted": false,
      "DBInstanceClass": "db.r4.large",
      "PreferredMaintenanceWindow": "mon:08:39-mon:09:09",
      "AutoMinorVersionUpgrade": true,
      "VpcSecurityGroups": [
         {
            "VpcSecurityGroupId": "sg-77186e0d",
            "Status": "active"
         }
      ],
      "PreferredBackupWindow": "18:00-18:30",
      "EnabledCloudwatchLogsExports": ["audit"],
      "AvailabilityZone": "us-west-2f",
      "DBInstanceIdentifier": "sample-cluster2",
      "InstanceCreateTime": "2019-03-15T20:36:06.338Z",
      "Engine": "docdb",
      "BackupRetentionPeriod": 7,
      "DBSubnetGroup": {
         "DBSubnetGroupName": "default",
         "DBSubnetGroupDescription": "default",
         "SubnetGroupStatus": "Complete",
         "Subnets": [
            {
               "SubnetIdentifier": "subnet-4e26d263",
               "SubnetAvailabilityZone": {
                  "Name": "us-west-2a"
               },
               "SubnetStatus": "Active"
            }
         ]
      }
   }
}
For more information, see Modifying an Amazon DocumentDB Instance in the Amazon DocumentDB Developer Guide.

- For API details, see ModifyDbInstance in AWS CLI Command Reference.
modify-db-subnet-group

The following code example shows how to use modify-db-subnet-group.

AWS CLI

To modify an Amazon DocumentDB subnet group

The following modify-db-subnet-group example modifies the subnet group sample-subnet-group by adding the specified subnets and a new description.

```bash
aws docdb modify-db-subnet-group \
--db-subnet-group-name sample-subnet-group \
--subnet-ids subnet-b3806e8f subnet-53ab3636 subnet-991cb8d0 \
--db-subnet-group-description "New subnet description"
```

Output:

```
{
    "DBSubnetGroup": {
        "DBSubnetGroupName": "sample-subnet-group",
        "SubnetGroupStatus": "Complete",
        "VpcId": "vpc-91280df6",
        "DBSubnetGroupDescription": "New subnet description",
        "Subnets": [
            {
                "SubnetIdentifier": "subnet-b3806e8f",
                "SubnetStatus": "Active",
                "SubnetAvailabilityZone": {
                    "Name": "us-west-2a"
                }
            },
            {
                "SubnetIdentifier": "subnet-53ab3636",
                "SubnetStatus": "Active",
                "SubnetAvailabilityZone": {
                    "Name": "us-west-2c"
                }
            },
            {
                "SubnetIdentifier": "subnet-991cb8d0",
```
For more information, see [Modifying an Amazon DocumentDB Subnet Group](https://docs.aws.amazon.com/documentdb/latest/developerguide/)

in the *Amazon DocumentDB Developer Guide*.

- For API details, see [ModifyDbSubnetGroup](https://docs.aws.amazon.com/cli/latest/reference/docdb/modify-db-subnet-group.html) in *AWS CLI Command Reference*.

**reboot-db-instance**

The following code example shows how to use `reboot-db-instance`.

**AWS CLI**

**To reboot an Amazon DocumentDB instance**

The following `reboot-db-instance` example reboots the Amazon DocumentDB instance `sample-cluster2`.

```bash
aws docdb reboot-db-instance \
    --db-instance-identifier sample-cluster2
```

This command produces no output. Output:

```json
{
    "DBInstance": {
        "PreferredBackupWindow": "18:00-18:30",
        "DBInstanceIdentifier": "sample-cluster2",
        "VpcSecurityGroups": [
            {
                "Status": "active",
                "VpcSecurityGroupId": "sg-77186e0d"
            }
        ],
        "DBSubnetGroup": {
            "VpcId": "vpc-91280df6",
            "Subnets": [
```
```json
{
    "SubnetStatus": "Active",
    "SubnetAvailabilityZone": {
        "Name": "us-west-2a"
    },
    "SubnetIdentifier": "subnet-4e26d263"
},
{
    "SubnetStatus": "Active",
    "SubnetAvailabilityZone": {
        "Name": "us-west-2c"
    },
    "SubnetIdentifier": "subnet-afe329f4"
},
{
    "SubnetStatus": "Active",
    "SubnetAvailabilityZone": {
        "Name": "us-west-2d"
    },
    "SubnetIdentifier": "subnet-53ab3636"
},
{
    "SubnetStatus": "Active",
    "SubnetAvailabilityZone": {
        "Name": "us-west-2b"
    },
    "SubnetIdentifier": "subnet-991cb8d0"
}
},
"SubnetGroupStatus": "Complete",
"DBSubnetGroupName": "default",
"DBSubnetGroupDescription": "default"
},
"PendingModifiedValues": {},
"Endpoint": {
    "Address": "sample-cluster2.corcjozrlsfc.us-west-2.docdb.amazonaws.com",
    "HostedZoneId": "ZNKXH85TT8WVW",
    "Port": 27017
},
"EnabledCloudwatchLogsExports": [
    "audit"
],
"StorageEncrypted": false,
"DbiResourceId": "db-A2GIKUV6KPOHITGGKI2NHVISZA",
"actions_and_scenarios": 1833
}```
"AutoMinorVersionUpgrade": true,
"Engine": "docdb",
"InstanceCreateTime": "2019-03-15T20:36:06.338Z",
"EngineVersion": "3.6.0",
"PromotionTier": 5,
"BackupRetentionPeriod": 7,
"DBClusterIdentifier": "sample-cluster",
"PreferredMaintenanceWindow": "mon:08:39-mon:09:09",
"PubliclyAccessible": false,
"DBInstanceClass": "db.r4.4xlarge",
"AvailabilityZone": "us-west-2d",
"DBInstanceStatus": "rebooting"
"DBInstanceStatus": "rebooting"
}
}

For more information, see Rebooting an Amazon DocumentDB Instance in the Amazon DocumentDB Developer Guide.

- For API details, see RebootDbInstance in AWS CLI Command Reference.

remove-tags-from-resource

The following code example shows how to use remove-tags-from-resource.

AWS CLI

To remove tags from an Amazon DocumentDB resource

The following remove-tags-from-resource example removes the tag with the key named B from the Amazon DocumentDB cluster sample-cluster.

```
aws docdb remove-tags-from-resource  
   --tag-keys B
```

This command produces no output.

For more information, see Removing Tags from an Amazon DocumentDB Resource in the Amazon DocumentDB Developer Guide.

- For API details, see RemoveTagsFromResource in AWS CLI Command Reference.
reset-db-cluster-parameter-group

The following code example shows how to use reset-db-cluster-parameter-group.

AWS CLI

To reset the specified parameter value to its defaults in an Amazon DocumentDB parameter group

The following reset-db-cluster-parameter-group example resets the parameter \texttt{ttl\_monitor} in the Amazon DocumentDB parameter group \texttt{custom3-6-param-grp} to its default value.

\begin{verbatim}
aws docdb reset-db-cluster-parameter-group \
    --db-cluster-parameter-group-name custom3-6-param-grp \
    --parameters ParameterName=ttl\_monitor,ApplyMethod=immediate
\end{verbatim}

Output:

\begin{verbatim}
{
    "DBClusterParameterGroupName": "custom3-6-param-grp"
}
\end{verbatim}

For more information, see title in the Amazon DocumentDB Developer Guide.

To reset specified or all parameter values to their defaults in an Amazon DocumentDB parameter group

The following reset-db-cluster-parameter-group example resets all parameters in the Amazon DocumentDB parameter group \texttt{custom3-6-param-grp} to their default value.

\begin{verbatim}
aws docdb reset-db-cluster-parameter-group \
    --db-cluster-parameter-group-name custom3-6-param-grp \
    --reset-all-parameters
\end{verbatim}

Output:

\begin{verbatim}
{
    "DBClusterParameterGroupName": "custom3-6-param-grp"
}
\end{verbatim}
For more information, see **Resetting an Amazon DocumentDB Cluster Parameter Group** in the *Amazon DocumentDB Developer Guide*.

- For API details, see **ResetDbClusterParameterGroup** in *AWS CLI Command Reference*.

### restore-db-cluster-from-snapshot

The following code example shows how to use `restore-db-cluster-from-snapshot`.

**AWS CLI**

**To restore an Amazon DocumentDB cluster from an automatic or manual snapshot**

The following `restore-db-cluster-from-snapshot` example creates a new Amazon DocumentDB cluster named `sample-cluster-2019-03-16-00-01-restored` from the snapshot `rds:sample-cluster-2019-03-16-00-01`.

```bash
aws docdb restore-db-cluster-from-snapshot \
  --db-cluster-identifier sample-cluster-2019-03-16-00-01-restored \
  --engine docdb \
  --snapshot-identifier rds:sample-cluster-2019-03-16-00-01
```

**Output:**

```json
{
    "DBCluster": {
        "ClusterCreateTime": "2019-03-19T18:45:01.857Z",
        "HostedZoneId": "ZNKXH85TT8WVW",
        "Engine": "docdb",
        "DBClusterMembers": [],
        "MultiAZ": false,
        "AvailabilityZones": [
            "us-west-2a",
            "us-west-2c",
            "us-west-2b"
        ],
        "StorageEncrypted": false,
        "ReaderEndpoint": "sample-cluster-2019-03-16-00-01-restored.cluster-ro-corcjozrlsfc.us-west-2.docdb.amazonaws.com",
        "Endpoint": "sample-cluster-2019-03-16-00-01-restored.cluster-corcjozrlsfc.us-west-2.docdb.amazonaws.com",
        "Port": 27017,
    }
}
```
For more information, see [Restoring from a Cluster Snapshot](https://docs.aws.amazon.com/documentdb/latest/developerguide/restoring-cluster-snapshots.html) in the *Amazon DocumentDB Developer Guide*.

- For API details, see [RestoreDbClusterFromSnapshot](https://docs.aws.amazon.com/cli/latest/reference/docdb/restore-db-cluster-from-snapshot.html) in *AWS CLI Command Reference*.

### restore-db-cluster-to-point-in-time

The following code example shows how to use `restore-db-cluster-to-point-in-time`.

**AWS CLI**

**To restore an Amazon DocumentDB cluster to a point-in-time from a manual snapshot**

The following `restore-db-cluster-to-point-in-time` example uses the sample-cluster-snapshot to create a new Amazon DocumentDB cluster, `sample-cluster-pit`, using the latest restorable time.

```bash
aws docdb restore-db-cluster-to-point-in-time \
  --db-cluster-identifier sample-cluster-pit \
```
--use-latest-restorable-time

Output:

```json
{
    "DBCluster": {
        "StorageEncrypted": false,
        "BackupRetentionPeriod": 3,
        "MasterUsername": "master-user",
        "HostedZoneId": "ZNKXH85TT8WVW",
        "PreferredBackupWindow": "00:00-00:30",
        "MultiAZ": false,
        "DBClusterIdentifier": "sample-cluster-pit",
        "DBSubnetGroup": "default",
        "AssociatedRoles": [],
        "DBClusterParameterGroup": "default.docdb3.6",
        "DBClusterMembers": [],
        "Status": "creating",
        "AvailabilityZones": [
            "us-west-2a",
            "us-west-2d",
            "us-west-2b"
        ],
        "ReaderEndpoint": "sample-cluster-pit.cluster-ro-corcjozrlsfc.us-west-2.docdb.amazonaws.com",
        "Port": 27017,
        "Engine": "docdb",
        "EngineVersion": "3.6.0",
        "VpcSecurityGroups": [
            {
                "VpcSecurityGroupId": "sg-77186e0d",
                "Status": "active"
            }
        ],
        "PreferredMaintenanceWindow": "sat:04:30-sat:05:00",
        "Endpoint": "sample-cluster-pit.cluster-corcjozrlsfc.us-west-2.docdb.amazonaws.com",
        "DbClusterResourceId": "cluster-NLCABBXOSE2QPQ4GOLZIFWEPLM",
    }
}
```
For more information, see [Restoring a Snapshot to a Point in Time](https://docs.aws.amazon.com/documentdb/latest/developerguide/restoring-to-a-point-in-time.html) in the *Amazon DocumentDB Developer Guide*.

- For API details, see [RestoreDbClusterToPointInTime](https://docs.aws.amazon.com/cli/latest/reference/docdb/restore-db-cluster-point-in-time.html) in *AWS CLI Command Reference*.

### start-db-cluster

The following code example shows how to use `start-db-cluster`.

**AWS CLI**

To start a stopped Amazon DocumentDB cluster

The following `start-db-cluster` example starts the specified Amazon DocumentDB cluster.

```
aws docdb start-db-cluster \
  --db-cluster-identifier sample-cluster
```

Output:

```
{
  "DBCluster": {
    "ClusterCreateTime": "2019-03-19T18:45:01.857Z",
    "HostedZoneId": "ZNKXH85TT8WVW",
    "Engine": "docdb",
    "DBClusterMembers": [],
    "MultiAZ": false,
    "AvailabilityZones": [
      "us-east-1a",
      "us-east-1c",
      "us-east-1f"
    ],
    "StorageEncrypted": false,
    "ReaderEndpoint": "sample-cluster-2019-03-16-00-01-restored.cluster-ro-corcjozrlsfcs.us-east-1.docdb.amazonaws.com",
    "Endpoint": "sample-cluster-2019-03-16-00-01-restored.cluster-corcjozrlsfcs.us-east-1.docdb.amazonaws.com",
    "Port": 27017,
    "PreferredBackupWindow": "00:00-00:30",
    "DBSubnetGroup": "default",
    "DBClusterIdentifier": "sample-cluster-2019-03-16-00-01-restored",
    "PreferredMaintenanceWindow": "sat:04:30-sat:05:00",
  }
}```
"DBClusterParameterGroup": "default.docdb3.6",
"DBClusterResourceId": "cluster-XOO46Q3RH4LWSYNH3NMZKXPISU",
"MasterUsername": "master-user",
"EngineVersion": "3.6.0",
"BackupRetentionPeriod": 3,
"AssociatedRoles": [],
"Status": "creating",
"VpcSecurityGroups": [
    {
      "Status": "active",
      "VpcSecurityGroupId": "sg-77186e0d"
    }
]
}

For more information, see [Stopping and Starting an Amazon DocumentDB Cluster](https://docs.aws.amazon.com/documentdb/latest/developerguide/stop-db-cluster.html) in the [Amazon DocumentDB Developer Guide](https://docs.aws.amazon.com/documentdb/latest/developerguide/)


### stop-db-cluster

The following code example shows how to use `stop-db-cluster`.

**AWS CLI**

To stop a running Amazon DocumentDB cluster

The following `stop-db-cluster` example stops the specified Amazon DocumentDB cluster.

```bash
aws docdb stop-db-cluster \
    --db-cluster-identifier sample-cluster
```

Output:

```json
{
    "DBCluster": {
        "ClusterCreateTime": "2019-03-19T18:45:01.857Z",
        "HostedZoneId": "ZNKXH85TT8WVW",
```
"Engine": "docdb",
"DBClusterMembers": [],
"MultiAZ": false,
"AvailabilityZones": [
  "us-east-1a",
  "us-east-1c",
  "us-east-1f"
],
"StorageEncrypted": false,
"ReaderEndpoint": "sample-cluster-2019-03-16-00-01-restored.cluster-ro-
corcjozrlsfcsfc.us-east-1.docdb.amazonaws.com",
"Endpoint": "sample-cluster-2019-03-16-00-01-restored.cluster-
corcjozrlsfcsfc.us-east-1.docdb.amazonaws.com",
"Port": 27017,
"PreferredBackupWindow": "00:00-00:30",
"DBSubnetGroup": "default",
"DBClusterIdentifier": "sample-cluster-2019-03-16-00-01-restored",
"PreferredMaintenanceWindow": "sat:04:30-sat:05:00",
"DBClusterArn": "arn:aws:rds:us-east-1:123456789012:cluster:sample-
cluster-2019-03-16-00-01-restored",
"DBClusterParameterGroup": "default.docdb3.6",
"DbClusterResourceId": "cluster-XOO46Q3RH4LWSYNH3NMZKXPISU",
"MasterUsername": "master-user",
"EngineVersion": "3.6.0",
"BackupRetentionPeriod": 3,
"AssociatedRoles": [],
"Status": "creating",
"VpcSecurityGroups": [
  {
    "Status": "active",
    "VpcSecurityGroupId": "sg-77186e0d"
  }
]
}
DynamoDB examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with DynamoDB.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**
- *Actions*

**Actions**

**Create a table**

The following code example shows how to create a DynamoDB table.

**AWS CLI**

**Example 1: To create a table with tags**

The following `create-table` example uses the specified attributes and key schema to create a table named `MusicCollection`. This table uses provisioned throughput and is encrypted at rest using the default AWS owned CMK. The command also applies a tag to the table, with a key of `Owner` and a value of `blueTeam`.

```
aws dynamodb create-table \
  --table-name MusicCollection \
  --attribute-definitions AttributeName=Artist,AttributeType=S \
  AttributeName=SongTitle,AttributeType=S \
  --key-schema AttributeName=Artist,KeyType=HASH \
  AttributeName=SongTitle,KeyType=RANGE \
  --provisioned-throughput ReadCapacityUnits=5,WriteCapacityUnits=5 \
  --tags Key=Owner,Value=blueTeam
```
For more information, see Basic Operations for Tables in the Amazon DynamoDB Developer Guide.

Example 2: To create a table in On-Demand Mode
The following example creates a table called MusicCollection using on-demand mode, rather than provisioned throughput mode. This is useful for tables with unpredictable workloads.

```
aws dynamodb create-table
   --table-name MusicCollection
   --attribute-definitions AttributeName=Artist,AttributeType=S
   AttributeName=SongTitle,AttributeType=S
   --key-schema AttributeName=Artist,KeyType=HASH
   AttributeName=SongTitle,KeyType=RANGE
   --billing-mode PAY_PER_REQUEST
```

Output:

```
{
   "TableDescription": {
      "AttributeDefinitions": [
         {
            "AttributeName": "Artist",
            "AttributeType": "S"
         },
         {
            "AttributeName": "SongTitle",
            "AttributeType": "S"
         }
      ],
      "TableName": "MusicCollection",
      "KeySchema": [
         {
            "AttributeName": "Artist",
            "KeyType": "HASH"
         },
         {
            "AttributeName": "SongTitle",
            "KeyType": "RANGE"
         }
      ],
      "TableStatus": "CREATING",
      "CreationDateTime": "2020-05-27T11:44:10.807000-07:00",
      "ProvisionedThroughput": {
         "NumberOfDecreasesToday": 0,
         "ReadCapacityUnits": 0,
         "WriteCapacityUnits": 0
      }
   }
}
```
For more information, see Basic Operations for Tables in the Amazon DynamoDB Developer Guide.

Example 3: To create a table and encrypt it with a Customer Managed CMK

The following example creates a table named MusicCollection and encrypts it using a customer managed CMK.

```bash
aws dynamodb create-table \
  --table-name MusicCollection \n  --attribute-definitions AttributeName=Artist,AttributeType=S \n  AttributeName=SongTitle,AttributeType=S \n  --key-schema AttributeName=Artist,KeyType=HASH \n  AttributeName=SongTitle,KeyType=RANGE \n  --provisioned-throughput ReadCapacityUnits=5,WriteCapacityUnits=5 \n  --sse-specification Enabled=true,SSEType=KMS,KMSMasterKeyId=abcd1234-abcd-1234-a123-ab1234a1b234
```

Output:

```json
{
    "TableDescription": {
        "AttributeDefinitions": [
            {
                "AttributeName": "Artist",
                "AttributeType": "S"
            },
            {
                "AttributeName": "SongTitle",
                "AttributeType": "S"
            }
        ],
    "TableSizeBytes": 0,
    "ItemCount": 0,
    "TableArn": "arn:aws:dynamodb:us-west-2:123456789012:table/MusicCollection",
    "TableId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
    "BillingModeSummary": {
        "BillingMode": "PAY_PER_REQUEST"
    }
}
}
"TableName": "MusicCollection",
"KeySchema": [
  {
    "AttributeName": "Artist",
    "KeyType": "HASH"
  },
  {
    "AttributeName": "SongTitle",
    "KeyType": "RANGE"
  }
],
"TableStatus": "CREATING",
"CreationDateTime": "2020-05-27T11:12:16.431000-07:00",
"ProvisionedThroughput": {
  "NumberOfDecreasesToday": 0,
  "ReadCapacityUnits": 5,
  "WriteCapacityUnits": 5
},
"TableSizeBytes": 0,
"ItemCount": 0,
"TableArn": "arn:aws:dynamodb:us-west-2:123456789012:table/MusicCollection",
"TableId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
"SSEDescription": {
  "Status": "ENABLED",
  "SSEType": "KMS",
  "KMSMasterKeyArn": "arn:aws:kms:us-west-2:123456789012:key/abcd1234-abcd-1234-a123-ab1234a1b234"
}
}

For more information, see Basic Operations for Tables in the Amazon DynamoDB Developer Guide.

Example 4: To create a table with a Local Secondary Index

The following example uses the specified attributes and key schema to create a table named MusicCollection with a Local Secondary Index named AlbumTitleIndex.

```bash
aws dynamodb create-table \
  --table-name MusicCollection \
  --attribute-definitions AttributeName=Artist,AttributeType=S AttributeName=SongTitle,AttributeType=S AttributeName=AlbumTitle,AttributeType=S \
```
---key-schema AttributeName=Artist,KeyType=HASH
AttributeName=SongTitle,KeyType=RANGE 
--provisioned-throughput ReadCapacityUnits=10,WriteCapacityUnits=5 
--local-secondary-indexes 
"[
  {
    "IndexName": "AlbumTitleIndex",
    "KeySchema": [
      {
        "AttributeName": "Artist",
        "KeyType": "HASH"
      },
      {
        "AttributeName": "AlbumTitle",
        "KeyType": "RANGE"
      }
    ],
    "Projection": {
      "ProjectionType": "INCLUDE",
      "NonKeyAttributes": ["Genre", "Year"]
    }
  }
]
"

Output:

```json
{
  "TableDescription": {
    "AttributeDefinitions": [
      {
        "AttributeName": "AlbumTitle",
        "AttributeType": "S"
      },
      {
        "AttributeName": "Artist",
        "AttributeType": "S"
      },
      {
        "AttributeName": "SongTitle",
        "AttributeType": "S"
      }
    ],
    "TableName": "MusicCollection",
    "KeySchema": [
      {
        "AttributeName": "Artist",
        "KeyType": "HASH"
      },
      {
        "AttributeName": "SongTitle",
        "KeyType": "HASH"
      }
    ]
  }
}```
"AttributeName": "SongTitle",
  "KeyType": "RANGE"
],
"TableStatus": "CREATING",
"CreationDateTime": "2020-05-26T15:59:49.473000-07:00",
"ProvisionedThroughput": {
  "NumberOfDecreasesToday": 0,
  "ReadCapacityUnits": 10,
  "WriteCapacityUnits": 5
},
"TableSizeBytes": 0,
"ItemCount": 0,
"TableArn": "arn:aws:dynamodb:us-west-2:123456789012:table/MusicCollection",
"TableId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
"LocalSecondaryIndexes": [
  {
    "IndexName": "AlbumTitleIndex",
    "KeySchema": [
      {
        "AttributeName": "Artist",
        "KeyType": "HASH"
      },
      {
        "AttributeName": "AlbumTitle",
        "KeyType": "RANGE"
      }
    ],
    "Projection": {
      "ProjectionType": "INCLUDE",
      "NonKeyAttributes": [
        "Genre",
        "Year"
      ]
    },
    "IndexSizeBytes": 0,
    "ItemCount": 0,
    "IndexArn": "arn:aws:dynamodb:us-west-2:123456789012:table/MusicCollection/index/AlbumTitleIndex"
  }
]
}
Example 5: To create a table with a Global Secondary Index

The following example creates a table named GameScores with a Global Secondary Index called GameTitleIndex. The base table has a partition key of UserId and a sort key of GameTitle, allowing you to find an individual user's best score for a specific game efficiently, whereas the GSI has a partition key of GameTitle and a sort key of TopScore, allowing you to quickly find the overall highest score for a particular game.

```
aws dynamodb create-table
  --table-name GameScores
  --attribute-definitions AttributeName=UserId,AttributeType=S
  AttributeName=GameTitle,AttributeType=S AttributeName=TopScore,AttributeType=N
  --key-schema AttributeName=UserId,KeyType=HASH
  AttributeName=GameTitle,KeyType=RANGE
  --provisioned-throughput ReadCapacityUnits=10,WriteCapacityUnits=5
  --global-secondary-indexes
    "[
      {
        "IndexName": "GameTitleIndex",
        "KeySchema": [
          {
            "AttributeName": "GameTitle",
            "KeyType": "HASH"
          },
          {
            "AttributeName": "TopScore",
            "KeyType": "RANGE"
          }
        ],
        "Projection": {
          "ProjectionType": "INCLUDE",
          "NonKeyAttributes": ["UserId"]
        },
        "ProvisionedThroughput": {
          "ReadCapacityUnits": 10,
          "WriteCapacityUnits": 5
        }
      }
    ]"
```

Output:

```
{
  "TableDescription": {
    "AttributeDefinitions": [
```
{  "AttributeName": "GameTitle",
   "AttributeType": "S"
},
{  "AttributeName": "TopScore",
   "AttributeType": "N"
},
{  "AttributeName": "UserId",
   "AttributeType": "S"
}
],
"TableName": "GameScores",
"KeySchema": [
   {
      "AttributeName": "UserId",
      "KeyType": "HASH"
   },
   {
      "AttributeName": "GameTitle",
      "KeyType": "RANGE"
   }
],
"TableStatus": "CREATING",
"CreationDateTime": "2020-05-26T17:28:15.602000-07:00",
"ProvisionedThroughput": {
   "NumberOfDecreasesToday": 0,
   "ReadCapacityUnits": 10,
   "WriteCapacityUnits": 5
},
"TableSizeBytes": 0,
"ItemCount": 0,
"TableArn": "arn:aws:dynamodb:us-west-2:123456789012:table/GameScores",
"TableId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
"GlobalSecondaryIndexes": [
   {
      "IndexName": "GameTitleIndex",
      "KeySchema": [
         {
            "AttributeName": "GameTitle",
            "KeyType": "HASH"
         },
         {
         }]}]
"AttributeName": "TopScore",
"KeyType": "RANGE"
]
],
"Projection": {
 "ProjectionType": "INCLUDE",
 "NonKeyAttributes": [
 "UserId"
]
},
"IndexStatus": "CREATING",
"ProvisionedThroughput": {
 "NumberOfDecreasesToday": 0,
 "ReadCapacityUnits": 10,
 "WriteCapacityUnits": 5
},
"IndexSizeBytes": 0,
"ItemCount": 0,
"IndexArn": "arn:aws:dynamodb:us-west-2:123456789012:table/GameScores/index/GameTitleIndex"}
]
}

For more information, see Basic Operations for Tables in the Amazon DynamoDB Developer Guide.

**Example 6: To create a table with multiple Global Secondary Indexes at once**

The following example creates a table named GameScores with two Global Secondary Indexes. The GSI schemas are passed via a file, rather than on the command line.

```bash
aws dynamodb create-table \
  --table-name GameScores \
  --attribute-definitions AttributeName=UserId,AttributeType=S AttributeName=GameTitle,AttributeType=S AttributeName=TopScore,AttributeType=N AttributeName=Date,AttributeType=S \
  --key-schema AttributeName=UserId,KeyType=HASH AttributeName=GameTitle,KeyType=RANGE \
  --provisioned-throughput ReadCapacityUnits=10,WriteCapacityUnits=5 \
  --global-secondary-indexes file://gsi.json
```
Contents of gsi.json:

```json
[
  {
    "IndexName": "GameTitleIndex",
    "KeySchema": [
      {
        "AttributeName": "GameTitle",
        "KeyType": "HASH"
      },
      {
        "AttributeName": "TopScore",
        "KeyType": "RANGE"
      }
    ],
    "Projection": {
      "ProjectionType": "ALL"
    },
    "ProvisionedThroughput": {
      "ReadCapacityUnits": 10,
      "WriteCapacityUnits": 5
    }
  },
  {
    "IndexName": "GameDateIndex",
    "KeySchema": [
      {
        "AttributeName": "GameTitle",
        "KeyType": "HASH"
      },
      {
        "AttributeName": "Date",
        "KeyType": "RANGE"
      }
    ],
    "Projection": {
      "ProjectionType": "ALL"
    },
    "ProvisionedThroughput": {
      "ReadCapacityUnits": 5,
      "WriteCapacityUnits": 5
    }
  }
]
```
Output:

```json
{
   "TableDescription": {
      "AttributeDefinitions": [
         {
            "AttributeName": "Date",
            "AttributeType": "S"
         },
         {
            "AttributeName": "GameTitle",
            "AttributeType": "S"
         },
         {
            "AttributeName": "TopScore",
            "AttributeType": "N"
         },
         {
            "AttributeName": "UserId",
            "AttributeType": "S"
         }
      ],
      "TableName": "GameScores",
      "KeySchema": [
         {
            "AttributeName": "UserId",
            "KeyType": "HASH"
         },
         {
            "AttributeName": "GameTitle",
            "KeyType": "RANGE"
         }
      ],
      "TableStatus": "CREATING",
      "CreationDateTime": "2020-08-04T16:40:55.524000-07:00",
      "ProvisionedThroughput": {
         "NumberOfDecreasesToday": 0,
         "ReadCapacityUnits": 10,
         "WriteCapacityUnits": 5
      },
      "TableSizeBytes": 0
   }
}
```
"ItemCount": 0,
"TableArn": "arn:aws:dynamodb:us-west-2:123456789012:table/GameScores",
"TableId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
"GlobalSecondaryIndexes": [
  {
    "IndexName": "GameTitleIndex",
    "KeySchema": [
      {
        "AttributeName": "GameTitle",
        "KeyType": "HASH"
      },
      {
        "AttributeName": "TopScore",
        "KeyType": "RANGE"
      }
    ],
    "Projection": {
      "ProjectionType": "ALL"
    },
    "IndexStatus": "CREATING",
    "ProvisionedThroughput": {
      "NumberOfDecreasesToday": 0,
      "ReadCapacityUnits": 10,
      "WriteCapacityUnits": 5
    },
    "IndexSizeBytes": 0,
    "ItemCount": 0,
    "IndexArn": "arn:aws:dynamodb:us-west-2:123456789012:table/GameScores/index/GameTitleIndex"
  },
  {
    "IndexName": "GameDateIndex",
    "KeySchema": [
      {
        "AttributeName": "GameTitle",
        "KeyType": "HASH"
      },
      {
        "AttributeName": "Date",
        "KeyType": "RANGE"
      }
    ],
    "Projection": {
      "ProjectionType": "ALL"
For more information, see Basic Operations for Tables in the Amazon DynamoDB Developer Guide.

Example 7: To create a table with Streams enabled

The following example creates a table called GameScores with DynamoDB Streams enabled. Both new and old images of each item will be written to the stream.

```
aws dynamodb create-table
   --table-name GameScores
   --attribute-definitions AttributeName=UserId,AttributeType=S
   AttributeName=GameTitle,AttributeType=S
   --key-schema AttributeName=UserId,KeyType=HASH
   AttributeName=GameTitle,KeyType=RANGE
   --provisioned-throughput ReadCapacityUnits=10,WriteCapacityUnits=5
   --stream-specification StreamEnabled=TRUE,StreamViewType=NEW_AND_OLD_IMAGES
```

Output:

```
{
   "TableDescription": {
      "AttributeDefinitions": [
         { "AttributeName": "GameTitle", "AttributeType": "S" },
         {...
```
For more information, see [Basic Operations for Tables](https://docs.aws.amazon.com/AmazonDynamoDB/latest/DeveloperGuide/Basic-Table-Streams.html) in the *Amazon DynamoDB Developer Guide*.

**Example 8: To create a table with Keys-Only Stream enabled**

The following example creates a table called GameScores with DynamoDB Streams enabled. Only the key attributes of modified items are written to the stream.
aws dynamodb create-table \
  --table-name GameScores \
  --attribute-definitions AttributeName=UserId,AttributeType=S \
  AttributeName=GameTitle,AttributeType=S \
  --key-schema AttributeName=UserId,KeyType=HASH \
  AttributeName=GameTitle,KeyType=RANGE \
  --provisioned-throughput ReadCapacityUnits=10,WriteCapacityUnits=5 \
  --stream-specification StreamEnabled=TRUE,StreamViewType=KEYS_ONLY

Output:

```json
{
  "TableDescription": {
    "AttributeDefinitions": [
      {
        "AttributeName": "GameTitle",
        "AttributeType": "S"
      },
      {
        "AttributeName": "UserId",
        "AttributeType": "S"
      }
    ],
    "TableName": "GameScores",
    "KeySchema": [
      {
        "AttributeName": "UserId",
        "KeyType": "HASH"
      },
      {
        "AttributeName": "GameTitle",
        "KeyType": "RANGE"
      }
    ],
    "TableStatus": "CREATING",
    "CreationDateTime": "2023-05-25T18:45:34.140000+00:00",
    "ProvisionedThroughput": {
      "NumberOfDecreasesToday": 0,
      "ReadCapacityUnits": 10,
      "WriteCapacityUnits": 5
    },
    "TableSizeBytes": 0,
    "ItemCount": 0,
  }
}```
"TableArn": "arn:aws:dynamodb:us-west-2:123456789012:table/GameScores",
"TableId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
"StreamSpecification": {
    "StreamEnabled": true,
    "StreamViewType": "KEYS_ONLY"
},
"LatestStreamLabel": "2023-05-25T18:45:34.140",
GameScores/stream/2023-05-25T18:45:34.140",
"DeletionProtectionEnabled": false
}

For more information, see Change data capture for DynamoDB Streams in the Amazon DynamoDB Developer Guide.

**Example 9: To create a table with the Standard Infrequent Access class**

The following example creates a table called GameScores and assigns the Standard-Infrequent Access (DynamoDB Standard-IA) table class. This table class is optimized for storage being the dominant cost.

```
aws dynamodb create-table \
  --table-name GameScores \
  --attribute-definitions AttributeName=UserId,AttributeType=S \
  AttributeName=GameTitle,AttributeType=S \
  --key-schema AttributeName=UserId,KeyType=HASH \
  AttributeName=GameTitle,KeyType=RANGE \
  --provisioned-throughput ReadCapacityUnits=10,WriteCapacityUnits=5 \
  --table-class STANDARD_INFREQUENT_ACCESS
```

Output:

```
{
    "TableDescription": {
        "AttributeDefinitions": [
            {
                "AttributeName": "GameTitle",
                "AttributeType": "S"
            },
            {
                "AttributeName": "UserId",
                "AttributeType": "S"
            }
        ],
```

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For more information, see Table classes in the Amazon DynamoDB Developer Guide.

**Example 10: To Create a table with Delete Protection enabled**

The following example creates a table called GameScores and enables deletion protection.

```
aws dynamodb create-table \
  --table-name GameScores \
  --attribute-definitions AttributeName=UserId,AttributeType=S \
  AttributeName=GameTitle,AttributeType=S \
  --key-schema AttributeName=UserId,KeyType=HASH \
  AttributeName=GameTitle,KeyType=RANGE \
  --provisioned-throughput ReadCapacityUnits=10,WriteCapacityUnits=5 \
```
Output:

```json
{
    "TableDescription": {
        "AttributeDefinitions": [
            {
                "AttributeName": "GameTitle",
                "AttributeType": "S"
            },
            {
                "AttributeName": "UserId",
                "AttributeType": "S"
            }
        ],
        "TableName": "GameScores",
        "KeySchema": [
            {
                "AttributeName": "UserId",
                "KeyType": "HASH"
            },
            {
                "AttributeName": "GameTitle",
                "KeyType": "RANGE"
            }
        ],
        "TableStatus": "CREATING",
        "CreationDateTime": "2023-05-25T23:02:17.093000+00:00",
        "ProvisionedThroughput": {
            "NumberOfDecreasesToday": 0,
            "ReadCapacityUnits": 10,
            "WriteCapacityUnits": 5
        },
        "TableSizeBytes": 0,
        "ItemCount": 0,
        "TableArn": "arn:aws:dynamodb:us-west-2:123456789012:table/GameScores",
        "TableId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
        "DeletionProtectionEnabled": true
    }
}
```

For more information, see [Using deletion protection](https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/) in the *Amazon DynamoDB Developer Guide*. 
Delete a table

The following code example shows how to delete a DynamoDB table.

AWS CLI

To delete a table

The following delete-table example deletes the MusicCollection table.

```
aws dynamodb delete-table \
    --table-name MusicCollection
```

Output:

```
{
   "TableDescription": {
      "TableStatus": "DELETING",
      "TableSizeBytes": 0,
      "ItemCount": 0,
      "TableName": "MusicCollection",
      "ProvisionedThroughput": {
         "NumberOfDecreasesToday": 0,
         "WriteCapacityUnits": 5,
         "ReadCapacityUnits": 5
      }
   }
}
```

For more information, see Deleting a Table in the Amazon DynamoDB Developer Guide.

- For API details, see CreateTable in AWS CLI Command Reference.

Delete an item from a table

The following code example shows how to delete an item from a DynamoDB table.

AWS CLI

Example 1: To delete an item
The following delete-item example deletes an item from the MusicCollection table and requests details about the item that was deleted and the capacity used by the request.

```bash
aws dynamodb delete-item \
    --table-name MusicCollection \
    --key file://key.json \
    --return-values ALL_OLD \
    --return-consumed-capacity TOTAL \
    --return-item-collection-metrics SIZE
```

Contents of `key.json`:

```json
{
    "Artist": {"S": "No One You Know"},
    "SongTitle": {"S": "Scared of My Shadow"}
}
```

Output:

```json
{
    "Attributes": {
        "AlbumTitle": {
            "S": "Blue Sky Blues"
        },
        "Artist": {
            "S": "No One You Know"
        },
        "SongTitle": {
            "S": "Scared of My Shadow"
        }
    },
    "ConsumedCapacity": {
        "TableName": "MusicCollection",
        "CapacityUnits": 2.0
    },
    "ItemCollectionMetrics": {
        "ItemCollectionKey": {
            "Artist": {
                "S": "No One You Know"
            }
        },
        "SizeEstimateRangeGB": [
```
For more information, see [Writing an Item](#) in the *Amazon DynamoDB Developer Guide*.

**Example 2: To delete an item conditionally**

The following example deletes an item from the `ProductCatalog` table only if its `ProductCategory` is either *Sporting Goods* or *Gardening Supplies* and its price is between 500 and 600. It returns details about the item that was deleted.

```
aws dynamodb delete-item \
  --table-name ProductCatalog \
  --key '{"Id":{"N":"456"}}' \
  --condition-expression "((ProductCategory IN (:cat1, :cat2)) and (#P between :lo and :hi))" \
  --expression-attribute-names file://names.json \
  --expression-attribute-values file://values.json \
  --return-values ALL_OLD
```

**Contents of `names.json`:**

```
{
    "#P": "Price"
}
```

**Contents of `values.json`:**

```
{
    ":cat1": {"S": "Sporting Goods"},
    ":cat2": {"S": "Gardening Supplies"},
    ":lo": {"N": "500"},
    ":hi": {"N": "600"}
}
```

**Output:**

```
{
```
Get a batch of items

The following code example shows how to get a batch of DynamoDB items.

AWS CLI

To retrieve multiple items from a table

The following batch-get-items example reads multiple items from the MusicCollection table using a batch of three GetItem requests, and requests the number of read capacity units consumed by the operation. The command returns only the AlbumTitle attribute.

```
aws dynamodb batch-get-item \
   --request-items file://request-items.json \
   --return-consumed-capacity TOTAL
```

Contents of request-items.json:

```json
{
    "MusicCollection": {
        "Keys": [
            {
                "Artist": {"S": "No One You Know"},
                "SongTitle": {"S": "Call Me Today"}
            }
        ]
    }
}
```

{
    "Artist": {"S": "Acme Band"},
    "SongTitle": {"S": "Happy Day"}
},
{
    "Artist": {"S": "No One You Know"},
    "SongTitle": {"S": "Scared of My Shadow"}
}
]
"ProjectionExpression":"AlbumTitle"
}

Output:

{
    "Responses": {
        "MusicCollection": [
            {
                "AlbumTitle": {
                    "S": "Somewhat Famous"
                }
            },
            {
                "AlbumTitle": {
                    "S": "Blue Sky Blues"
                }
            },
            {
                "AlbumTitle": {
                    "S": "Louder Than Ever"
                }
            }
        ]
    },
    "UnprocessedKeys": {},
    "ConsumedCapacity": [
        {
            "TableName": "MusicCollection",
            "CapacityUnits": 1.5
        }
    ]
}
For more information, see Batch Operations in the Amazon DynamoDB Developer Guide.

- For API details, see BatchGetItem in AWS CLI Command Reference.

Get an item from a table

The following code example shows how to get an item from a DynamoDB table.

AWS CLI

Example 1: To read an item in a table

The following get-item example retrieves an item from the MusicCollection table. The table has a hash-and-range primary key (Artist and SongTitle), so you must specify both of these attributes. The command also requests information about the read capacity consumed by the operation.

```
aws dynamodb get-item \
    --table-name MusicCollection \
    --key file://key.json \
    --return-consumed-capacity TOTAL
```

Contents of key.json:

```
{
    "Artist": {"S": "Acme Band"},
    "SongTitle": {"S": "Happy Day"}
}
```

Output:

```
{
    "Item": {
        "AlbumTitle": {
            "S": "Songs About Life"
        },
        "SongTitle": {
            "S": "Happy Day"
        },
        "Artist": {
            "S": "Acme Band"
        }
    }
}
```
For more information, see [Reading an Item](#) in the Amazon DynamoDB Developer Guide.

**Example 2: To read an item using a consistent read**

The following example retrieves an item from the MusicCollection table using strongly consistent reads.

```bash
aws dynamodb get-item \
   --table-name MusicCollection \
   --key file://key.json \
   --consistent-read \
   --return-consumed-capacity TOTAL
```

Contents of `key.json`:

```json
{
   "Artist": {"S": "Acme Band"},
   "SongTitle": {"S": "Happy Day"}
}
```

Output:

```json
{
   "Item": {
      "AlbumTitle": {
         "S": "Songs About Life"
      },
      "SongTitle": {
         "S": "Happy Day"
      },
      "Artist": {
         "S": "Acme Band"
      }
   },
   "ConsumedCapacity": {

```
"TableName": "MusicCollection",
"CapacityUnits": 1.0
}]

For more information, see Reading an Item in the Amazon DynamoDB Developer Guide.

Example 3: To retrieve specific attributes of an item

The following example uses a projection expression to retrieve only three attributes of the desired item.

```
aws dynamodb get-item
   --table-name ProductCatalog
   --key '{"Id": {"N": "102"}}'
   --projection-expression "#T, #C, #P"
   --expression-attribute-names file://names.json
```

Contents of `names.json`:

```
{
  "#T": "Title",
  "#C": "ProductCategory",
  "#P": "Price"
}
```

Output:

```
{
  "Item": {
    "Price": {
      "N": "20"
    },
    "Title": {
      "S": "Book 102 Title"
    },
    "ProductCategory": {
      "S": "Book"
    }
  }
}
```
For more information, see Reading an Item in the Amazon DynamoDB Developer Guide.

• For API details, see GetItem in AWS CLI Command Reference.

Get information about a table

The following code example shows how to get information about a DynamoDB table.

AWS CLI

To describe a table

The following describe-table example describes the MusicCollection table.

```
aws dynamodb describe-table
   --table-name MusicCollection
```

Output:

```
{
   "Table": {
       "AttributeDefinitions": [
         {
           "AttributeName": "Artist",
           "AttributeType": "S"
         },
         {
           "AttributeName": "SongTitle",
           "AttributeType": "S"
         }
       ],
       "ProvisionedThroughput": {
         "NumberOfDecreasesToday": 0,
         "WriteCapacityUnits": 5,
         "ReadCapacityUnits": 5
       },
       "TableSizeBytes": 0,
       "TableName": "MusicCollection",
       "TableStatus": "ACTIVE",
       "KeySchema": [
         {
           "KeyType": "HASH",
           "AttributeName": "Artist"
         }
       ]
   }
}
```
The following code example shows how to list DynamoDB tables.

**AWS CLI**

**Example 1: To list tables**

The following `list-tables` example lists all of the tables associated with the current AWS account and Region.

```bash
aws dynamodb list-tables
```

**Output:**

```json
{
   "TableNames": [
      "Forum",
      "ProductCatalog",
      "Reply",
      "Thread"
   ]
}
```

For more information, see [Listing Table Names](http://amazonaws.com) in the *Amazon DynamoDB Developer Guide*.

**Example 2: To limit page size**
The following example returns a list of all existing tables, but retrieves only one item in each call, performing multiple calls if necessary to get the entire list. Limiting the page size is useful when running list commands on a large number of resources, which can result in a "timed out" error when using the default page size of 1000.

```
aws dynamodb list-tables \
   --page-size 1
```

Output:

```
{
   "TableNames": [
       "Forum",
       "ProductCatalog",
       "Reply",
       "Thread"
   ]
}
```

For more information, see [Listing Table Names](#) in the *Amazon DynamoDB Developer Guide*.

**Example 3: To limit the number of items returned**

The following example limits the number of items returned to 2. The response includes a NextToken value with which to retrieve the next page of results.

```
aws dynamodb list-tables \
   --max-items 2
```

Output:

```
{
   "TableNames": [
       "Forum",
       "ProductCatalog"
   ],
   "NextToken":
   "abCDeFGhiJKlmnOPqrSTuvwxYZ1aBCdEFghijK7LM51n0pqRSTuv3WyY3ZabC5dEFghI2Jk3LmnoPQ6RST9"
}
```

For more information, see [Listing Table Names](#) in the *Amazon DynamoDB Developer Guide*. 
Example 4: To retrieve the next page of results

The following command uses the NextToken value from a previous call to the list-tables command to retrieve another page of results. Since the response in this case does not include a NextToken value, we know that we have reached the end of the results.

```bash
aws dynamodb list-tables \
  --starting-token abCDeFGhiJ1mnOPqrSTuvwxYZ1aBCdEFghijK7LM51n0pqRSTuv3WxY3ZabC5dEFGhI2Jk3LmnoPQ6RST9
```

Output:

```json
{
  "TableNames": [
    "Reply",
    "Thread"
  ]
}
```

For more information, see Listing Table Names in the Amazon DynamoDB Developer Guide.

- For API details, see ListTables in AWS CLI Command Reference.

Put an item in a table

The following code example shows how to put an item in a DynamoDB table.

AWS CLI

Example 1: To add an item to a table

The following put-item example adds a new item to the MusicCollection table.

```bash
aws dynamodb put-item \
  --table-name MusicCollection \
  --item file://item.json \
  --return-consumed-capacity TOTAL \
  --return-item-collection-metrics SIZE
```

Contents of item.json:

```json
{
```
Output:

```json
{
   "ConsumedCapacity": {
      "TableName": "MusicCollection",
      "CapacityUnits": 1.0
   },
   "ItemCollectionMetrics": {
      "ItemCollectionKey": {
         "Artist": {
            "S": "No One You Know"
         }
      },
      "SizeEstimateRangeGB": [
         0.0,
         1.0
      ]
   }
}
```

For more information, see [Writing an Item](https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/) in the *Amazon DynamoDB Developer Guide*.

**Example 2: To conditionally overwrite an item in a table**

The following `put-item` example overwrites an existing item in the *MusicCollection* table only if that existing item has an *AlbumTitle* attribute with a value of *Greatest Hits*. The command returns the previous value of the item.

```
aws dynamodb put-item \
   --table-name MusicCollection \
   --item file://item.json \
   --condition-expression "#A = :A" \
   --expression-attribute-names file://names.json \
   --expression-attribute-values file://values.json \
   --return-values ALL_OLD
```

**Contents of item.json:**
```json
{
    "Artist": {"S": "No One You Know"},
    "SongTitle": {"S": "Call Me Today"},
    "AlbumTitle": {"S": "Somewhat Famous"}
}
```

Contents of names.json:

```json
{
    "#A": "AlbumTitle"
}
```

Contents of values.json:

```json
{
    ":A": {"S": "Greatest Hits"}
}
```

Output:

```json
{
    "Attributes": {
        "AlbumTitle": {
            "S": "Greatest Hits"
        },
        "Artist": {
            "S": "No One You Know"
        },
        "SongTitle": {
            "S": "Call Me Today"
        }
    }
}
```

If the key already exists, you should see the following output:

A client error (ConditionalCheckFailedException) occurred when calling the PutItem operation: The conditional request failed.

For more information, see [Writing an Item](#) in the *Amazon DynamoDB Developer Guide*. 
• For API details, see PutItem in AWS CLI Command Reference.

Query a table

The following code example shows how to query a DynamoDB table.

AWS CLI

Example 1: To query a table

The following query example queries items in the MusicCollection table. The table has a hash-and-range primary key (Artist and SongTitle), but this query only specifies the hash key value. It returns song titles by the artist named "No One You Know".

```bash
aws dynamodb query \
   --table-name MusicCollection \
   --projection-expression "SongTitle" \
   --key-condition-expression "Artist = :v1" \
   --expression-attribute-values file://expression-attributes.json \
   --return-consumed-capacity TOTAL
```

Contents of expression-attributes.json:

```json
{
   ":v1": {"S": "No One You Know"}
}
```

Output:

```json
{
   "Items": [
      {
         "SongTitle": {
            "S": "Call Me Today"
         },
         "SongTitle": {
            "S": "Scared of My Shadow"
         }
      }
   ],
   "Count": 2,
}
```
For more information, see Working with Queries in DynamoDB in the Amazon DynamoDB Developer Guide.

Example 2: To query a table using strongly consistent reads and traverse the index in descending order

The following example performs the same query as the first example, but returns results in reverse order and uses strongly consistent reads.

```bash
aws dynamodb query \
  --table-name MusicCollection \
  --projection-expression "SongTitle" \
  --key-condition-expression "Artist = :v1" \
  --expression-attribute-values file://expression-attributes.json \
  --consistent-read \
  --no-scan-index-forward \
  --return-consumed-capacity TOTAL
```

Contents of expression-attributes.json:

```json
{
  ":v1": {"S": "No One You Know"}
}
```

Output:

```json
{
  "Items": [
    {
      "SongTitle": {
        "S": "Scared of My Shadow"
      }
    },
    {
      "SongTitle": {
```
Example 3: To filter out specific results

The following example queries the MusicCollection but excludes results with specific values in the AlbumTitle attribute. Note that this does not affect the ScannedCount or ConsumedCapacity, because the filter is applied after the items have been read.

```bash
aws dynamodb query \
   --table-name MusicCollection \
   --key-condition-expression "#n1 = :v1" \
   --filter-expression "NOT (#n2 IN (:v2, :v3))" \
   --expression-attribute-names file://names.json \
   --expression-attribute-values file://values.json \
   --return-consumed-capacity TOTAL
```

Contents of values.json:

```json
{
   ":v1": {"S": "No One You Know"},
   ":v2": {"S": "Blue Sky Blues"},
   ":v3": {"S": "Greatest Hits"}
}
```

Contents of names.json:

```json
{
   ":n1": "Artist",
```
Output:

```
{
   "Items": [
   {
      "AlbumTitle": {
         "S": "Somewhat Famous"
      },
      "Artist": {
         "S": "No One You Know"
      },
      "SongTitle": {
         "S": "Call Me Today"
      }
   }
   ],
   "Count": 1,
   "ScannedCount": 2,
   "ConsumedCapacity": {
      "TableName": "MusicCollection",
      "CapacityUnits": 0.5
   }
}
```

For more information, see [Working with Queries in DynamoDB](https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/working-with-query.html) in the *Amazon DynamoDB Developer Guide*.

**Example 4: To retrieve only an item count**

The following example retrieves a count of items matching the query, but does not retrieve any of the items themselves.

```
aws dynamodb query \
   --table-name MusicCollection \
   --select COUNT \n   --key-condition-expression "Artist = :v1" \n   --expression-attribute-values file://expression-attributes.json
```

**Contents of expression-attributes.json:**

```
"#n2": "AlbumTitle"
}```
Example 5: To query an index

The following example queries the local secondary index AlbumTitleIndex. The query returns all attributes from the base table that have been projected into the local secondary index. Note that when querying a local secondary index or global secondary index, you must also provide the name of the base table using the `table-name` parameter.

```
aws dynamodb query \
  --table-name MusicCollection \
  --index-name AlbumTitleIndex \
  --key-condition-expression "Artist = :v1" \
  --expression-attribute-values file://expression-attributes.json \
  --select ALL_PROJECTED_ATTRIBUTES \
  --return-consumed-capacity INDEXES
```

Contents of `expression-attributes.json`:

```
{
  "v1": {"S": "No One You Know"}
}
```

Output:

```
{
      "Count": 2,
      "ScannedCount": 2,
      "ConsumedCapacity": null
}
```

For more information, see [Working with Queries in DynamoDB](https://docs.aws.amazon.com/AWSDynamoDB/latest/developerguide/queries.html) in the *Amazon DynamoDB Developer Guide*.
"Items": [
  {
    "AlbumTitle": {
      "S": "Blue Sky Blues"
    },
    "Artist": {
      "S": "No One You Know"
    },
    "SongTitle": {
      "S": "Scared of My Shadow"
    }
  },
  {
    "AlbumTitle": {
      "S": "Somewhat Famous"
    },
    "Artist": {
      "S": "No One You Know"
    },
    "SongTitle": {
      "S": "Call Me Today"
    }
  }
],
"Count": 2,
"ScannedCount": 2,
"ConsumedCapacity": {
  "TableName": "MusicCollection",
  "CapacityUnits": 0.5,
  "Table": {
    "CapacityUnits": 0.0
  },
  "LocalSecondaryIndexes": {
    "AlbumTitleIndex": {
      "CapacityUnits": 0.5
    }
  }
}

For more information, see Working with Queries in DynamoDB in the Amazon DynamoDB Developer Guide.

- For API details, see Query in AWS CLI Command Reference.
**Scan a table**

The following code example shows how to scan a DynamoDB table.

**AWS CLI**

**To scan a table**

The following scan example scans the entire MusicCollection table, and then narrows the results to songs by the artist "No One You Know". For each item, only the album title and song title are returned.

```
aws dynamodb scan \
   --table-name MusicCollection \
   --filter-expression "Artist = :a" \
   --projection-expression "#ST, #AT" \
   --expression-attribute-names file://expression-attribute-names.json \
   --expression-attribute-values file://expression-attribute-values.json
```

Contents of `expression-attribute-names.json`:

```json
{
    "#ST": "SongTitle",
    "#AT": "AlbumTitle"
}
```

Contents of `expression-attribute-values.json`:

```json
{
    "a": {"S": "No One You Know"}
}
```

Output:

```json
{
    "Count": 2,
    "Items": [
        {
            "SongTitle": {
                "S": "Call Me Today"
            }
        },
        {
            "SongTitle": {
                "S": "Leave You on Your Own"
            }
        }
    ]
}
```
For more information, see Working with Scans in DynamoDB in the Amazon DynamoDB Developer Guide.

- For API details, see Scan in AWS CLI Command Reference.

**Update an item in a table**

The following code example shows how to update an item in a DynamoDB table.

**AWS CLI**

**Example 1: To update an item in a table**

The following update-item example updates an item in the MusicCollection table. It adds a new attribute (Year) and modifies the AlbumTitle attribute. All of the attributes in the item, as they appear after the update, are returned in the response.

```
aws dynamodb update-item \
  --table-name MusicCollection \
  --key file://key.json \
  --update-expressions "SET #Y = :y, #AT = :t" \
  --expression-attribute-names file://expression-attribute-names.json \
  --expression-attribute-values file://expression-attribute-values.json \
  --return-values ALL_NEW \
```

Contents of key.json:

```
{
    "Artist": {"S": "Acme Band"},
    "SongTitle": {"S": "Happy Day"}
}
```

Contents of expression-attribute-names.json:

```
{
    "#Y": "Year", "#AT": "AlbumTitle"
}
```

Contents of expression-attribute-values.json:

```
{
    ":y": {"N": "2015"},
    ":t": {"S": "Louder Than Ever"}
}
```

Output:

```
{
    "Attributes": {
        "AlbumTitle": {
            "S": "Louder Than Ever"
        },
        "Awards": {
            "N": "10"
        },
        "Artist": {
            "S": "Acme Band"
        },
        "Year": {
            "N": "2015"
        },
        "SongTitle": {
            "S": "Happy Day"
        }
    }
}
```
For more information, see Writing an Item in the Amazon DynamoDB Developer Guide.

Example 2: To update an item conditionally

The following example updates an item in the MusicCollection table, but only if the existing item does not already have a Year attribute.

```bash
aws dynamodb update-item 
--table-name MusicCollection 
--key file://key.json 
--update-expression "SET #Y = :y, #AT = :t" 
--expression-attribute-names file://expression-attribute-names.json 
--expression-attribute-values file://expression-attribute-values.json 
--condition-expression "attribute_not_exists(#Y)"
```

Contents of key.json:

```json
{
    "Artist": {"S": "Acme Band"},
    "SongTitle": {"S": "Happy Day"}
}
```

Contents of expression-attribute-names.json:
Contents of expression-attribute-values.json:

```json
{
    "#Y":"Year",
    "#AT":"AlbumTitle"
}
```

Contents of expression-attribute-values.json:

```json
{
    ":y":{"N": "2015"},
    ":t":{"S": "Louder Than Ever"}
}
```

If the item already has a Year attribute, DynamoDB returns the following output.

An error occurred (ConditionalCheckFailedException) when calling the UpdateItem operation: The conditional request failed

For more information, see Writing an Item in the Amazon DynamoDB Developer Guide.

• For API details, see UpdateItem in AWS CLI Command Reference.

Write a batch of items

The following code example shows how to write a batch of DynamoDB items.

AWS CLI

To add multiple items to a table

The following batch-write-item example adds three new items to the MusicCollection table using a batch of three PutItem requests. It also requests information about the number of write capacity units consumed by the operation and any item collections modified by the operation.

```bash
aws dynamodb batch-write-item \
  --request-items file://request-items.json \
  --return-consumed-capacity INDEXES \
  --return-item-collection-metrics SIZE
```

Contents of request-items.json:

```json
{
    "#Y": "Year",
    "#AT": "AlbumTitle"
}
```

```json
{
    "y": {"N": "2015"},
    "t": {"S": "Louder Than Ever"}
}
```
{
    "MusicCollection": [
        {
            "PutRequest": {
                "Item": {
                    "Artist": {"S": "No One You Know"},
                    "SongTitle": {"S": "Call Me Today"},
                    "AlbumTitle": {"S": "Somewhat Famous"}
                }
            }
        },
        {
            "PutRequest": {
                "Item": {
                    "Artist": {"S": "Acme Band"},
                    "SongTitle": {"S": "Happy Day"},
                    "AlbumTitle": {"S": "Songs About Life"}
                }
            }
        },
        {
            "PutRequest": {
                "Item": {
                    "Artist": {"S": "No One You Know"},
                    "SongTitle": {"S": "Scared of My Shadow"},
                    "AlbumTitle": {"S": "Blue Sky Blues"}
                }
            }
        }
    ]
}

Output:

{
    "UnprocessedItems": {},
    "ItemCollectionMetrics": {
        "MusicCollection": [
            {
                "ItemCollectionKey": {
                    "Artist": {
                        "S": "No One You Know"
                    }
                }
            }
        ]
    }
}
For more information, see Batch Operations in the Amazon DynamoDB Developer Guide.

- For API details, see BatchWriteItem in AWS CLI Command Reference.

create-backup

The following code example shows how to use create-backup.
AWS CLI

To create a backup for an existing DynamoDB table

The following create-backup example creates a backup of the MusicCollection table.

```bash
aws dynamodb create-backup \
   --table-name MusicCollection \
   --backup-name MusicCollectionBackup
```

Output:

```json
{
   "BackupDetails": {
      "BackupArn": "arn:aws:dynamodb:us-west-2:123456789012:table/MusicCollection/backup/01576616366715-b4e58d3a",
      "BackupName": "MusicCollectionBackup",
      "BackupSizeBytes": 0,
      "BackupStatus": "CREATING",
      "BackupType": "USER",
      "BackupCreationDateTime": 1576616366.715
   }
}
```

For more information, see On-Demand Backup and Restore for DynamoDB in the Amazon DynamoDB Developer Guide.

- For API details, see CreateBackup in AWS CLI Command Reference.

create-global-table

The following code example shows how to use create-global-table.

AWS CLI

To create a global table

The following create-global-table example creates a global table from two identical tables in the specified, separate AWS Regions.

```bash
aws dynamodb create-global-table \
```

Actions and scenarios
Output:

```
{
    "GlobalTableDescription": {
        "ReplicationGroup": [
            {
                "RegionName": "us-east-2"
            },
            {
                "RegionName": "us-east-1"
            }
        ],
        "GlobalTableArn": "arn:aws:dynamodb::123456789012:global-table/MusicCollection",
        "CreationDateTime": 1576625818.532,
        "GlobalTableStatus": "CREATING",
        "GlobalTableName": "MusicCollection"
    }
}
```

For more information, see [DynamoDB Global Tables](https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/GlobalTables.html) in the *Amazon DynamoDB Developer Guide*.

- For API details, see [CreateGlobalTable](https://docs.aws.amazon.com/cli/latest/reference/dynamodb/create-global-table.html) in *AWS CLI Command Reference*.

### delete-backup

The following code example shows how to use delete-backup.

**AWS CLI**

**To delete an existing DynamoDB backup**

The following delete-backup example deletes the specified existing backup.

```bash
aws dynamodb delete-backup \   --backup-arn arn:aws:dynamodb:us-west-2:123456789012:table/MusicCollection/backup/01576616366715-b4e58d3a
```
Output:

```json
{
    "BackupDescription": {
        "BackupDetails": {
            "BackupArn": "arn:aws:dynamodb:us-west-2:123456789012:table/MusicCollection/backup/01576616366715-b4e58d3a",
            "BackupName": "MusicCollectionBackup",
            "BackupSizeBytes": 0,
            "BackupStatus": "DELETED",
            "BackupType": "USER",
            "BackupCreationDateTime": 1576616366.715
        },
        "SourceTableDetails": {
            "TableName": "MusicCollection",
            "TableId": "b0c04bcc-309b-4352-b2ae-9088af169fe2",
            "TableArn": "arn:aws:dynamodb:us-west-2:123456789012:table/MusicCollection",
            "TableSizeBytes": 0,
            "KeySchema": [
                {
                    "AttributeName": "Artist",
                    "KeyType": "HASH"
                },
                {
                    "AttributeName": "SongTitle",
                    "KeyType": "RANGE"
                }
            ],
            "TableCreationDateTime": 1576615228.571,
            "ProvisionedThroughput": {
                "ReadCapacityUnits": 5,
                "WriteCapacityUnits": 5
            },
            "ItemCount": 0,
            "BillingMode": "PROVISIONED"
        },
        "SourceTableFeatureDetails": {}
    }
}
```

For more information, see [On-Demand Backup and Restore for DynamoDB](https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/dynamodb-backup.html) in the [Amazon DynamoDB Developer Guide](https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/).
describe-backup

The following code example shows how to use describe-backup.

AWS CLI

To get information about an existing backup of a table

The following describe-backup example displays information about the specified existing backup.

```bash
aws dynamodb describe-backup \
   --backup-arn arn:aws:dynamodb:us-west-2:123456789012:table/MusicCollection/backup/01576616366715-b4e58d3a
```

Output:

```
{
   "BackupDescription": {
      "BackupDetails": {
         "BackupArn": "arn:aws:dynamodb:us-west-2:123456789012:table/MusicCollection/backup/01576616366715-b4e58d3a",
         "BackupName": "MusicCollectionBackup",
         "BackupSizeBytes": 0,
         "BackupStatus": "AVAILABLE",
         "BackupType": "USER",
         "BackupCreationDateTime": 1576616366.715
      },
      "SourceTableDetails": {
         "TableName": "MusicCollection",
         "TableId": "b0c04b9c-309b-4352-b2ae-9088af169fe2",
         "TableArn": "arn:aws:dynamodb:us-west-2:123456789012:table/MusicCollection",
         "TableSizeBytes": 0,
         "KeySchema": [
            {
               "AttributeName": "Artist",
               "KeyType": "HASH"
            }
         ]
      }
   }
}
```
For more information, see [On-Demand Backup and Restore for DynamoDB](https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/continuous-backups.html) in the *Amazon DynamoDB Developer Guide*.

- For API details, see [DescribeBackup](https://docs.aws.amazon.com/cli/latest/reference/dynamodb/describe-backups.html) in *AWS CLI Command Reference*.

### describe-continuous-backups

The following code example shows how to use `describe-continuous-backups`.

#### AWS CLI

**To get information about continuous backups for a DynamoDB table**

The following `describe-continuous-backups` example displays details about the continuous backup settings for the `MusicCollection` table.

```bash
aws dynamodb describe-continuous-backups \
  --table-name MusicCollection
```

**Output:**

```json
{
  "ContinuousBackupsDescription": {
    "ContinuousBackupsStatus": "ENABLED",
    "PointInTimeRecoveryDescription": {
      "PointInTimeRecoveryStatus": "DISABLED"
    }
  }
}
```
For more information, see Point-in-Time Recovery for DynamoDB in the Amazon DynamoDB Developer Guide.

- For API details, see DescribeContinuousBackups in AWS CLI Command Reference.

describe-contributor-insights

The following code example shows how to use describe-contributor-insights.

AWS CLI

To view Contributor Insights settings for a DynamoDB table

The following describe-contributor-insights example displays the Contributor Insights settings for the MusicCollection table and the AlbumTitle-index global secondary index.

```bash
aws dynamodb describe-contributor-insights \\
    --table-name MusicCollection \\
    --index-name AlbumTitle-index
```

Output:

```json
{
    "TableName": "MusicCollection",
    "IndexName": "AlbumTitle-index",
    "ContributorInsightsRuleList": [
        "DynamoDBContributorInsights-PKC-MusicCollection-1576629651520",
        "DynamoDBContributorInsights-SKC-MusicCollection-1576629651520",
        "DynamoDBContributorInsights-PKT-MusicCollection-1576629651520",
        "DynamoDBContributorInsights-SKT-MusicCollection-1576629651520"
    ],
    "ContributorInsightsStatus": "ENABLED",
    "LastUpdateDateTime": 1576629654.78
}
```

For more information, see Analyzing Data Access Using CloudWatch Contributor Insights for DynamoDB in the Amazon DynamoDB Developer Guide.

- For API details, see DescribeContributorInsights in AWS CLI Command Reference.
**describe-endpoints**

The following code example shows how to use `describe-endpoints`.

**AWS CLI**

**To view regional endpoint information**

The following `describe-endpoints` example displays details about the endpoints for the current AWS Region.

```shell
aws dynamodb describe-endpoints
```

Output:

```json
{
   "Endpoints": [
      {
         "Address": "dynamodb.us-west-2.amazonaws.com",
         "CachePeriodInMinutes": 1440
      }
   ]
}
```

For more information, see [Amazon DynamoDB Endpoints and Quotas](https://docs.aws.amazon.com/AmazonDynamoDB/latest/developerguide/Amazon-DynamoDB-Endpoints-Quotas.html) in the *AWS General Reference*.

- For API details, see [DescribeEndpoints](https://docs.aws.amazon.com/cli/latest/reference/dynamodb/describe-endpoints.html) in *AWS CLI Command Reference*.

**describe-global-table**

The following code example shows how to use `describe-global-table`.

**AWS CLI**

**To display information about a DynamoDB global table**

The following `describe-global-table` example displays details about the `MusicCollection` global table.

```shell
aws dynamodb describe-global-table \
   --global-table-name MusicCollection
```
Output:

```
{
    "GlobalTableDescription": {
        "ReplicationGroup": [
            {
                "RegionName": "us-east-2"
            },
            {
                "RegionName": "us-east-1"
            }
        ],
        "GlobalTableArn": "arn:aws:dynamodb::123456789012:global-table/MusicCollection",
        "CreationDateTime": 1576625818.532,
        "GlobalTableStatus": "ACTIVE",
        "GlobalTableName": "MusicCollection"
    }
}
```

For more information, see [DynamoDB Global Tables](https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/GLOBAL-TABLES.html) in the *Amazon DynamoDB Developer Guide*.

- For API details, see [DescribeGlobalTable](https://docs.aws.amazon.com/cli/latest/reference/dynamodb/describe-global-table.html) in *AWS CLI Command Reference*.

**describe-global-table-settings**

The following code example shows how to use `describe-global-table-settings`.

**AWS CLI**

**To get information about a DynamoDB global table's settings**

The following `describe-global-table-settings` example displays the settings for the MusicCollection global table.

```
aws dynamodb describe-global-table-settings \
    --global-table-name MusicCollection
```

Output:

```
{
    "GlobalTableName": "MusicCollection",
    "ReplicaSettings": [
```
For more information, see [DynamoDB Global Tables](https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/DynamoDBGlobalTable.html) in the *Amazon DynamoDB Developer Guide*.

- For API details, see [DescribeGlobalTableSettings](https://docs.aws.amazon.com/cli/latest/reference/dynamodb/describe-limits.html) in *AWS CLI Command Reference*.

### describe-limits

The following code example shows how to use `describe-limits`.

#### AWS CLI

**To view provisioned-capacity limits**

The following `describe-limits` example displays provisioned-capacity limits for your account in the current AWS Region.

```
aws dynamodb describe-limits
```
Output:

```
{
    "AccountMaxReadCapacityUnits": 80000,
    "AccountMaxWriteCapacityUnits": 80000,
    "TableMaxReadCapacityUnits": 40000,
    "TableMaxWriteCapacityUnits": 40000
}
```

For more information, see [Limits in DynamoDB](https://docs.aws.amazon.com/AmazonDynamoDB/latest/LimitOverview.html) in the *Amazon DynamoDB Developer Guide*.

- For API details, see [DescribeLimits](https://docs.aws.amazon.com/cli/latest/reference/dynamodb/describe-limits.html) in *AWS CLI Command Reference*.

### describe-table-replica-auto-scaling

The following code example shows how to use `describe-table-replica-auto-scaling`.

**AWS CLI**

To view auto scaling settings across replicas of a global table

The following `describe-table-replica-auto-scaling` example displays auto scaling settings across replicas of the *MusicCollection* global table.

```bash
aws dynamodb describe-table-replica-auto-scaling \
  --table-name MusicCollection
```

Output:

```
{
    "TableAutoScalingDescription": {
        "TableName": "MusicCollection",
        "TableStatus": "ACTIVE",
        "Replicas": [
            {
                "RegionName": "us-east-1",
                "GlobalSecondaryIndexes": [],
                "ReplicaProvisionedReadCapacityAutoScalingSettings": {
                    "MinimumUnits": 5,
                    "MaximumUnits": 40000,
                    "AutoScalingRoleArn": "arn:aws:iam::123456789012:role/\naws-service-role/dynamodb.application-autoscaling.amazonaws.com/AWSServiceRoleForApplicationAutoScaling_DynamoDBTable",
```

```
"ScalingPolicies": [  
  {
    "PolicyName": "DynamoDBReadCapacityUtilization:table/MusicCollection",
    "TargetTrackingScalingPolicyConfiguration": {
      "TargetValue": 70.0
    }
  }
],
"ReplicaProvisionedWriteCapacityAutoScalingSettings": {
  "MinimumUnits": 5,
  "MaximumUnits": 40000,
  "AutoScalingRoleArn": "arn:aws:iam::123456789012:role/aws-service-role/dynamodb.application-autoscaling.amazonaws.com/AWSServiceRoleForApplicationAutoScaling_DynamoDBTable",
  "ScalingPolicies": [
    {
      "PolicyName": "DynamoDBWriteCapacityUtilization:table/MusicCollection",
      "TargetTrackingScalingPolicyConfiguration": {
        "TargetValue": 70.0
      }
    }
  ]
},
"ReplicaStatus": "ACTIVE"
},
{
  "RegionName": "us-east-2",
  "GlobalSecondaryIndexes": [],
  "ReplicaProvisionedReadCapacityAutoScalingSettings": {
    "MinimumUnits": 5,
    "MaximumUnits": 40000,
    "AutoScalingRoleArn": "arn:aws:iam::123456789012:role/aws-service-role/dynamodb.application-autoscaling.amazonaws.com/AWSServiceRoleForApplicationAutoScaling_DynamoDBTable",
    "ScalingPolicies": [
      {
        "PolicyName": "DynamoDBReadCapacityUtilization:table/MusicCollection",
        "TargetTrackingScalingPolicyConfiguration": {
          "TargetValue": 70.0
        }
      }
    ]
  }
}
{  
  

  "ReplicaProvisionedWriteCapacityAutoScalingSettings": {  
    "MinimumUnits": 5,  
    "MaximumUnits": 40000,  
    "AutoScalingRoleArn": "arn:aws:iam::123456789012:role/aws-service-role/dynamodb.application-autoscaling.amazonaws.com/AWSServiceRoleForApplicationAutoScaling_DynamoDBTable",  
    "ScalingPolicies": [  
      {  
        "PolicyName": "DynamoDBWriteCapacityUtilization:table/MusicCollection",  
        "TargetTrackingScalingPolicyConfiguration": {  
          "TargetValue": 70.0  
        }  
      }  
    ],  
    "ReplicaStatus": "ACTIVE"  

  

}  

For more information, see [DynamoDB Global Tables](https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/) in the *Amazon DynamoDB Developer Guide*.  

- For API details, see [DescribeTableReplicaAutoScaling](https://docs.aws.amazon.com/cli/latest/reference/dynamodb/describe-table-replica-autoscaling.html) in *AWS CLI Command Reference*.

### describe-time-to-live

The following code example shows how to use `describe-time-to-live`.

#### AWS CLI

**To view Time to Live settings for a table**

The following `describe-time-to-live` example displays Time to Live settings for the `MusicCollection` table.

```bash
aws dynamodb describe-time-to-live --table-name MusicCollection
```
For more information, see Time to Live in the Amazon DynamoDB Developer Guide. For API details, see DescribeTimeToLive in AWS CLI Command Reference.

`list-backups`

The following code example shows how to use `list-backups`.

**AWS CLI**

**Example 1: To list all existing DynamoDB backups**

The following `list-backups` example lists all of your existing backups.

```
aws dynamodb list-backups
```

Output:

```
{
    "BackupSummaries": [
        {
            "TableName": "MusicCollection",
            "TableId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
            "TableArn": "arn:aws:dynamodb:us-west-2:123456789012:table/MusicCollection",
            "BackupArn": "arn:aws:dynamodb:us-west-2:123456789012:table/MusicCollection/backup/01234567890123-a1bcd234",
            "BackupName": "MusicCollectionBackup1",
            "BackupCreationDateTime": "2020-02-12T14:41:51.617000-08:00",
            "BackupStatus": "AVAILABLE",
            "BackupType": "USER",
            "BackupSizeBytes": 170
        }
    ]
}
```
For more information, see On-Demand Backup and Restore for DynamoDB in the Amazon DynamoDB Developer Guide.

Example 2: To list user-created backups in a specific time range

The following example lists only backups of the MusicCollection table that were created by the user (not those automatically created by DynamoDB) with a creation date between January 1, 2020 and March 1, 2020.

```bash
aws dynamodb list-backups \
   --table-name MusicCollection \
   --time-range-lower-bound 1577836800 \
   --time-range-upper-bound 1583020800 \
   --backup-type USER
```

Output:

```json
{
   "BackupSummaries": [
   {
      "TableName": "MusicCollection",
      "TableId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
      "TableArn": "arn:aws:dynamodb:us-west-2:123456789012:table/MusicCollection",
      "BackupName": "MusicCollectionBackup2",
      "BackupCreationDateTime": "2020-06-26T11:08:35.431000-07:00",
      "BackupStatus": "AVAILABLE",
      "BackupType": "USER",
      "BackupSizeBytes": 400
   }
   ]
}
```
For more information, see On-Demand Backup and Restore for DynamoDB in the Amazon DynamoDB Developer Guide.

**Example 3: To limit page size**

The following example returns a list of all existing backups, but retrieves only one item in each call, performing multiple calls if necessary to get the entire list. Limiting the page size is useful when running list commands on a large number of resources, which can result in a "timed out" error when using the default page size of 1000.

```
aws dynamodb list-backups \
   --page-size 1
```

Output:

```json
{
   "BackupSummaries": [
   {
      "TableName": "MusicCollection",
      "TableId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
      "TableArn": "arn:aws:dynamodb:us-west-2:123456789012:table/MusicCollection",
      "BackupArn": "arn:aws:dynamodb:us-west-2:123456789012:table/MusicCollection/backup/01234567890123-a1bcd234",
      "BackupName": "MusicCollectionBackup1",
      "BackupCreationDateTime": "2020-02-12T14:41:51.617000-08:00",
      "BackupStatus": "AVAILABLE",
      "BackupType": "USER",
      "BackupSizeBytes": 170
   },
   {
      "TableName": "MusicCollection",
      "TableId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
```


"TableArn": "arn:aws:dynamodb:us-west-2:123456789012:table/MusicCollection",
  "BackupName": "MusicCollectionBackup2",
  "BackupCreationDateTime": "2020-06-26T11:08:35.431000-07:00",
  "BackupStatus": "AVAILABLE",
  "BackupType": "USER",
  "BackupSizeBytes": 400
}

For more information, see On-Demand Backup and Restore for DynamoDB in the Amazon DynamoDB Developer Guide.

**Example 4: To limit the number of items returned**

The following example limits the number of items returned to 1. The response includes a NextToken value with which to retrieve the next page of results.

```
aws dynamodb list-backups \
  --max-items 1
```

Output:

```
{
  "BackupSummaries": [
    {
      "TableName": "MusicCollection",
      "TableId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
      "TableArn": "arn:aws:dynamodb:us-west-2:123456789012:table/MusicCollection",
      "BackupArn": "arn:aws:dynamodb:us-west-2:123456789012:table/MusicCollection/backup/01234567890123-a1bcd234",
      "BackupName": "MusicCollectionBackup1",
      "BackupCreationDateTime": "2020-02-12T14:41:51.617000-08:00",
      "BackupStatus": "AVAILABLE",
      "BackupType": "USER",
      "BackupSizeBytes": 170
    }
  ],
}
"NextToken":
   "abCDeFGhiJKlmnOPqrSTuvwxYZ1aBCdEFghiJK7LM51n0pqRSTuv3WxY3ZabC5dEFGhI2Jk3LmnoPQ6RST9"
}

For more information, see On-Demand Backup and Restore for DynamoDB in the Amazon DynamoDB Developer Guide.

**Example 5: To retrieve the next page of results**

The following command uses the NextToken value from a previous call to the list-backups command to retrieve another page of results. Since the response in this case does not include a NextToken value, we know that we have reached the end of the results.

```bash
aws dynamodb list-backups \
   --starting-token
   abCDeFGhiJKlmnOPqrSTuvwxYZ1aBCdEFghiJK7LM51n0pqRSTuv3WxY3ZabC5dEFGhI2Jk3LmnoPQ6RST9
```

**Output**

```
{
   "BackupSummaries": [
      {
         "TableName": "MusicCollection",
         "TableId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
         "TableArn": "arn:aws:dynamodb:us-west-2:123456789012:table/MusicCollection",
         "BackupName": "MusicCollectionBackup2",
         "BackupCreationDateTime": "2020-06-26T11:08:35.431000-07:00",
         "BackupStatus": "AVAILABLE",
         "BackupType": "USER",
         "BackupSizeBytes": 400
      }
   ]
}
```

For more information, see On-Demand Backup and Restore for DynamoDB in the Amazon DynamoDB Developer Guide.

- For API details, see ListBackups in AWS CLI Command Reference.
list-contributor-insights

The following code example shows how to use list-contributor-insights.

AWS CLI

Example 1: To view a list of Contributor Insights summaries

The following list-contributor-insights example displays a list of Contributor Insights summaries.

```bash
aws dynamodb list-contributor-insights
```

Output:

```json
{
    "ContributorInsightsSummaries": [
        {
            "TableName": "MusicCollection",
            "IndexName": "AlbumTitle-index",
            "ContributorInsightsStatus": "ENABLED"
        },
        {
            "TableName": "ProductCatalog",
            "ContributorInsightsStatus": "ENABLED"
        },
        {
            "TableName": "Forum",
            "ContributorInsightsStatus": "ENABLED"
        },
        {
            "TableName": "Reply",
            "ContributorInsightsStatus": "ENABLED"
        },
        {
            "TableName": "Thread",
            "ContributorInsightsStatus": "ENABLED"
        }
    ]
}
```

For more information, see [Analyzing Data Access Using CloudWatch Contributor Insights for DynamoDB](https://docs.aws.amazon.com/dynamodb/latest/developerguide/cloudwatch-contributor-insights.html) in the *Amazon DynamoDB Developer Guide*. 
Example 2: To limit the number of items returned

The following example limits the number of items returned to 4. The response includes a `NextToken` value with which to retrieve the next page of results.

```
aws dynamodb list-contributor-insights \
    --max-results 4
```

Output:

```
{
    "ContributorInsightsSummaries": [
        {
            "TableName": "MusicCollection",
            "IndexName": "AlbumTitle-index",
            "ContributorInsightsStatus": "ENABLED"
        },
        {
            "TableName": "ProductCatalog",
            "ContributorInsightsStatus": "ENABLED"
        },
        {
            "TableName": "Forum",
            "ContributorInsightsStatus": "ENABLED"
        }
    ],
    "NextToken": "abCDeFGhiJKImnOPqrSTuvwxYZ1aBCdEFghijK7LM51nOqqRSTuv3WxY3ZabC5dEFghI2Jk3LmnoPQ6RST9"
}
```

For more information, see [Analyzing Data Access Using CloudWatch Contributor Insights for DynamoDB](https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/CloudWatch-Contributor-Insights.using.html) in the *Amazon DynamoDB Developer Guide*.

Example 3: To retrieve the next page of results

The following command uses the `NextToken` value from a previous call to the `list-contributor-insights` command to retrieve another page of results. Since the response in this case does not include a `NextToken` value, we know that we have reached the end of the results.

```
aws dynamodb list-contributor-insights \
```
--max-results 4 \
--next-token
abCDeFGhiJKlmn0PqrSTuvwxYZ1aBCdEFghijK7LM51n0pqRSTuv3WxY3ZabC5dEFGhI2Jk3LmnoPQ6RST9

Output:

```json
{
  "ContributorInsightsSummaries": [
    {
      "TableName": "Reply",
      "ContributorInsightsStatus": "ENABLED"
    },
    {
      "TableName": "Thread",
      "ContributorInsightsStatus": "ENABLED"
    }
  ]
}
```


- For API details, see [ListContributorInsights](https://docs.aws.amazon.com/cli/latest/reference/dynamodb/list-contributor-insights.html) in AWS CLI Command Reference.

### list-global-tables

The following code example shows how to use `list-global-tables`.

**AWS CLI**

**To list existing DynamoDB global tables**

The following `list-global-tables` example lists all of your existing global tables.

```bash/aws dynamodb list-global-tables
```

Output:

```json
{
  "GlobalTables": [
    {
```
"GlobalTableName": "MusicCollection",
"ReplicationGroup": [
  {
    "RegionName": "us-east-2"
  },
  {
    "RegionName": "us-east-1"
  }
]
}

For more information, see DynamoDB Global Tables in the Amazon DynamoDB Developer Guide.

- For API details, see ListGlobalTables in AWS CLI Command Reference.

list-tags-of-resource

The following code example shows how to use list-tags-of-resource.

AWS CLI

Example 1: To list tags of a DynamoDB resource

The following list-tags-of-resource example displays tags for the MusicCollection table.

```bash
aws dynamodb list-tags-of-resource \
```

Output:

```json
{
  "Tags": [
    {
      "Key": "Owner",
      "Value": "blueTeam"
    },
    {
      "Key": "Environment",
      "Value": "Production"
    }
  ]
}
```
Example 2: To limit the number of tags returned

The following example limits the number of tags returned to 1. The response includes a `NextToken` value with which to retrieve the next page of results.

```
aws dynamodb list-tags-of-resource \
  --resource-arn arn:aws:dynamodb:us-west-2:123456789012:table/MusicCollection \
  --max-items 1
```

Output:

```
{
  "Tags": [
    {
      "Key": "Owner",
      "Value": "blueTeam"
    }
  ],
  "NextToken":
  "abCDeFGhiJK1mnOPqrSTuvwxYZ1aBCdEFghijK7LM51nOpqRSTuv3WxY3ZabC5dEFGhi2Jk3LmnoPQ6RST9"
}
```

Example 3: To retrieve the next page of results

The following command uses the `NextToken` value from a previous call to the `list-tags-of-resource` command to retrieve another page of results. Since the response in this case does not include a `NextToken` value, we know that we have reached the end of the results.

```
aws dynamodb list-tags-of-resource \
  --resource-arn arn:aws:dynamodb:us-west-2:123456789012:table/MusicCollection \
  --starting-token abCDeFGhiJK1mnOPqrSTuvwxYZ1aBCdEFghijK7LM51nOpqRSTuv3WxY3ZabC5dEFGhi2Jk3LmnoPQ6RST9
```
Output:

```
{
  "Tags": [
    {
      "Key": "Environment",
      "Value": "Production"
    }
  ]
}
```

For more information, see [Tagging for DynamoDB](https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/DynamoDB-Tagging.html) in the *Amazon DynamoDB Developer Guide*.

- For API details, see [ListTagsOfResource](https://docs.aws.amazon.com/cli/latest/reference/dynamodb/list-tags-of-resource.html) in *AWS CLI Command Reference*.

### restore-table-from-backup

The following code example shows how to use `restore-table-from-backup`.

**AWS CLI**

**To restore a DynamoDB table from an existing backup**

The following `restore-table-from-backup` example restores the specified table from an existing backup.

```
aws dynamodb restore-table-from-backup \
  --target-table-name MusicCollection \
  --backup-arn arn:aws:dynamodb:us-west-2:123456789012:table/MusicCollection/backup/01576616366715-b4e58d3a
```

Output:

```
{
  "TableDescription": {
    "AttributeDefinitions": [
      {
        "AttributeName": "Artist",
        "AttributeType": "S"
      },
      {
        "AttributeName": "SongTitle",
```
For more information, see On-Demand Backup and Restore for DynamoDB in the Amazon DynamoDB Developer Guide.

- For API details, see RestoreTableFromBackup in AWS CLI Command Reference.
**restore-table-to-point-in-time**

The following code example shows how to use `restore-table-to-point-in-time`.

**AWS CLI**

**To restore a DynamoDB table to a point in time**

The following `restore-table-to-point-in-time` example restores the `MusicCollection` table to the specified point in time.

```bash
aws dynamodb restore-table-to-point-in-time \
  --source-table-name MusicCollection \
  --target-table-name MusicCollectionRestore \
  --restore-date-time 1576622404.0
```

**Output:**

```json
{
    "TableDescription": {
        "AttributeDefinitions": [
            {
                "AttributeName": "Artist",
                "AttributeType": "S"
            },
            {
                "AttributeName": "SongTitle",
                "AttributeType": "S"
            }
        ],
        "TableName": "MusicCollectionRestore",
        "KeySchema": [
            {
                "AttributeName": "Artist",
                "KeyType": "HASH"
            },
            {
                "AttributeName": "SongTitle",
                "KeyType": "RANGE"
            }
        ],
        "TableStatus": "CREATING",
        "CreationDateTime": 1576623311.86,
```

Actions and scenarios
The following code example shows how to use `tag-resource`.

**AWS CLI**

**To add tags to a DynamoDB resource**

The following `tag-resource` example adds a tag key/value pair to the MusicCollection table.

```
aws dynamodb tag-resource \
  --resource-arn arn:aws:dynamodb:us-west-2:123456789012:table/MusicCollection \
  --tags Key=Owner,Value=blueTeam
```

This command produces no output.
For more information, see Tagging for DynamoDB in the Amazon DynamoDB Developer Guide.

- For API details, see TagResource in AWS CLI Command Reference.

**transact-get-items**

The following code example shows how to use transact-get-items.

**AWS CLI**

**To retrieve multiple items atomically from one or more tables**

The following transact-get-items example retrieves multiple items atomically.

```
aws dynamodb transact-get-items \
   --transact-items file://transact-items.json \
   --return-consumed-capacity TOTAL
```

**Contents of transact-items.json:**

```json
[
  {
    "Get": {
      "Key": { 
        "Artist": "{"S": "Acme Band"},
        "SongTitle": "{"S": "Happy Day"}
      },
      "TableName": "MusicCollection"
    }
  },
  {
    "Get": {
      "Key": { 
        "Artist": "{"S": "No One You Know"},
        "SongTitle": "{"S": "Call Me Today"}
      },
      "TableName": "MusicCollection"
    }
  }
]
```

**Output:**

Actions and scenarios
```json
{
    "ConsumedCapacity": [
        {
            "TableName": "MusicCollection",
            "CapacityUnits": 4.0,
            "ReadCapacityUnits": 4.0
        }
    ],
    "Responses": [
        {
            "Item": {
                "AlbumTitle": {
                    "S": "Songs About Life"
                },
                "Artist": {
                    "S": "Acme Band"
                },
                "SongTitle": {
                    "S": "Happy Day"
                }
            }
        },
        {
            "Item": {
                "AlbumTitle": {
                    "S": "Somewhat Famous"
                },
                "Artist": {
                    "S": "No One You Know"
                },
                "SongTitle": {
                    "S": "Call Me Today"
                }
            }
        }
    ]
}
```

For more information, see [Managing Complex Workflows with DynamoDB Transactions](https://docs.aws.amazon.com/AmazonDynamoDB/latest/developerguide/DynamoDB-Transactions.html) in the *Amazon DynamoDB Developer Guide*.

- For API details, see [TransactGetItems](https://docs.aws.amazon.com/cli/latest/reference/dynamodb/TransactGetItems.html) in *AWS CLI Command Reference*. 
transact-write-items

The following code example shows how to use `transact-write-items`.

AWS CLI

**Example 1: To write items atomically to one or more tables**

The following `transact-write-items` example updates one item and deletes another. The operation fails if either operation fails, or if either item contains a Rating attribute.

```
aws dynamodb transact-write-items \
   --transact-items file://transact-items.json \
   --return-consumed-capacity TOTAL \
   --return-item-collection-metrics SIZE
```

Contents of the `transact-items.json` file:

```
[

  {
    "Update": {
      "Key": {
        "Artist": {"S": "Acme Band"},
        "SongTitle": {"S": "Happy Day"}
      },
      "UpdateExpression": "SET AlbumTitle = :newval",
      "ExpressionAttributeValues": {
        ":newval": {"S": "Updated Album Title"}
      },
      "TableName": "MusicCollection",
      "ConditionExpression": "attribute_not_exists(Rating)"
    }
  },

  {
    "Delete": {
      "Key": {
        "Artist": {"S": "No One You Know"},
        "SongTitle": {"S": "Call Me Today"}
      },
      "TableName": "MusicCollection",
      "ConditionExpression": "attribute_not_exists(Rating)"
    }
  }

]```
Output:

```json
{
   "ConsumedCapacity": [
      {
         "TableName": "MusicCollection",
         "CapacityUnits": 10.0,
         "WriteCapacityUnits": 10.0
      }
   ],
   "ItemCollectionMetrics": {
      "MusicCollection": [
         {
            "ItemCollectionKey": {
               "Artist": {
                  "S": "No One You Know"
               }
            },
            "SizeEstimateRangeGB": [0.0, 1.0]
         },
         {
            "ItemCollectionKey": {
               "Artist": {
                  "S": "Acme Band"
               }
            },
            "SizeEstimateRangeGB": [0.0, 1.0]
         }
      ]
   }
}
```

For more information, see [Managing Complex Workflows with DynamoDB Transactions](https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/DynamoDB-Transactions.html) in the *Amazon DynamoDB Developer Guide*. 

Actions and scenarios
Example 2: To write items atomically using a client request token

The following command uses a client request token to make the call to `transact-write-items` idempotent, meaning that multiple calls have the same effect as one single call.

```
aws dynamodb transact-write-items \
   --transact-items file://transact-items.json \
   --client-request-token abc123
```

Contents of the `transact-items.json` file:

```
[
    {
        "Update": {
            "Key": {
                "Artist": {"S": "Acme Band"},
                "SongTitle": {"S": "Happy Day"}
            },
            "UpdateExpression": "SET AlbumTitle = :newval",
            "ExpressionAttributeValues": {
                ":newval": {"S": "Updated Album Title"}
            },
            "TableName": "MusicCollection",
            "ConditionExpression": "attribute_not_exists(Rating)"
        }
    },
    {
        "Delete": {
            "Key": {
                "Artist": {"S": "No One You Know"},
                "SongTitle": {"S": "Call Me Today"}
            },
            "TableName": "MusicCollection",
            "ConditionExpression": "attribute_not_exists(Rating)"
        }
    }
]
```

This command produces no output.

For more information, see Managing Complex Workflows with DynamoDB Transactions in the Amazon DynamoDB Developer Guide.
untag-resource

The following code example shows how to use untag-resource.

AWS CLI

To remove a tag from a DynamoDB resource

The following untag-resource example removes the tag with the key Owner from the MusicCollection table.

```bash
aws dynamodb untag-resource \
   --resource-arn arn:aws:dynamodb:us-west-2:123456789012:table/MusicCollection \
   --tag-keys Owner
```

This command produces no output.

For more information, see Tagging for DynamoDB in the Amazon DynamoDB Developer Guide.

update-continuous-backups

The following code example shows how to use update-continuous-backups.

AWS CLI

To update continuous backup settings for a DynamoDB table

The following update-continuous-backups example enables point-in-time recovery for the MusicCollection table.

```bash
aws dynamodb update-continuous-backups \
   --table-name MusicCollection \
   --point-in-time-recovery-specification PointInTimeRecoveryEnabled=true
```

Output:

```json
{
}
```
For more information, see [Point-in-Time Recovery for DynamoDB](https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/DAX.LatestRestorablePointInTime.html) in the *Amazon DynamoDB Developer Guide*.

- For API details, see [UpdateContinuousBackups](https://docs.aws.amazon.com/cli/latest/reference/dynamodb/update-continuous-backups.html) in *AWS CLI Command Reference*.

### update-contributor-insights

The following code example shows how to use `update-contributor-insights`.

**AWS CLI**

To enable Contributor Insights on a table

The following `update-contributor-insights` example enables Contributor Insights on the `MusicCollection` table and the `AlbumTitle-index` global secondary index.

```bash
aws dynamodb update-contributor-insights
  --table-name MusicCollection
  --index-name AlbumTitle-index
  --contributor-insights-action ENABLE
```

**Output:**

```
{
  "TableName": "MusicCollection",
  "IndexName": "AlbumTitle-index",
  "ContributorInsightsStatus": "ENABLING"
}
```

For more information, see [Analyzing Data Access Using CloudWatch Contributor Insights for DynamoDB](https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/CloudWatchContributorInsights.Overview.html) in the *Amazon DynamoDB Developer Guide*. 

Actions and scenarios
update-global-table

The following code example shows how to use update-global-table.

AWS CLI

To update a DynamoDB global table

The following update-global-table example adds a replica in the specified Region to the MusicCollection global table.

```
aws dynamodb update-global-table \
    --global-table-name MusicCollection \
    --replica-updates Create={RegionName=eu-west-1}
```

Output:

```
{
    "GlobalTableDescription": {
        "ReplicationGroup": [
            {
                "RegionName": "eu-west-1"
            },
            {
                "RegionName": "us-east-2"
            },
            {
                "RegionName": "us-east-1"
            }
        ],
        "GlobalTableArn": "arn:aws:dynamodb::123456789012:global-table/MusicCollection",
        "CreationDateTime": 1576625818.532,
        "GlobalTableStatus": "ACTIVE",
        "GlobalTableName": "MusicCollection"
    }
}
```

For more information, see DynamoDB Global Tables in the Amazon DynamoDB Developer Guide.

• For API details, see UpdateGlobalTable in AWS CLI Command Reference.
update-global-table-settings

The following code example shows how to use update-global-table-settings.

AWS CLI

To update provisioned write capacity settings on a DynamoDB global table

The following update-global-table-settings example sets the provisioned write capacity of the MusicCollection global table to 15.

```
aws dynamodb update-global-table-settings \\
   --global-table-name MusicCollection \\
   --global-table-provisioned-write-capacity-units 15
```

Output:

```
{
   "GlobalTableName": "MusicCollection",
   "ReplicaSettings": [
       {
           "RegionName": "eu-west-1",
           "ReplicaStatus": "UPDATING",
           "ReplicaProvisionedReadCapacityUnits": 10,
           "ReplicaProvisionedReadCapacityAutoScalingSettings": {
               "AutoScalingDisabled": true
           },
           "ReplicaProvisionedWriteCapacityUnits": 10,
           "ReplicaProvisionedWriteCapacityAutoScalingSettings": {
               "AutoScalingDisabled": true
           }
       },
       {
           "RegionName": "us-east-1",
           "ReplicaStatus": "UPDATING",
           "ReplicaProvisionedReadCapacityUnits": 10,
           "ReplicaProvisionedReadCapacityAutoScalingSettings": {
               "AutoScalingDisabled": true
           },
           "ReplicaProvisionedWriteCapacityUnits": 10,
           "ReplicaProvisionedWriteCapacityAutoScalingSettings": {
               "AutoScalingDisabled": true
           }
       }
   ]
}
```
update-table

The following code example shows how to use update-table.

**AWS CLI**

**Example 1: To modify a table's billing mode**

The following update-table example increases the provisioned read and write capacity on the MusicCollection table.

```bash
aws dynamodb update-table \
  --table-name MusicCollection \
  --billing-mode PROVISIONED \
  --provisioned-throughput ReadCapacityUnits=15,WriteCapacityUnits=10
```

Output:

```json
{
  "TableDescription": {
    "AttributeDefinitions": [
      {
        "AttributeName": "AlbumTitle",
        "AttributeType": "S"
      }
    ],
    "KeySchema": ["MusicCollection"]
  }
}
```
"AttributeName": "Artist",
"AttributeType": "S"
},
{
    "AttributeName": "SongTitle",
    "AttributeType": "S"
}
],
"TableName": "MusicCollection",
"KeySchema": [
    {
        "AttributeName": "Artist",
        "KeyType": "HASH"
    },
    {
        "AttributeName": "SongTitle",
        "KeyType": "RANGE"
    }
],
"TableStatus": "UPDATING",
"CreationDateTime": "2020-05-26T15:59:49.473000-07:00",
"ProvisionedThroughput": {
    "LastIncreaseDateTime": "2020-07-28T13:18:18.921000-07:00",
    "NumberOfDecreasesToday": 0,
    "ReadCapacityUnits": 15,
    "WriteCapacityUnits": 10
},
"TableSizeBytes": 182,
"ItemCount": 2,
"TableArn": "arn:aws:dynamodb:us-west-2:123456789012:table/MusicCollection",
"TableId": "abcd0123-01ab-23cd-0123-abcd0123abcd0123",
"BillingModeSummary": {
    "BillingMode": "PROVISIONED",
    "LastUpdateToPayPerRequestDateTime": "2020-07-28T13:14:48.366000-07:00"
}
}

For more information, see Updating a Table in the Amazon DynamoDB Developer Guide.

Example 2: To create a global secondary index
The following example adds a global secondary index to the MusicCollection table.

```bash
aws dynamodb update-table \
  --table-name MusicCollection \
  --attribute-definitions AttributeName=AlbumTitle,AttributeType=S \
  --global-secondary-index-updates file://gsi-updates.json
```

Contents of gsi-updates.json:

```json
[
  {
    "Create": {
      "IndexName": "AlbumTitle-index",
      "KeySchema": [
        {
          "AttributeName": "AlbumTitle",
          "KeyType": "HASH"
        }
      ],
      "ProvisionedThroughput": {
        "ReadCapacityUnits": 10,
        "WriteCapacityUnits": 10
      },
      "Projection": {
        "ProjectionType": "ALL"
      }
    }
  }
]
```

Output:

```json
{
  "TableDescription": {
    "AttributeDefinitions": [
      {
        "AttributeName": "AlbumTitle",
        "AttributeType": "S"
      },
      {
        "AttributeName": "Artist",
        "AttributeType": "S"
      }
    ],
    "ProvisionedThroughput": {
      "ReadCapacityUnits": 10,
      "WriteCapacityUnits": 10
    },
    "GlobalSecondaryIndexes": [
      {
        "IndexName": "AlbumTitle-index",
        "KeySchema": [
          {
            "AttributeName": "AlbumTitle",
            "KeyType": "HASH"
          }
        ],
        "ProvisionedThroughput": {
          "ReadCapacityUnits": 10,
          "WriteCapacityUnits": 10
        }
      }
    ],
    "TableName": "MusicCollection"
  }
}
```
{
    "AttributeName": "SongTitle",
    "AttributeType": "S"
}
],
"TableName": "MusicCollection",
"KeySchema": [
    {
        "AttributeName": "Artist",
        "KeyType": "HASH"
    },
    {
        "AttributeName": "SongTitle",
        "KeyType": "RANGE"
    }
],
"TableStatus": "UPDATING",
"CreationDateTime": "2020-05-26T15:59:49.473000-07:00",
"ProvisionedThroughput": {
    "LastIncreaseDateTime": "2020-07-28T12:59:17.537000-07:00",
    "NumberOfDecreasesToday": 0,
    "ReadCapacityUnits": 15,
    "WriteCapacityUnits": 10
},
"TableSizeBytes": 182,
"ItemCount": 2,
"TableArn": "arn:aws:dynamodb:us-west-2:123456789012:table/MusicCollection",
"TableId": "abcd0123-01ab-23cd-0123-abcdef123456",
"BillingModeSummary": {
    "BillingMode": "PROVISIONED",
    "LastUpdateToPayPerRequestDateTime": "2020-07-28T13:14:48.366000-07:00"
},
"GlobalSecondaryIndexes": [
    {
        "IndexName": "AlbumTitle-index",
        "KeySchema": [
            {
                "AttributeName": "AlbumTitle",
                "KeyType": "HASH"
            }
        ],
        "Projection": {
            "ProjectionType": "ALL"
        }
    }
]
For more information, see Updating a Table in the Amazon DynamoDB Developer Guide.

Example 3: To enable DynamoDB Streams on a table

The following command enables DynamoDB Streams on the MusicCollection table.

```bash
aws dynamodb update-table \
  --table-name MusicCollection \
  --stream-specification StreamEnabled=true,StreamViewType=NEW_IMAGE
```

Output:

```
{
  "TableDescription": {
    "AttributeDefinitions": [
      { "AttributeName": "AlbumTitle", "AttributeType": "S" },
      { "AttributeName": "Artist", "AttributeType": "S" },
      { "AttributeName": "SongTitle", "AttributeType": "S" }
    ]
  }
}```
Actions and scenarios
"Year",
"Genre"
],
"IndexSizeBytes": 139,
"ItemCount": 2,
"IndexArn": "arn:aws:dynamodb:us-west-2:123456789012:table/MusicCollection/index/AlbumTitleIndex"
}
],
"GlobalSecondaryIndexes": [
{
"IndexName": "AlbumTitle-index",
"KeySchema": [
{
"AttributeName": "AlbumTitle",
"KeyType": "HASH"
}
],
"Projection": {
"ProjectionType": "ALL"
},
"IndexStatus": "ACTIVE",
"ProvisionedThroughput": {
"NumberOfDecreasesToday": 0,
"ReadCapacityUnits": 10,
"WriteCapacityUnits": 10
},
"IndexSizeBytes": 0,
"ItemCount": 0,
"IndexArn": "arn:aws:dynamodb:us-west-2:123456789012:table/MusicCollection/index/AlbumTitle-index"
}
],
"StreamSpecification": {
"StreamEnabled": true,
"StreamViewType": "NEW_IMAGE"
},
Example 4: To enable server-side encryption

The following example enables server-side encryption on the MusicCollection table.

```bash
aws dynamodb update-table \
   --table-name MusicCollection \
   --sse-specification Enabled=true,SSEType=KMS
```

Output:

```json
{
   "TableDescription": {
      "AttributeDefinitions": [
      {
         "AttributeName": "AlbumTitle",
         "AttributeType": "S"
      },
      {
         "AttributeName": "Artist",
         "AttributeType": "S"
      },
      {
         "AttributeName": "SongTitle",
         "AttributeType": "S"
      }
   ],
   "TableName": "MusicCollection",
   "KeySchema": [
      {
         "AttributeName": "Artist",
         "KeyType": "HASH"
      },
      {
         "AttributeName": "SongTitle",
         "KeyType": "RANGE"
      }
   ],
   "TableStatus": "ACTIVE",
   "CreationDateTime": "2020-05-26T15:59:49.473000-07:00",
   "ProvisionedThroughput": {
      "LastIncreaseDateTime": "2020-07-28T12:59:17.537000-07:00",
```
"NumberOfDecreasesToday": 0,
"ReadCapacityUnits": 15,
"WriteCapacityUnits": 10
},
"TableSizeBytes": 182,
"ItemCount": 2,
"TableArn": "arn:aws:dynamodb:us-west-2:123456789012:table/MusicCollection",
"TableId": "abcd0123-01ab-23cd-0123-abcdef123456",
"BillingModeSummary": {
  "BillingMode": "PROVISIONED",
  "LastUpdateToPayPerRequestDateTime": "2020-07-28T13:14:48.366000-07:00"
},
"LocalSecondaryIndexes": [
{
  "IndexName": "AlbumTitleIndex",
  "KeySchema": [
    {
      "AttributeName": "Artist",
      "KeyType": "HASH"
    },
    {
      "AttributeName": "AlbumTitle",
      "KeyType": "RANGE"
    }
  ],
  "Projection": {
    "ProjectionType": "INCLUDE",
    "NonKeyAttributes": [
      "Year",
      "Genre"
    ]
  },
  "IndexSizeBytes": 139,
  "ItemCount": 2,
  "IndexArn": "arn:aws:dynamodb:us-west-2:123456789012:table/MusicCollection/index/AlbumTitleIndex"
}]
],
"GlobalSecondaryIndexes": [
{
  "IndexName": "AlbumTitle-index",
  "KeySchema": [
    {
      "AttributeName": "AlbumTitle",
      "KeyType": "HASH"
    },
    {
      "AttributeName": "Artist",
      "KeyType": "RANGE"
    }
  ],
  "Projection": {
    "ProjectionType": "INCLUDE",
    "NonKeyAttributes": [
      "Year",
      "Genre"
    ]
  },
  "IndexSizeBytes": 139,
  "ItemCount": 2,
  "IndexArn": "arn:aws:dynamodb:us-west-2:123456789012:table/MusicCollection/index/AlbumTitleIndex"
}]
}
For more information, see [Updating a Table](#) in the *Amazon DynamoDB Developer Guide*.

- For API details, see [UpdateTable](#) in *AWS CLI Command Reference*.

**update-table-replica-auto-scaling**

The following code example shows how to use `update-table-replica-auto-scaling`.

**AWS CLI**

To update auto scaling settings across replicas of a global table
The following `update-table-replica-auto-scaling` example updates write capacity auto-scaling settings across replicas of the specified global table.

```
aws dynamodb update-table-replica-auto-scaling \
  --table-name MusicCollection \
  --provisioned-write-capacity-auto-scaling-update file://auto-scaling-policy.json
```

Contents of `auto-scaling-policy.json`:

```json
{
  "MinimumUnits": 10,
  "MaximumUnits": 100,
  "AutoScalingDisabled": false,
  "ScalingPolicyUpdate": {
    "PolicyName": "DynamoDBWriteCapacityUtilization:table/MusicCollection",
    "TargetTrackingScalingPolicyConfiguration": {
      "TargetValue": 80
    }
  }
}
```

Output:

```json
{
  "TableAutoScalingDescription": {
    "TableName": "MusicCollection",
    "TableStatus": "ACTIVE",
    "Replicas": [
      {
        "RegionName": "eu-central-1",
        "GlobalSecondaryIndexes": [],
        "ReplicaProvisionedReadCapacityAutoScalingSettings": {
          "MinimumUnits": 5,
          "MaximumUnits": 40000,
          "AutoScalingRoleArn": "arn:aws:iam::123456789012:role/aws-service-role/dynamodb.application-autoscaling.amazonaws.com/AWSServiceRoleForApplicationAutoScaling_DynamoDBTable",
          "ScalingPolicies": [
            {
              "PolicyName": "DynamoDBReadCapacityUtilization:table/MusicCollection",
              "TargetTrackingScalingPolicyConfiguration": {
```
"TargetValue": 70.0
}
]
},
"ReplicaProvisionedWriteCapacityAutoScalingSettings": {
  "MinimumUnits": 10,
  "MaximumUnits": 100,
  "AutoScalingRoleArn": "arn:aws:iam::123456789012:role/aws-service-role/dynamodb.application-autoscaling.amazonaws.com/AWSServiceRoleForApplicationAutoScaling_DynamoDBTable",
  "ScalingPolicies": [
    {
      "PolicyName": "DynamoDBWriteCapacityUtilization:table/MusicCollection",
      "TargetTrackingScalingPolicyConfiguration": {
        "TargetValue": 80.0
      }
    }
  ]
},
"ReplicaStatus": "ACTIVE"
},
{
  "RegionName": "us-east-1",
  "GlobalSecondaryIndexes": [],
  "ReplicaProvisionedReadCapacityAutoScalingSettings": {
    "MinimumUnits": 5,
    "MaximumUnits": 40000,
    "AutoScalingRoleArn": "arn:aws:iam::123456789012:role/aws-service-role/dynamodb.application-autoscaling.amazonaws.com/AWSServiceRoleForApplicationAutoScaling_DynamoDBTable",
    "ScalingPolicies": [
      {
        "PolicyName": "DynamoDBReadCapacityUtilization:table/MusicCollection",
        "TargetTrackingScalingPolicyConfiguration": {
          "TargetValue": 70.0
        }
      }
    ]
  }
},
"ReplicaProvisionedWriteCapacityAutoScalingSettings": {
  "MinimumUnits": 10,
"MaximumUnits": 100,
"AutoScalingRoleArn": "arn:aws:iam::123456789012:role/aws-service-role/dynamodb.application-autoscaling.amazonaws.com/AWSServiceRoleForApplicationAutoScaling_DynamoDBTable",
"ScalingPolicies": [
    {
        "PolicyName": "DynamoDBWriteCapacityUtilization:table/MusicCollection",
        "TargetTrackingScalingPolicyConfiguration": {
            "TargetValue": 80.0
        }
    }
],
"ReplicaStatus": "ACTIVE"
},
{
    "RegionName": "us-east-2",
    "GlobalSecondaryIndexes": [],
    "ReplicaProvisionedReadCapacityAutoScalingSettings": {
        "MinimumUnits": 5,
        "MaximumUnits": 40000,
        "AutoScalingRoleArn": "arn:aws:iam::123456789012:role/aws-service-role/dynamodb.application-autoscaling.amazonaws.com/AWSServiceRoleForApplicationAutoScaling_DynamoDBTable",
        "ScalingPolicies": [
            {
                "PolicyName": "DynamoDBReadCapacityUtilization:table/MusicCollection",
                "TargetTrackingScalingPolicyConfiguration": {
                    "TargetValue": 70.0
                }
            }
        ]
    },
    "ReplicaProvisionedWriteCapacityAutoScalingSettings": {
        "MinimumUnits": 10,
        "MaximumUnits": 100,
        "AutoScalingRoleArn": "arn:aws:iam::123456789012:role/aws-service-role/dynamodb.application-autoscaling.amazonaws.com/AWSServiceRoleForApplicationAutoScaling_DynamoDBTable",
        "ScalingPolicies": [
            {
                "PolicyName": "DynamoDBWriteCapacityUtilization:table/MusicCollection",
                "TargetTrackingScalingPolicyConfiguration": {
                    "TargetValue": 80.0
                }
            }
        ]
    }
}
For more information, see [DynamoDB Global Tables](https://docs.aws.amazon.com/AmazonDynamoDB/latest/DeveloperGuide/GlobalTables.Issues.html) in the *Amazon DynamoDB Developer Guide*.

- For API details, see [UpdateTableReplicaAutoScaling](https://docs.aws.amazon.com/cli/latest/reference/dynamodb/update-table-replica-auto-scaling.html) in *AWS CLI Command Reference*.

**update-time-to-live**

The following code example shows how to use `update-time-to-live`.

**AWS CLI**

To update Time to Live settings on a table

The following `update-time-to-live` example enables Time to Live on the specified table.

```bash
aws dynamodb update-time-to-live
    --table-name MusicCollection
    --time-to-live-specification Enabled=true,AttributeName=ttl
```

Output:

```json
{
    "TimeToLiveSpecification": {
        "Enabled": true,
        "AttributeName": "ttl"
    }
}
```

For more information, see [Time to Live](https://docs.aws.amazon.com/AmazonDynamoDB/latest/DeveloperGuide/TimeToLive.html) in the *Amazon DynamoDB Developer Guide*. 
DynamoDB Streams examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with DynamoDB Streams.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- **Actions**

**Actions**

**describe-stream**

The following code example shows how to use `describe-stream`.

**AWS CLI**

*To get information about a DynamoDB stream*

The following `describe-stream` command displays information about the specific DynamoDB stream.

```
aws dynamodbstreams describe-stream \
```

**Output:**

```
{
```
"StreamDescription": {
    "StreamLabel": "2019-10-22T18:02:01.576",
    "StreamStatus": "ENABLED",
    "StreamViewType": "NEW_AND_OLD_IMAGES",
    "CreationRequestDateTime": 1571767321.571,
    "TableName": "Music",
    "KeySchema": [  
        {  
            "AttributeName": "Artist",
            "KeyType": "HASH"
        },  
        {  
            "AttributeName": "SongTitle",
            "KeyType": "RANGE"
        }
    ],
    "Shards": [  
        {  
            "ShardId": "shardId-0000001571767321804-697ce3d2",
            "SequenceNumberRange": {  
                "StartingSequenceNumber": "4000000000000642977831",
                "EndingSequenceNumber": "4000000000000642977831"
            }
        },  
        {  
            "ShardId": "shardId-0000001571780995058-40810d86",
            "SequenceNumberRange": {  
                "StartingSequenceNumber": "75740000000005655171150"
            },
            "ParentShardId": "shardId-0000001571767321804-697ce3d2"
        }
    ]
}

For more information, see Capturing Table Activity with DynamoDB Streams in the Amazon DynamoDB Developer Guide.

- For API details, see DescribeStream in AWS CLI Command Reference.
get-records

The following code example shows how to use get-records.

AWS CLI

To get records from a Dynamodb stream

The following get-records command retrieves records using the specified Amazon DynamoDB shard iterator.

```bash
aws dynamodbstreams get-records \
  --shard-iterator "arn:aws:dynamodb:us-west-1:123456789012:table/Music/\n  stream/2019-10-22T18:02:00.576|1|\n  AAAAAAAAgM3YZ89vLZxjmoQeo33r9M4x3+zmmTLsiL86FmfrF4+B4EbsByi52InVmiONmy6xWV4IRcIIbs1z07MNI\n  +CjNPlqQjnyRSAf0WmKhL1/KNParsWf+zodf780o00bIDIWRRMkt7+Hyzh9SD\n  +hFxFAWR5C7QI0XPC8mRBfNIazfrVcJXK8/jsjCzsqNyXKz2bhh+GXCoxYN\n  +Kpmg4nyj1EAsYhBG35muwHFOHjcyynbsczbWaNfTHdwrAYvoTmc8XHKtAUBj1aVd8ZPcQwDSThCmDRIIdmTRG\n  +w/1EG505ha1qNP+V14+tuhz2TRnNhJo/pny9G1/yGpce9Gmv55Pw55KPwy+Dtc5BHAYBs\n  +PVYHITaTliInF1T\n  +LCwvaz1Q3MY3b8A05Z800wpktm60iQtMeDwN4NX5FrxcR34JoFKGsgR8XkHVJzz2x1xqSJ12ycpNTyHnndus="
```

Output:

```json
{
  "Records": [
  {
    "eventID": "c3b5d798eef6215d42f8137b19a88e50",
    "eventName": "INSERT",
    "eventVersion": "1.1",
    "eventSource": "aws:dynamodb",
    "awsRegion": "us-west-1",
    "dynamodb": {
      "ApproximateCreationDateTime": 1571849028.0,
      "Keys": {
        "Artist": {
          "S": "No One You Know"
        },
        "SongTitle": {
          "S": "Call Me Today"
        }
      },
      "NewImage": {
```
"AlbumTitle": {
   "S": "Somewhat Famous"
},
"Artist": {
   "S": "No One You Know"
},
"Awards": {
   "N": "1"
},
"SongTitle": {
   "S": "Call Me Today"
},
"SequenceNumber": "700000000013256296913",
"SizeBytes": 119,
"StreamViewType": "NEW_AND_OLD_IMAGES"
}
],
{
   "eventID": "878960a6967867e2da16b27380a27328",
   "eventName": "INSERT",
   "eventVersion": "1.1",
   "eventSource": "aws:dynamodb",
   "awsRegion": "us-west-1",
   "dynamodb": {
      "ApproximateCreationDateTime": 1571849029.0,
      "Keys": {
         "Artist": {
            "S": "Acme Band"
         },
         "SongTitle": {
            "S": "Happy Day"
         }
      },
      "NewImage": {
         "AlbumTitle": {
            "S": "Songs About Life"
         },
         "Artist": {
            "S": "Acme Band"
         },
         "Awards": {
            "N": "10"
         }
      }
   }
}
}
"SongTitle": {
    "S": "Happy Day"
  },
  "SequenceNumber": "800000000013256297217",
  "SizeBytes": 100,
  "StreamViewType": "NEW_AND_OLD_IMAGES"
}

{
  "eventID": "520fabde080e159fc3710b15ee1d4daa",
  "eventName": "MODIFY",
  "eventVersion": "1.1",
  "eventSource": "aws:dynamodb",
  "awsRegion": "us-west-1",
  "dynamodb": {
    "ApproximateCreationDateTime": 1571849734.0,
    "Keys": {
      "Artist": {
        "S": "Acme Band"
      },
      "SongTitle": {
        "S": "Happy Day"
      }
    },
    "NewImage": {
      "AlbumTitle": {
        "S": "Updated Album Title"
      },
      "Artist": {
        "S": "Acme Band"
      },
      "Awards": {
        "N": "10"
      },
      "SongTitle": {
        "S": "Happy Day"
      }
    },
    "OldImage": {
      "AlbumTitle": {
        "S": "Songs About Life"
      },
      "Artist": {
For more information, see Capturing Table Activity with DynamoDB Streams in the Amazon DynamoDB Developer Guide.

- For API details, see GetRecords in AWS CLI Command Reference.

**get-shard-iterator**

The following code example shows how to use get-shard-iterator.

**AWS CLI**

To get a shard iterator

The following get-shard-iterator command retrieves a shard iterator for the specified shard.
aws dynamodbstreams get-shard-iterator \
   --shard-id shardId-0000000157178095058-40810d86 \
   --shard-iterator-type LATEST

Output:

```
{
   stream/2019-10-22T18:02:01.576|1|
AAAAAAGgM3YZ89vLZZxjmoQeo33r9M4x3+zmmTLsiL86MfF4+B4EbsByi52InVmiONmy6xVW4IRcIIbs1zO7MNIDv
+CjNP1qJnnyRSAf0WmKhL1/KNParWsz2odf780o0bIDIWRRMmt7+Hyzh9SD
+hFxFAWR5C7QI10XPc8mRBFnIazfrVcjkX8/jsjCzsqNyKzjbbh+GXCoxYN
+Kpmg4nyj1EAsYhbGL35muvHFOHjcyunbsczbWaXNhDwRAdvoTmc8XhHTkAWUbJ1aVd8ZPqQsThCmDRPIdmTRG
+w/1EGS05ha1qNP+V14+tuhz2TRn9nJo/pny9GI/yGpce97mWvSpRs5KPwy+Dtcn5BHAYs
+PVYHITaTliInfLT
+LCwvaz1QH3MY3b8A05Z800wjptkm60iQrtMeDwN4NXGfrcxR34JoFKGsgR8XkHVJzz2xr1xqS12ycpNTyHndusw=="
}
```

For more information, see Capturing Table Activity with DynamoDB Streams in the Amazon DynamoDB Developer Guide.

- For API details, see GetShardIterator in AWS CLI Command Reference.

list-streams

The following code example shows how to use list-streams.

AWS CLI

To list DynamoDB streams

The following list-streams command lists all existing Amazon DynamoDB streams within the default AWS Region.

aws dynamodbstreams list-streams

Output:

```
{

```
"Streams": [
    {
        "TableName": "Music",
        "StreamLabel": "2019-10-22T18:02:01.576"
    }
]
}

For more information, see Capturing Table Activity with DynamoDB Streams in the Amazon DynamoDB Developer Guide.

- For API details, see ListStreams in AWS CLI Command Reference.

Amazon EC2 examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon EC2.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics
- Actions

Actions

Add tags to resources

The following code example shows how to add tags to Amazon EC2 resources.

AWS CLI

Example 1: To add a tag to a resource
The following `create-tags` example adds the tag `Stack=production` to the specified image, or overwrites an existing tag for the AMI where the tag key is `Stack`.

```
aws ec2 create-tags \
  --resources ami-1234567890abcdef0 \
  --tags Key=Stack,Value=production
```

For more information, see [This is the topic title](#) in the *Amazon Elastic Compute Cloud User Guide for Linux Instances*.

**Example 2: To add tags to multiple resources**

The following `create-tags` example adds (or overwrites) two tags for an AMI and an instance. One of the tags has a key (`webserver`) but no value (value is set to an empty string). The other tag has a key (`stack`) and a value (`Production`).

```
aws ec2 create-tags \
  --resources ami-1a2b3c4d i-1234567890abcdef0 \
  --tags Key=webserver,Value=   Key=stack,Value=Production
```

For more information, see [This is the topic title](#) in the *Amazon Elastic Compute Cloud User Guide for Linux Instances*.

**Example 3: To add tags containing special characters**

The following `create-tags` example adds the tag `[Group]=test` for an instance. The square brackets ([ and ]) are special characters, and must be escaped. The following examples also use the line continuation character appropriate for each environment.

If you are using Windows, surround the element that has special characters with double quotes ("), and then precede each double quote character with a backslash (\) as follows:

```
aws ec2 create-tags ^
  --resources i-1234567890abcdef0 ^
  --tags Key="[Group]",Value=test
```

If you are using Windows PowerShell, surround the element the value that has special characters with double quotes ("), precede each double quote character with a backslash (\), and then surround the entire key and value structure with single quotes (') as follows:
Allocate an Elastic IP address

The following code example shows how to allocate an Elastic IP address for Amazon EC2.

**AWS CLI**

**Example 1: To allocate an Elastic IP address from Amazon's address pool**

The following allocate-address example allocates an Elastic IP address. Amazon EC2 selects the address from Amazon's address pool.

```bash
aws ec2 allocate-address
```

**Output:**

```json
{
    "PublicIp": "70.224.234.241",
    "AllocationId": "eipalloc-01435ba59eEXAMPLE",
    "PublicIpv4Pool": "amazon",
    "NetworkBorderGroup": "us-west-2",
    "Domain": "vpc"
}
```

For more information, see [Elastic IP addresses](https://docs.aws.amazon.com/AmazonEC2/latest/UserGuide/elastic-ip-addresses-manage.html) in the *Amazon EC2 User Guide*. 
Example 2: To allocate an Elastic IP address and associate it with a network border group

The following `allocate-address` example allocates an Elastic IP address and associates it with the specified network border group.

```bash
code
aws ec2 allocate-address \
   --network-border-group us-west-2-lax-1
```

Output:

```
{
   "PublicIp": "70.224.234.241",
   "AllocationId": "eipalloc-e03dd489ceEXAMPLE",
   "PublicIpv4Pool": "amazon",
   "NetworkBorderGroup": "us-west-2-lax-1",
   "Domain": "vpc"
}
```

For more information, see [Elastic IP addresses](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/elastic-ip-addresses-vpc.html) in the *Amazon EC2 User Guide*.

Example 3: To allocate an Elastic IP address from an address pool that you own

The following `allocate-address` example allocates an Elastic IP address from an address pool that you have brought to your Amazon Web Services account. Amazon EC2 selects the address from the address pool.

```bash
code
aws ec2 allocate-address \
   --public-ipv4-pool ipv4pool-ec2-1234567890abcdef0
```

Output:

```
{
   "AllocationId": "eipalloc-02463d08ceEXAMPLE",
   "NetworkBorderGroup": "us-west-2",
   "CustomerOwnedIp": "18.218.95.81",
   "CustomerOwnedIpv4Pool": "ipv4pool-ec2-1234567890abcdef0",
   "Domain": "vpc"
}
```

For more information, see [Elastic IP addresses](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/elastic-ip-addresses-vpc.html) in the *Amazon EC2 User Guide*. 
For API details, see AllocateAddress in AWS CLI Command Reference.

Associate an Elastic IP address with an instance

The following code example shows how to associate an Elastic IP address with an Amazon EC2 instance.

AWS CLI

To associate an Elastic IP addresses in EC2-Classic

This example associates an Elastic IP address with an instance in EC2-Classic. If the command succeeds, no output is returned.

Command:

```
aws ec2 associate-address --instance-id i-07ffe74c7330ebf53 --public-ip 198.51.100.0
```

To associate an Elastic IP address in EC2-VPC

This example associates an Elastic IP address with an instance in a VPC.

Command:

```
aws ec2 associate-address --instance-id i-0b263919b6498b123 --allocation-id eipalloc-64d5890a
```

Output:

```
{
   "AssociationId": "eipassoc-2bebb745"
}
```

This example associates an Elastic IP address with a network interface.

Command:

```
aws ec2 associate-address --allocation-id eipalloc-64d5890a --network-interface-id eni-1a2b3c4d
```
This example associates an Elastic IP with a private IP address that's associated with a network interface.

Command:

```
aws ec2 associate-address --allocation-id eipalloc-64d5890a --network-interface-id eni-1a2b3c4d --private-ip-address 10.0.0.85
```

- For API details, see [AssociateAddress](#) in *AWS CLI Command Reference*.

Create a Amazon Virtual Private Cloud (Amazon VPC)

The following code example shows how to create a Amazon Virtual Private Cloud (Amazon VPC).

**AWS CLI**

**Example 1: To create a VPC**

The following `create-vpc` example creates a VPC with the specified IPv4 CIDR block and a Name tag.

```
aws ec2 create-vpc \
   --cidr-block 10.0.0.0/16 \
   --tag-specification ResourceType=vpc,Tags=[{Key=Name,Value=MyVpc}]
```

Output:

```
{
   "Vpc": {
      "CidrBlock": "10.0.0.0/16",
      "DhcpOptionsId": "dopt-5EXAMPLE",
      "State": "pending",
      "VpcId": "vpc-0a60eb65b4EXAMPLE",
      "OwnerId": "123456789012",
      "InstanceTenancy": "default",
      "Ipv6CidrBlockAssociationSet": [],
      "CidrBlockAssociationSet": [
         {
            "AssociationId": "vpc-cidr-assoc-07501b79ecEXAMPLE",
            "CidrBlock": "10.0.0.0/16",
            "CidrBlockState": {
            ```
Example 2: To create a VPC with dedicated tenancy

The following `create-vpc` example creates a VPC with the specified IPv4 CIDR block and dedicated tenancy.

```
aws ec2 create-vpc \
  --cidr-block 10.0.0.0/16 \n  --instance-tenancy dedicated
```

Output:

```
{
  "Vpc": {
    "CidrBlock": "10.0.0.0/16",
    "DhcpOptionsId": "dopt-19edf471",
    "State": "pending",
    "VpcId": "vpc-0a53287fa4EXAMPLE",
    "OwnerId": "111122223333",
    "InstanceTenancy": "dedicated",
    "Ipv6CidrBlockAssociationSet": [],
    "CidrBlockAssociationSet": [
      {
        "AssociationId": "vpc-cidr-assoc-00b24cc1c2EXAMPLE",
        "CidrBlock": "10.0.0.0/16",
        "CidrBlockState": {
          "State": "associated"
        }
      }
    ]
  }
}
```
Example 3: To create a VPC with an IPv6 CIDR block

The following create-vpc example creates a VPC with an Amazon-provided IPv6 CIDR block.

```bash
aws ec2 create-vpc \
   --cidr-block 10.0.0.0/16 \
   --amazon-provided-ipv6-cidr-block
```

Output:

```json
{
   "Vpc": {
      "CidrBlock": "10.0.0.0/16",
      "DhcpOptionsId": "dopt-dEXAMPLE",
      "State": "pending",
      "VpcId": "vpc-0fc5e3406bEXAMPLE",
      "OwnerId": "123456789012",
      "InstanceTenancy": "default",
      "Ipv6CidrBlockAssociationSet": [
         {
            "AssociationId": "vpc-cidr-assoc-068432c60bEXAMPLE",
            "Ipv6CidrBlock": "",
            "Ipv6CidrBlockState": {
               "State": "associating"
            },
            "Ipv6Pool": "Amazon",
            "NetworkBorderGroup": "us-west-2"
         }
      ],
      "CidrBlockAssociationSet": [
         {
            "AssociationId": "vpc-cidr-assoc-0669f8f9f5EXAMPLE",
            "CidrBlock": "10.0.0.0/16",
            "CidrBlockState": {
               "State": "associated"
            }
         }
      ],
      "IsDefault": false
   }
}
```
Example 4: To create a VPC with a CIDR from an IPAM pool

The following create-vpc example creates a VPC with a CIDR from an Amazon VPC IP Address Manager (IPAM) pool.

Linux and macOS:

```bash
aws ec2 create-vpc \
  --ipv4-ipam-pool-id ipam-pool-0533048da7d823723 \
  --tag-specifications ResourceType=vpc,Tags='[[Key=Environment,Value="Preprod"],
{Key=Owner,Value="Build Team"}]
```

Windows:

```bash
aws ec2 create-vpc ^
  --ipv4-ipam-pool-id ipam-pool-0533048da7d823723 ^
  --tag-specifications ResourceType=vpc,Tags=['[Key=Environment,Value="Preprod"],
{Key=Owner,Value="Build Team"}]
```

Output:

```
{
  "Vpc": {
    "CidrBlock": "10.0.1.0/24",
    "DhcpOptionsId": "dopt-2afccf50",
    "State": "pending",
    "VpcId": "vpc-010e1791024eb0af9",
    "OwnerId": "123456789012",
    "InstanceTenancy": "default",
    "Ipv6CidrBlockAssociationSet": [],
    "CidrBlockAssociationSet": [
      {
        "AssociationId": "vpc-cidr-assoc-0a77de1d803226d4b",
        "CidrBlock": "10.0.1.0/24",
        "CidrBlockState": {
          "State": "associated"
        }
      }
    ],
  },
}
Create a launch template

The following code example shows how to create an Amazon EC2 launch template.

**AWS CLI**

**Example 1: To create a launch template**

The following create-launch-template example creates a launch template that specifies the subnet in which to launch the instance, assigns a public IP address and an IPv6 address to the instance, and creates a tag for the instance.

```bash
aws ec2 create-launch-template \
  --launch-template-name TemplateForWebServer \
  --version-description WebVersion1 \
  --launch-template-data '{"NetworkInterfaces": [\n    {"AssociatePublicIpAddress":true,"DeviceIndex":0,"Ipv6AddressCount":1,"SubnetId":"subnet-7b16de0c"},\n    {"DeviceIndex":0,"SubnetId":"subnet-7b16de0c"}],"ImageId":"ami-8c1be5f6","InstanceType":"t2.small","TagSpecifications": [\n    {"ResourceType":"instance","Tags": [\n      {"Key": "purpose", "Value": "webserver"} \n    ]} \n  ]}'
```

Output:

```json
{
  "LaunchTemplate": {
```

For more information, see [Create a VPC that uses an IPAM pool CIDR](https://docs.aws.amazon.com/AmazonVPCIPAM/latest/UserGuide/) in the Amazon VPC IPAM User Guide.

- For API details, see CreateVpc in AWS CLI Command Reference.
For more information, see Launching an Instance from a Launch Template in the Amazon Elastic Compute Cloud User Guide. For information about quoting JSON-formatted parameters, see Quoting Strings in the AWS Command Line Interface User Guide.

**Example 2: To create a launch template for Amazon EC2 Auto Scaling**

The following create-launch-template example creates a launch template with multiple tags and a block device mapping to specify an additional EBS volume when an instance launches. Specify a value for Groups that corresponds to security groups for the VPC that your Auto Scaling group will launch instances into. Specify the VPC and subnets as properties of the Auto Scaling group.

/aws ec2 create-launch-template \
   --launch-template-name TemplateForAutoScaling \
   --version-description AutoScalingVersion1 \
   --launch-template-data '{"NetworkInterfaces":
   [{"DeviceIndex":0,"AssociatePublicIpAddress":true,"Groups":
   ["sg-7c227019,sg-903004f8"],"DeleteOnTermination":true}]
   ,"ImageId":"ami-b42209de","InstanceType":"m4.large","TagSpecifications":
   [{"ResourceType":"instance","Tags":
   [{"Key":"environment","Value":"production"},
   {"Key":"purpose","Value":"webserver"}]
   }]
   ,"BlockDeviceMappings":
   [{"DeviceName":"/dev/sda1","Ebs":
   {"VolumeSize":100}}]}' --region us-east-1

Output:

```json
{
   "LaunchTemplate": {
      "LatestVersionNumber": 1,
      "LaunchTemplateId": "lt-0123c79c33a54e0abc",
      "LaunchTemplateName": "TemplateForAutoScaling",
      "DefaultVersionNumber": 1,
   }
}
```
For more information, see Creating a Launch Template for an Auto Scaling Group in the Amazon EC2 Auto Scaling User Guide. For information about quoting JSON-formatted parameters, see Quoting Strings in the AWS Command Line Interface User Guide.

**Example 3: To create a launch template that specifies encryption of EBS volumes**

The following create-launch-template example creates a launch template that includes encrypted EBS volumes created from an unencrypted snapshot. It also tags the volumes during creation. If encryption by default is disabled, you must specify the "Encrypted" option as shown in the following example. If you use the "KmsKeyId" option to specify a customer managed CMK, you also must specify the "Encrypted" option even if encryption by default is enabled.

```
aws ec2 create-launch-template \
  --launch-template-name TemplateForEncryption \
  --launch-template-data file://config.json
```

**Contents of config.json:**

```
{
   "BlockDeviceMappings": [
      {
        "DeviceName": "/dev/sda1",
        "Ebs": {
          "VolumeType": "gp2",
          "DeleteOnTermination": true,
          "SnapshotId": "snap-066877671789bd71b",
          "Encrypted": true,
          "KmsKeyId": "arn:aws:kms:us-east-1:012345678910:key/abcd1234-a123-456a-a12b-a123b4cd56ef"
        }
      }
   ],
   "ImageId": "ami-00068cd7555f543d5",
   "InstanceType": "c5.large",
   "TagSpecifications": [
```

Output:

```
{
   "LaunchTemplate": {
      "LatestVersionNumber": 1,
      "LaunchTemplateId": "lt-0d5bd51bcf8530abc",
      "LaunchTemplateName": "TemplateForEncryption",
      "DefaultVersionNumber": 1,
      "CreatedBy": "arn:aws:iam::123456789012:user/Bob",
      "CreateTime": "2020-01-07T19:08:36.000Z"
   }
}
```

For more information, see Restoring an Amazon EBS Volume from a Snapshot and Encryption by Default in the Amazon Elastic Compute Cloud User Guide.

- For API details, see CreateLaunchTemplate in AWS CLI Command Reference.

Create a route table

The following code example shows how to create route table and associate with Amazon EC2 subnet.

AWS CLI

**To create a route table**

This example creates a route table for the specified VPC.

Command:
aws ec2 create-route-table --vpc-id vpc-a01106c2

Output:

```
{
  "RouteTable": {
    "Associations": [],
    "RouteTableId": "rtb-22574640",
    "VpcId": "vpc-a01106c2",
    "PropagatingVgws": [],
    "Tags": [],
    "Routes": [
      {
        "GatewayId": "local",
        "DestinationCidrBlock": "10.0.0.0/16",
        "State": "active"
      }
    ]
  }
}
```

- For API details, see CreateRouteTable in AWS CLI Command Reference.

Create a security group

The following code example shows how to create an Amazon EC2 security group.

**AWS CLI**

**To create a security group for EC2-Classic**

This example creates a security group named MySecurityGroup.

**Command:**

```
aws ec2 create-security-group --group-name MySecurityGroup --description "My security group"
```

**Output:**

```
{
```
To create a security group for EC2-VPC

This example creates a security group named MySecurityGroup for the specified VPC.

Command:

```
aws ec2 create-security-group --group-name MySecurityGroup --description "My security group" --vpc-id vpc-1a2b3c4d
```

Output:

```
{
  "GroupId": "sg-903004f8"
}
```

For more information, see Using Security Groups in the AWS Command Line Interface User Guide.

- For API details, see [CreateSecurityGroup](https://awscli.amazonaws.com/clirefs/CLIIRef/CLIIRef.html#CreateSecurityGroup) in AWS CLI Command Reference.

Create a security key pair

The following code example shows how to create a security key pair for Amazon EC2.

AWS CLI

To create a key pair

This example creates a key pair named MyKeyPair.

Command:

```
aws ec2 create-key-pair --key-name MyKeyPair
```

The output is an ASCII version of the private key and key fingerprint. You need to save the key to a file.

For more information, see Using Key Pairs in the AWS Command Line Interface User Guide.
For API details, see CreateKeyPair in AWS CLI Command Reference.

Create a subnet

The following code example shows how to create an Amazon EC2 subnet.

**AWS CLI**

**Example 1: To create a subnet with an IPv4 CIDR block only**

The following create-subnet example creates a subnet in the specified VPC with the specified IPv4 CIDR block.

```bash
aws ec2 create-subnet \
  --vpc-id vpc-081ec835f3EXAMPLE \n  --cidr-block 10.0.0.0/24 \n  --tag-specifications ResourceType=subnet,Tags=[{Key=Name,Value=my-ipv4-only-subnet}]
```

Output:

```json
{
  "Subnet": {
    "AvailabilityZone": "us-west-2a",
    "AvailabilityZoneId": "usw2-az2",
    "AvailableIpAddressCount": 251,
    "CidrBlock": "10.0.0.0/24",
    "DefaultForAz": false,
    "MapPublicIpOnLaunch": false,
    "State": "available",
    "SubnetId": "subnet-0e99b93155EXAMPLE",
    "VpcId": "vpc-081ec835f3EXAMPLE",
    "OwnerId": "123456789012",
    "AssignIpv6AddressOnCreation": false,
    "Ipv6CidrBlockAssociationSet": [],
    "Tags": [
      {
        "Key": "Name",
        "Value": "my-ipv4-only-subnet"
      }
    ],
    "SubnetArn": "arn:aws:ec2:us-west-2:123456789012:subnet/subnet-0e99b93155EXAMPLE"
  }
}
```
Example 2: To create a subnet with both IPv4 and IPv6 CIDR blocks

The following `create-subnet` example creates a subnet in the specified VPC with the specified IPv4 and IPv6 CIDR blocks.

```bash
aws ec2 create-subnet \
  --vpc-id vpc-081ec835f3EXAMPLE \
  --cidr-block 10.0.0.0/24 \
  --ipv6-cidr-block 2600:1f16:cfe:3660::/64 \
  --tag-specifications ResourceType=subnet,Tags=[{Key=Name,Value=my-ipv4-ipv6-subnet}]
```

Output:

```json
{
  "Subnet": {
    "AvailabilityZone": "us-west-2a",
    "AvailabilityZoneId": "usw2-az2",
    "AvailableIpAddressCount": 251,
    "CidrBlock": "10.0.0.0/24",
    "DefaultForAz": false,
    "MapPublicIpOnLaunch": false,
    "State": "available",
    "SubnetId": "subnet-0736441d38EXAMPLE",
    "VpcId": "vpc-081ec835f3EXAMPLE",
    "OwnerId": "123456789012",
    "AssignIpv6AddressOnCreation": false,
    "Ipv6CidrBlockAssociationSet": [
      {
        "AssociationId": "subnet-cidr-assoc-06c5f904499fccc623",
        "Ipv6CidrBlock": "2600:1f13:cfe:3660::/64",
        "Ipv6CidrBlockState": {
          "State": "associating"
        }
      }
    ],
    "Tags": [
      {
        "Key": "Name",
        "Value": "my-ipv4-ipv6-subnet"
      }
    ]
  }
}
```
Example 3: To create a subnet with an IPv6 CIDR block only

The following `create-subnet` example creates a subnet in the specified VPC with the specified IPv6 CIDR block.

```
aws ec2 create-subnet \
    --vpc-id vpc-081ec835f3EXAMPLE \n    --ipv6-native \n    --ipv6-cidr-block 2600:1f16:115:200::/64 \n    --tag-specifications ResourceType=subnet,Tags=[{Key=Name,Value=my-ipv6-only-subnet}]
```

Output:

```
{
    "Subnet": {
        "AvailabilityZone": "us-west-2a",
        "AvailabilityZoneId": "usw2-az2",
        "AvailableIpAddressCount": 0,
        "DefaultForAz": false,
        "MapPublicIpOnLaunch": false,
        "State": "available",
        "SubnetId": "subnet-03f720e7deEXAMPLE",
        "VpcId": "vpc-081ec835f3EXAMPLE",
        "OwnerId": "123456789012",
        "AssignIpv6AddressOnCreation": true,
        "Ipv6CidrBlockAssociationSet": [
            {
                "AssociationId": "subnet-cidr-assoc-01ef639edde556709",
                "Ipv6CidrBlock": "2600:1f13:cf:3660::/64",
                "Ipv6CidrBlockState": {
                    "State": "associating"
                }
            }
        ],
        "Tags": [
```
For more information, see VPCs and subnets in the Amazon VPC User Guide.

- For API details, see CreateSubnet in AWS CLI Command Reference.

Create and run an instance

The following code example shows how to create and run an Amazon EC2 instance.

AWS CLI

Example 1: To launch an instance into a default subnet

The following run-instances example launches a single instance of type t2.micro into the default subnet for the current Region and associates it with the default subnet for the default VPC for the Region. The key pair is optional if you do not plan to connect to your instance using SSH (Linux) or RDP (Windows).

```bash
aws ec2 run-instances \
   --image-id ami-0abcdef1234567890 \
   --instance-type t2.micro \
   --key-name MyKeyPair
```

Output:

```json
{
   "Instances": [
   {
      "AmiLaunchIndex": 0,
      "ImageId": "ami-0abcdef1234567890",
      "InstanceId": "i-1231231230abcdef0",
      "InstanceType": "t2.micro",
      "KeyName": "MyKeyPair",
      "LaunchTime": "2018-05-10T08:05:20.000Z",
      "SubnetArn": "arn:aws:ec2:us-west-2:123456789012:subnet/subnet-03f720e7deEXAMPLE"
   }
   ]
}
```
"Monitoring": {
    "State": "disabled"
},
"Placement": {
    "AvailabilityZone": "us-east-2a",
    "GroupName": "",
    "Tenancy": "default"
},
"PrivateDnsName": "ip-10-0-0-157.us-east-2 compute.internal",
"PrivateIpAddress": "10.0.0.157",
"ProductCodes": [],
"PublicDnsName": "",
"State": {
    "Code": 0,
    "Name": "pending"
},
"StateTransitionReason": "",
"SubnetId": "subnet-04a636d18e83cfacb",
"VpcId": "vpc-1234567890abcdef0",
"Architecture": "x86_64",
"BlockDeviceMappings": [],
"ClientToken": "",
"EbsOptimized": false,
"Hypervisor": "xen",
"NetworkInterfaces": [
    {
        "Attachment": {
            "AttachTime": "2018-05-10T08:05:20.000Z",
            "AttachmentId": "eni-attach-0e325c07e928a0405",
            "DeleteOnTermination": true,
            "DeviceIndex": 0,
            "Status": "attaching"
        },
        "Description": "",
        "Groups": [
            {
                "GroupName": "MySecurityGroup",
                "GroupId": "sg-0598c7d356eba48d7"
            }
        ]
    },
    "Ipv6Addresses": [],
    "MacAddress": "0a:ab:58:e7:e2",
    "NetworkInterfaceId": "eni-0c0a29997760baee7",
    "OwnerId": "123456789012",
    "VpcId": "vpc-1234567890abcdef0"
}
"PrivateDnsName": "ip-10-0-0-157.us-east-2.compute.internal",
"PrivateIpAddress": "10.0.0.157",
"PrivateIpAddresses": [
  {
    "Primary": true,
    "PrivateDnsName": "ip-10-0-0-157.us-east-2.compute.internal",
    "PrivateIpAddress": "10.0.0.157"
  }
],
"SourceDestCheck": true,
"Status": "in-use",
"SubnetId": "subnet-04a636d18e83cfacb",
"VpcId": "vpc-1234567890abcdef0",
"InterfaceType": "interface"
],
"RootDeviceName": "/dev/xvda",
"RootDeviceType": "ebs",
"SecurityGroups": [
  {
    "GroupName": "MySecurityGroup",
    "GroupId": "sg-0598c7d356e8ba48d7"
  }
],
"SourceDestCheck": true,
"StateReason": {
  "Code": "pending",
  "Message": "pending"
},
"Tags": [],
"VirtualizationType": "hvm",
"CpuOptions": {
  "CoreCount": 1,
  "ThreadsPerCore": 1
},
"CapacityReservationSpecification": {
  "CapacityReservationPreference": "open"
},
"MetadataOptions": {
  "State": "pending",
  "HttpTokens": "optional",
  "HttpPutResponseHopLimit": 1,
  "HttpEndpoint": "enabled"
Example 2: To launch an instance into a non-default subnet and add a public IP address

The following `run-instances` example requests a public IP address for an instance that you're launching into a nondefault subnet. The instance is associated with the specified security group.

```
aws ec2 run-instances \
  --image-id ami-0abcdef1234567890 \
  --instance-type t2.micro \
  --subnet-id subnet-08fc749671b2d077c \
  --security-group-ids sg-0b0384b66d7d692f9 \
  --associate-public-ip-address \
  --key-name MyKeyPair
```

For an example of the output for `run-instances`, see Example 1.

Example 3: To launch an instance with additional volumes

The following `run-instances` example uses a block device mapping, specified in `mapping.json`, to attach additional volumes at launch. A block device mapping can specify EBS volumes, instance store volumes, or both EBS volumes and instance store volumes.

```
aws ec2 run-instances \
  --image-id ami-0abcdef1234567890 \
  --instance-type t2.micro \
  --subnet-id subnet-08fc749671b2d077c \
  --security-group-ids sg-0b0384b66d7d692f9 \
  --key-name MyKeyPair \
  --block-device-mappings file://mapping.json
```

Contents of `mapping.json`. This example adds `/dev/sdh` an empty EBS volume with a size of 100 GiB.

```json
[

{

}]
```
Contents of mapping.json. This example adds ephemeral1 as an instance store volume.

```json
[
  {
    "DeviceName": "/dev/sdc",
    "VirtualName": "ephemeral1"
  }
]
```

For an example of the output for run-instances, see Example 1.

For more information about block device mappings, see [Block device mapping](#) in the *Amazon EC2 User Guide*.

**Example 4: To launch an instance and add tags on creation**

The following `run-instances` example adds a tag with a key of `webserver` and value of `production` to the instance. The command also applies a tag with a key of `cost-center` and a value of `cc123` to any EBS volume that's created (in this case, the root volume).

```bash
aws ec2 run-instances \
  --image-id ami-0abcdef1234567890 \
  --instance-type t2.micro \
  --count 1 \
  --subnet-id subnet-08fc749671b2d077c \
  --key-name MyKeyPair \
  --security-group-ids sg-0b0384b66d7d692f9 \
  --tag-specifications
    'ResourceType=instance,Tags=[{Key=webserver,Value=production}]'
    'ResourceType=volume,Tags=[{Key=cost-center,Value=cc123}]'
```

For an example of the output for `run-instances`, see Example 1.

**Example 5: To launch an instance with user data**
The following run-instances example passes user data in a file called `my_script.txt` that contains a configuration script for your instance. The script runs at launch.

```bash
aws ec2 run-instances \
  --image-id ami-0abcdef1234567890 \n  --instance-type t2.micro \n  --count 1 \n  --subnet-id subnet-08fc749671b2d077c \n  --key-name MyKeyPair \n  --security-group-ids sg-0b0384b66d7d692f9 \n  --user-data file://my_script.txt
```

For an example of the output for `run-instances`, see Example 1.

For more information about instance user data, see Working with instance user data in the Amazon EC2 User Guide.

**Example 6: To launch a burstable performance instance**

The following run-instances example launches a t2.micro instance with the unlimited credit option. When you launch a T2 instance, if you do not specify `--credit-specification`, the default is the standard credit option. When you launch a T3 instance, the default is the unlimited credit option.

```bash
aws ec2 run-instances \
  --image-id ami-0abcdef1234567890 \n  --instance-type t2.micro \n  --count 1 \n  --subnet-id subnet-08fc749671b2d077c \n  --key-name MyKeyPair \n  --security-group-ids sg-0b0384b66d7d692f9 \n  --credit-specification CpuCredits=unlimited
```

For an example of the output for `run-instances`, see Example 1.

For more information about burstable performance instances, see Burstable performance instances in the Amazon EC2 User Guide.

- For API details, see RunInstances in AWS CLI Command Reference.
Delete a launch template

The following code example shows how to delete an Amazon EC2 launch template.

AWS CLI

To delete a launch template

This example deletes the specified launch template.

Command:

```
aws ec2 delete-launch-template --launch-template-id lt-0abcd290751193123
```

Output:

```
{
   "LaunchTemplate": {
      "LatestVersionNumber": 2,
      "LaunchTemplateId": "lt-0abcd290751193123",
      "LaunchTemplateName": "TestTemplate",
      "DefaultVersionNumber": 2,
      "CreatedBy": "arn:aws:iam::123456789012:root",
      "CreateTime": "2017-11-23T16:46:25.000Z"
   }
}
```

- For API details, see [DeleteLaunchTemplate](aws-cli-command-reference) in AWS CLI Command Reference.

Delete a security group

The following code example shows how to delete an Amazon EC2 security group.

AWS CLI

[EC2-Classic] To delete a security group

This example deletes the security group named MySecurityGroup. If the command succeeds, no output is returned.

Command:
aws ec2 delete-security-group --group-name MySecurityGroup

[EC2-VPC] To delete a security group

This example deletes the security group with the ID sg-903004f8. Note that you can't reference a security group for EC2-VPC by name. If the command succeeds, no output is returned.

Command:

aws ec2 delete-security-group --group-id sg-903004f8

For more information, see Using Security Groups in the AWS Command Line Interface User Guide.

- For API details, see DeleteSecurityGroup in AWS CLI Command Reference.

Delete a security key pair

The following code example shows how to delete an Amazon EC2 security key pair.

AWS CLI

To delete a key pair

The following delete-key-pair example deletes the specified key pair.

aws ec2 delete-key-pair \
   --key-name my-key-pair

Output:

{
   "Return": true,
   "KeyPairId": "key-03c8d3aceb53b507"
}

For more information, see Create and delete key pairs in the AWS Command Line Interface User Guide.

- For API details, see DeleteKeyPair in AWS CLI Command Reference.
Delete a snapshot

The following code example shows how to delete an Amazon EBS snapshot.

AWS CLI

To delete a snapshot

This example command deletes a snapshot with the snapshot ID of snap-1234567890abcdef0. If the command succeeds, no output is returned.

Command:

```bash
aws ec2 delete-snapshot --snapshot-id snap-1234567890abcdef0
```

- For API details, see DeleteSnapshot in AWS CLI Command Reference.

Describe Availability Zones

The following code example shows how to describe Amazon EC2 Availability Zones.

AWS CLI

To describe your Availability Zones

The following example describe-availability-zones displays details for the Availability Zones that are available to you. The response includes Availability Zones only for the current Region. In this example, it uses the profiles default us-west-2 (Oregon) Region.

Command:

```bash
aws ec2 describe-availability-zones
```

Output:

```
{
   "AvailabilityZones": [ 
       
   
   
   
   
   "State": "available",
   "OptInStatus": "opt-in-not-required",
   "Messages": [],
   "RegionName": "us-west-2",
   "ZoneName": "us-west-2a",
   "ZoneId": "usw2-az1",
}
"GroupName": "us-west-2",
"NetworkBorderGroup": "us-west-2"
},
{
  "State": "available",
  "OptInStatus": "opt-in-not-required",
  "Messages": [],
  "RegionName": "us-west-2",
  "ZoneName": "us-west-2b",
  "ZoneId": "usw2-az2",
  "GroupName": "us-west-2",
  "NetworkBorderGroup": "us-west-2"
},
{
  "State": "available",
  "OptInStatus": "opt-in-not-required",
  "Messages": [],
  "RegionName": "us-west-2",
  "ZoneName": "us-west-2c",
  "ZoneId": "usw2-az3",
  "GroupName": "us-west-2",
  "NetworkBorderGroup": "us-west-2"
},
{
  "State": "available",
  "OptInStatus": "opt-in-not-required",
  "Messages": [],
  "RegionName": "us-west-2",
  "ZoneName": "us-west-2d",
  "ZoneId": "usw2-az4",
  "GroupName": "us-west-2",
  "NetworkBorderGroup": "us-west-2"
},
{
  "State": "available",
  "OptInStatus": "opted-in",
  "Messages": [],
  "RegionName": "us-west-2",
  "ZoneName": "us-west-2-lax-1a",
  "ZoneId": "usw2-lax1-az1",
  "GroupName": "us-west-2-lax-1",
  "NetworkBorderGroup": "us-west-2-lax-1"
}]
Describe Regions

The following code example shows how to describe Amazon EC2 Regions.

AWS CLI

Example 1: To describe all of your enabled Regions

The following describe-regions example describes all of the Regions that are enabled for your account.

```
aws ec2 describe-regions
```

Output:

```
{
 "Regions": [
   {
    "Endpoint": "ec2.eu-north-1.amazonaws.com",
    "RegionName": "eu-north-1",
    "OptInStatus": "opt-in-not-required"
   },
   {
    "Endpoint": "ec2.ap-south-1.amazonaws.com",
    "RegionName": "ap-south-1",
    "OptInStatus": "opt-in-not-required"
   },
   {
    "Endpoint": "ec2.eu-west-3.amazonaws.com",
    "RegionName": "eu-west-3",
    "OptInStatus": "opt-in-not-required"
   },
   {
    "Endpoint": "ec2.eu-west-2.amazonaws.com",
    "RegionName": "eu-west-2",
    "OptInStatus": "opt-in-not-required"
   },
   {
    "Endpoint": "ec2.eu-west-1.amazonaws.com",
    "RegionName": "eu-west-1",
    "OptInStatus": "opt-in-not-required"
   },
   {
    "Endpoint": "ec2.eu-central-1.amazonaws.com",
    "RegionName": "eu-central-1",
    "OptInStatus": "opt-in-not-required"
   }
  ]
}
```
"Endpoint": "ec2.eu-west-1.amazonaws.com",
"RegionName": "eu-west-1",
"OptInStatus": "opt-in-not-required"
},
{
"Endpoint": "ec2.ap-northeast-3.amazonaws.com",
"RegionName": "ap-northeast-3",
"OptInStatus": "opt-in-not-required"
},
{
"Endpoint": "ec2.ap-northeast-2.amazonaws.com",
"RegionName": "ap-northeast-2",
"OptInStatus": "opt-in-not-required"
},
{
"Endpoint": "ec2.ap-northeast-1.amazonaws.com",
"RegionName": "ap-northeast-1",
"OptInStatus": "opt-in-not-required"
},
{
"Endpoint": "ec2.sa-east-1.amazonaws.com",
"RegionName": "sa-east-1",
"OptInStatus": "opt-in-not-required"
},
{
"Endpoint": "ec2.ca-central-1.amazonaws.com",
"RegionName": "ca-central-1",
"OptInStatus": "opt-in-not-required"
},
{
"Endpoint": "ec2.ap-southeast-1.amazonaws.com",
"RegionName": "ap-southeast-1",
"OptInStatus": "opt-in-not-required"
},
{
"Endpoint": "ec2.ap-southeast-2.amazonaws.com",
"RegionName": "ap-southeast-2",
"OptInStatus": "opt-in-not-required"
},
{
"Endpoint": "ec2.eu-central-1.amazonaws.com",
"RegionName": "eu-central-1",
"OptInStatus": "opt-in-not-required"
}
For more information, see [Regions and Zones](https://docs.aws.amazon.com/AmazonEC2/latest/UserGuide/regions-and-zones.html) in the *Amazon EC2 User Guide*.

**Example 2: To describe enabled Regions with an endpoint whose name contains a specific string**

The following `describe-regions` example describes all Regions that you have enabled that have the string "us" in the endpoint.

```bash
aws ec2 describe-regions \
   --filters "Name=endpoint,Values=\*us\*"
```

**Output:**

```json
{
   "Regions": [
   {
      "Endpoint": "ec2.us-east-1.amazonaws.com",
      "RegionName": "us-east-1"
   },
   {
      "Endpoint": "ec2.us-east-2.amazonaws.com",
      "RegionName": "us-east-2"
   },
   {
      "Endpoint": "ec2.us-west-1.amazonaws.com",
      "RegionName": "us-west-1"
   },
   {
      "Endpoint": "ec2.us-west-2.amazonaws.com",
      "RegionName": "us-west-2"
   }
   ]
}
```
"Endpoint": "ec2.us-east-2.amazonaws.com",
"RegionName": "us-east-2"
},
{
"Endpoint": "ec2.us-west-1.amazonaws.com",
"RegionName": "us-west-1"
},
{
"Endpoint": "ec2.us-west-2.amazonaws.com",
"RegionName": "us-west-2"
}
]}

For more information, see Regions and Zones in the Amazon EC2 User Guide.

Example 3: To describe all Regions

The following describe-regions example describes all available Regions, including Regions that are disabled.

```
aws ec2 describe-regions \
--all-regions
```

Output:

```
{
   "Regions": [
   {
      "Endpoint": "ec2.eu-north-1.amazonaws.com",
      "RegionName": "eu-north-1",
      "OptInStatus": "opt-in-not-required"
   },
   {
      "Endpoint": "ec2.ap-south-1.amazonaws.com",
      "RegionName": "ap-south-1",
      "OptInStatus": "opt-in-not-required"
   },
   {
      "Endpoint": "ec2.eu-west-3.amazonaws.com",
      "RegionName": "eu-west-3",
      "OptInStatus": "opt-in-not-required"
   },
   {
      "Endpoint": "ec2.eu-north-1.amazonaws.com",
      "RegionName": "eu-north-1",
      "OptInStatus": "opt-in-not-required"
   }
   ]
}```
{
    "Endpoint": "ec2.eu-west-2.amazonaws.com",
    "RegionName": "eu-west-2",
    "OptInStatus": "opt-in-not-required"
},
{
    "Endpoint": "ec2.eu-west-1.amazonaws.com",
    "RegionName": "eu-west-1",
    "OptInStatus": "opt-in-not-required"
},
{
    "Endpoint": "ec2.ap-northeast-3.amazonaws.com",
    "RegionName": "ap-northeast-3",
    "OptInStatus": "opt-in-not-required"
},
{
    "Endpoint": "ec2.me-south-1.amazonaws.com",
    "RegionName": "me-south-1",
    "OptInStatus": "not-opted-in"
},
{
    "Endpoint": "ec2.ap-northeast-2.amazonaws.com",
    "RegionName": "ap-northeast-2",
    "OptInStatus": "opt-in-not-required"
},
{
    "Endpoint": "ec2.ap-northeast-1.amazonaws.com",
    "RegionName": "ap-northeast-1",
    "OptInStatus": "opt-in-not-required"
},
{
    "Endpoint": "ec2.sa-east-1.amazonaws.com",
    "RegionName": "sa-east-1",
    "OptInStatus": "opt-in-not-required"
},
{
    "Endpoint": "ec2.ca-central-1.amazonaws.com",
    "RegionName": "ca-central-1",
    "OptInStatus": "opt-in-not-required"
},
{
    "Endpoint": "ec2.ap-east-1.amazonaws.com",
    "RegionName": "ap-east-1",
    "OptInStatus": "not-opted-in"
}
For more information, see Regions and Zones in the Amazon EC2 User Guide.

Example 4: To list the Region names only
The following describe-regions example uses the --query parameter to filter the output and return only the names of the Regions as text.

```bash
aws ec2 describe-regions \
  --all-regions \
  --query "Regions[].{Name:RegionName}" \
  --output text
```

Output:

```
eu-north-1
ap-south-1
eu-west-3
eu-west-2
eu-west-1
ap-northeast-3
ap-northeast-2
me-south-1
ap-northeast-1
sa-east-1
central-1
ap-east-1
ap-southeast-1
ap-southeast-2
eu-central-1
us-east-1
us-east-2
us-west-1
us-west-2
```

For more information, see Regions and Zones in the Amazon EC2 User Guide.

- For API details, see DescribeRegions in AWS CLI Command Reference.

**Describe instance status**

The following code example shows how to describe the status of Amazon EC2 instances.

**AWS CLI**

To describe the status of an instance
The following `describe-instance-status` example describes the current status of the specified instance.

```
aws ec2 describe-instance-status \\
   --instance-ids i-1234567890abcdef0
```

Output:

```
{
   "InstanceStatuses": [
   {
      "InstanceId": "i-1234567890abcdef0",
      "InstanceState": {
         "Code": 16,
         "Name": "running"
      },
      "AvailabilityZone": "us-east-1d",
      "SystemStatus": {
         "Status": "ok",
         "Details": [
            {
               "Status": "passed",
               "Name": "reachability"
            }
         ]
      },
      "InstanceStatus": {
         "Status": "ok",
         "Details": ["reachability"
      ]
   },
   "InstanceStatus": {
      "Status": "ok",
      "Details": ["reachability"
   ]
   }
}
```

For more information, see Monitor the status of your instances in the Amazon EC2 User Guide.

- For API details, see `DescribeInstanceStatus` in AWS CLI Command Reference.
Describe instances

The following code example shows how to describe Amazon EC2 instances.

AWS CLI

**Example 1: To describe an instance**

The following `describe-instances` example describes the specified instance.

```
aws ec2 describe-instances \
   --instance-ids i-1234567890abcdef0
```

Output:

```
{
   "Reservations": [
   {
      "Groups": [],
      "Instances": [
      {
         "AmiLaunchIndex": 0,
         "ImageId": "ami-0abcdef1234567890",
         "InstanceId": "i-1234567890abcdef0",
         "InstanceType": "t3.nano",
         "KeyName": "my-key-pair",
         "LaunchTime": "2022-11-15T10:48:59+00:00",
         "Monitoring": {
            "State": "disabled"
         },
         "Placement": {
            "AvailabilityZone": "us-east-2a",
            "GroupName": "",
            "Tenancy": "default"
         },
         "PrivateDnsName": "ip-10-0-0-157.us-east-2.compute.internal",
         "PrivateIpAddress": "10-0-0-157",
         "ProductCodes": [],
         "PublicDnsName": "ec2-34-253-223-13.us-east-2.compute.amazonaws.com",
         "PublicIpAddress": "34.253.223.13",
         "State": {
            "Code": 16,
            "Name": "running"
         }
      }
   ]
}
},
  "StateTransitionReason": "",
  "SubnetId": "subnet-04a636d18e83cfacb",
  "VpcId": "vpc-1234567890abcdef0",
  "Architecture": "x86_64",
  "BlockDeviceMappings": [
    {
      "DeviceName": "/dev/xvda",
      "Ebs": {
        "AttachTime": "2022-11-15T10:49:00+00:00",
        "DeleteOnTermination": true,
        "Status": "attached",
        "VolumeId": "vol-02e6ccdca7de29cf2"
      }
    }
  ],
  "ClientToken": "1234abcd-1234-abcd-1234-d46a8903e9bc",
  "EbsOptimized": true,
  "EnaSupport": true,
  "Hypervisor": "xen",
  "IamInstanceProfile": {
    "Arn": "arn:aws:iam::111111111111:instance-profile/AmazonSSMRoleForInstancesQuickSetup",
    "Id": "111111111111111111111"
  },
  "NetworkInterfaces": [
    {
      "Association": {
        "IpAddress": "amazon",
        "PublicDnsName": "ec2-34-253-223-13.us-east-2.compute.amazonaws",
        "PublicIp": "34.253.223.13"
      },
      "Attachment": {
        "AttachTime": "2022-11-15T10:48:59+00:00",
        "AttachmentId": "eni-attach-1234567890abcdefg",
        "DeleteOnTermination": true,
        "DeviceIndex": 0,
        "Status": "attached",
        "NetworkCardIndex": 0
      },
      "Description": "",
      "Groups": [ "
      ]
    }
  ]
}
"GroupName": "launch-wizard-146",
"GroupId": "sg-1234567890abcdefg"
}
],
"Ipv6Addresses": [],
"MacAddress": "00:11:22:33:44:55",
"NetworkInterfaceId": "eni-1234567890abcdefg",
"OwnerId": "104024344472",
"PrivateDnsName": "ip-10-0-0-157.us-east-2.compute.internal",
"PrivateIpAddress": "10-0-0-157",
"PrivateIpAddresses": [
{
    "Association": {
        "IpOwnerId": "amazon",
        "PublicDnsName": "ec2-34-253-223-13.us-east-2.compute.amazonaws.com",
        "PublicIp": "34.253.223.13"
    },
    "Primary": true,
    "PrivateDnsName": "ip-10-0-0-157.us-east-2.compute.internal",
    "PrivateIpAddress": "10-0-0-157"
}
],
"SourceDestCheck": true,
"Status": "in-use",
"SubnetId": "subnet-1234567890abcdefg",
"VpcId": "vpc-1234567890abcdefg",
"InterfaceType": "interface"
],
"RootDeviceName": "/dev/xvda",
"RootDeviceType": "ebs",
"SecurityGroups": [
{
    "GroupName": "launch-wizard-146",
    "GroupId": "sg-1234567890abcdefg"
}
],
"SourceDestCheck": true,
"Tags": [
{
    "Key": "Name",

"Value": "my-instance"
],
"VirtualizationType": "hvm",
"CpuOptions": {
  "CoreCount": 1,
  "ThreadsPerCore": 2
},
"CapacityReservationSpecification": {
  "CapacityReservationPreference": "open"
},
"HibernationOptions": {
  "Configured": false
},
"MetadataOptions": {
  "State": "applied",
  "HttpTokens": "optional",
  "HttpPutResponseHopLimit": 1,
  "HttpEndpoint": "enabled",
  "HttpProtocolIpv6": "disabled",
  "InstanceMetadataTags": "enabled"
},
"EnclaveOptions": {
  "Enabled": false
},
"PlatformDetails": "Linux/UNIX",
"UsageOperation": "RunInstances",
"UsageOperationUpdateTime": "2022-11-15T10:48:59+00:00",
"PrivateDnsNameOptions": {
  "HostnameType": "ip-name",
  "EnableResourceNameDnsARecord": true,
  "EnableResourceNameDnsAAAARecord": false
},
"MaintenanceOptions": {
  "AutoRecovery": "default"
}
],
"OwnerId": "111111111111",
"ReservationId": "r-1234567890abcdefg"
}
Example 2: To filter for instances with the specified type

The following `describe-instances` example uses filters to scope the results to instances of the specified type.

```bash
aws ec2 describe-instances \
   --filters Name=instance-type,Values=m5.large
```

For example output, see Example 1.

For more information, see [List and filter using the CLI](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/list-and-filter-using-cli.html) in the *Amazon EC2 User Guide*.

Example 3: To filter for instances with the specified type and Availability Zone

The following `describe-instances` example uses multiple filters to scope the results to instances with the specified type that are also in the specified Availability Zone.

```bash
aws ec2 describe-instances \
   --filters Name=instance-type,Values=t2.micro,t3.micro Name=availability-zone,Values=us-east-2c
```

For example output, see Example 1.

Example 4: To filter for instances with the specified type and Availability Zone using a JSON file

The following `describe-instances` example uses a JSON input file to perform the same filtering as the previous example. When filters get more complicated, they can be easier to specify in a JSON file.

```bash
aws ec2 describe-instances \
   --filters file://filters.json
```

Contents of `filters.json`:

```json
[
   {
      "Name": "instance-type",
      "Values": ["t2.micro", "t3.micro"]
   }
]
```
For example output, see Example 1.

**Example 5: To filter for instances with the specified Owner tag**

The following `describe-instances` example uses tag filters to scope the results to instances that have a tag with the specified tag key (Owner), regardless of the tag value.

.aws ec2 describe-instances \ 
  --filters "Name=tag-key,Values=Owner"

For example output, see Example 1.

**Example 6: To filter for instances with the specified my-team tag value**

The following `describe-instances` example uses tag filters to scope the results to instances that have a tag with the specified tag value (my-team), regardless of the tag key.

.aws ec2 describe-instances \ 
  --filters "Name=tag-value,Values=my-team"

For example output, see Example 1.

**Example 7: To filter for instances with the specified Owner tag and my-team value**

The following `describe-instances` example uses tag filters to scope the results to instances that have the specified tag (Owner=my-team).

.aws ec2 describe-instances \ 
  --filters "Name=tag:Owner,Values=my-team"

For example output, see Example 1.

**Example 8: To display only instance and subnet IDs for all instances**
The following `describe-instances` examples use the `--query` parameter to display only the instance and subnet IDs for all instances, in JSON format.

**Linux and macOS:**

```bash
aws ec2 describe-instances \
  --query 'Reservations[*].Instances[*].{Instance:InstanceId,Subnet:SubnetId}' \
  --output json
```

**Output:**

```json
[
  {
    "Instance": "i-057750d42936e468a",
    "Subnet": "subnet-069beee9b12030077"
  },
  {
    "Instance": "i-001efd250faaa6ffa",
    "Subnet": "subnet-0b715c6b7db68927a"
  },
  {
    "Instance": "i-027552a73f021f3bd",
    "Subnet": "subnet-0250c25a1f4e15235"
  }
  ...
]
```

**Example 9: To filter instances of the specified type and only display their instance IDs**

The following `describe-instances` example uses filters to scope the results to instances of the specified type and the `--query` parameter to display only the instance IDs.

```bash
aws ec2 describe-instances \
  --filters "Name=instance-type,Values=t2.micro" \
  --query "Reservations[*].Instances[*].[InstanceId]"
```
Example 10: To filter instances of the specified type and only display their instance IDs, Availability Zone, and the specified tag value

The following `describe-instances` examples display the instance ID, Availability Zone, and the value of the `Name` tag for instances that have a tag with the name `tag-key`, in table format.

**Linux and macOS:**

```
aws ec2 describe-instances \
   --filters Name=tag-key,Values=Name \
   --query 'Reservations[*].Instances[*].
   {Instance:InstanceId,AZ:Placement.AvailabilityZone,Name:Tags[?Key==`Name`]|[0].Value}' \
   --output table
```

**Windows:**

```
aws ec2 describe-instances ^
   --filters Name=tag-key,Values=Name ^
   --query "Reservations[*].Instances[*].
   {Instance:InstanceId,AZ:Placement.AvailabilityZone,Name:Tags[?Key=='Name']|[0].Value}" ^
   --output table
```

**Output:**

<p>| DescribeInstances | |</p>
<table>
<thead>
<tr>
<th>AZ</th>
<th>Instance</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>us-east-2b</td>
<td>i-057750d42936e468a</td>
<td>my-prod-server</td>
</tr>
<tr>
<td>us-east-2a</td>
<td>i-001efd250faaa6ffa</td>
<td>test-server-1</td>
</tr>
<tr>
<td>us-east-2a</td>
<td>i-027552a73f021f3bd</td>
<td>test-server-2</td>
</tr>
</tbody>
</table>

**Example 11: To describe instances in a partition placement group**

The following describe-instances example describes the specified instance. The output includes the placement information for the instance, which contains the placement group name and the partition number for the instance.

```bash
aws ec2 describe-instances \
--instance-ids i-0123a456700123456 \
--query "Reservations[*].Instances[*].Placement"
```

Output:

```
[
  [
    
    "AvailabilityZone": "us-east-1c",
    "GroupName": "HDFS-Group-A",
    "PartitionNumber": 3,
    "Tenancy": "default"
  
  ]
]
```

For more information, see [Describing instances in a placement group](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/describing-placements.html) in the Amazon EC2 User Guide.

**Example 12: To filter to instances with the specified placement group and partition number**

The following describe-instances example filters the results to only those instances with the specified placement group and partition number.

```bash
aws ec2 describe-instances \
```
The following shows only the relevant information from the output.

```
"Instances": [
  {
    "InstanceId": "i-0123a456700123456",
    "InstanceType": "r4.large",
    "Placement": {
      "AvailabilityZone": "us-east-1c",
      "GroupName": "HDFS-Group-A",
      "PartitionNumber": 7,
      "Tenancy": "default"
    }
  },
  {
    "InstanceId": "i-9876a543210987654",
    "InstanceType": "r4.large",
    "Placement": {
      "AvailabilityZone": "us-east-1c",
      "GroupName": "HDFS-Group-A",
      "PartitionNumber": 7,
      "Tenancy": "default"
    }
  }
],
```

For more information, see [Describing instances in a placement group](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/AmznEC2_GetUserGuide.html) in the *Amazon EC2 User Guide*.

**Example 13: To filter to instances that are configured to allow access to tags from instance metadata**

The following `describe-instances` example filters the results to only those instances that are configured to allow access to instance tags from instance metadata.

```
aws ec2 describe-instances \
   --filters "Name=metadata-options.instance-metadata-tags,Values=enabled" \
   --query "Reservations[*].Instances[*].InstanceId" \
   --output text
```

The following shows the expected output.
For more information, see [Work with instance tags in instance metadata](#) in the [Amazon EC2 User Guide](#).

- For API details, see [DescribeInstances](#) in [AWS CLI Command Reference](#).

### Describe snapshots

The following code example shows how to describe Amazon EBS snapshots.

**AWS CLI**

**Example 1: To describe a snapshot**

The following `describe-snapshots` example describes the specified snapshot.

```bash
aws ec2 describe-snapshots \
  --snapshot-ids snap-1234567890abcdef0
```

**Output:**

```json
{
  "Snapshots": [
    {
      "Description": "This is my snapshot",
      "Encrypted": false,
      "VolumeId": "vol-049df61146c4d7901",
      "State": "completed",
      "VolumeSize": 8,
      "StartTime": "2019-02-28T21:28:32.000Z",
      "Progress": "100%",
      "OwnerId": "012345678910",
      "SnapshotId": "snap-01234567890abcdef",
      "Tags": [
        {
          "Key": "Stack",
          "Value": "test"
        }
      ]
    }
  ]
}
```
For more information, see Amazon EBS snapshots in the Amazon EC2 User Guide.

Example 2: To describe snapshots based on filters

The following describe-snapshots example uses filters to scope the results to snapshots owned by your AWS account that are in the pending state. The example uses the --query parameter to display only the snapshot IDs and the time the snapshot was started.

```bash
aws ec2 describe-snapshots \
  --owner-ids self \
  --filters Name=status,Values=pending \
  --query "Snapshots[*].{ID:SnapshotId,Time:StartTime}"
```

Output:

```
[
  {
    "ID": "snap-1234567890abcdef0",
    "Time": "2019-08-04T12:48:18.000Z"
  },
  {
    "ID": "snap-066877671789bd71b",
    "Time": "2019-08-04T02:45:16.000Z"
  },
  ...
]
```

The following describe-snapshots example uses filters to scope the results to snapshots created from the specified volume. The example uses the --query parameter to display only the snapshot IDs.

```bash
aws ec2 describe-snapshots \
  --filters Name=volume-id,Values=049df61146c4d7901 \
  --query "Snapshots[*].[SnapshotId]" \
  --output text
```
Output:

```
snap-1234567890abcdef0
snap-08637175a712c3fb9
...```

For additional examples using filters, see Listing and filtering your resources in the Amazon EC2 User Guide.

**Example 3: To describe snapshots based on tags**

The following describe-snapshots example uses tag filters to scope the results to snapshots that have the tag `Stack=Prod`.

```
aws ec2 describe-snapshots \
   --filters Name=tag:Stack,Values=prod
```

For an example of the output for `describe-snapshots`, see Example 1.

For additional examples using tag filters, see Working with tags in the Amazon EC2 User Guide.

**Example 4: To describe snapshots based on age**

The following describe-snapshots example uses JMESPath expressions to describe all snapshots created by your AWS account before the specified date. It displays only the snapshot IDs.

```
aws ec2 describe-snapshots \
   --owner-ids 012345678910 \
   --query "Snapshots?{StartTime<='2020-03-31'}].[SnapshotId]"
```

For additional examples using filters, see Listing and filtering your resources in the Amazon EC2 User Guide.

**Example 5: To view only archived snapshots**

The following describe-snapshots example lists only snapshots that are stored in the archive tier.

```
aws ec2 describe-snapshots \
```
--filters "Name=storage-tier,Values=archive"

Output:

```json
{
   "Snapshots": [
      {
         "Description": "Snap A",
         "Encrypted": false,
         "VolumeId": "vol-01234567890aaaaaa",
         "State": "completed",
         "VolumeSize": 8,
         "StartTime": "2021-09-07T21:00:00.000Z",
         "Progress": "100%",
         "OwnerId": "123456789012",
         "SnapshotId": "snap-01234567890aaaaaa",
         "StorageTier": "archive",
         "Tags": []
      }
   ]
}
```

For more information, see [View archived snapshots](https://aws.amazon.com/documentation/elasticcloud/userguide/) in the Amazon Elastic Compute Cloud User Guide.

- For API details, see [DescribeSnapshots](https://docs.aws.amazon.com/cli/latest/reference/ec2/describe-snapshots.html) in AWS CLI Command Reference.

**Disable detailed monitoring**

The following code example shows how to disable detailed monitoring on an Amazon EC2 instance.

**AWS CLI**

**To disable detailed monitoring for an instance**

This example command disables detailed monitoring for the specified instance.

**Command:**

```bash
aws ec2 unmonitor-instances --instance-ids i-1234567890abcdef0
```

**Output:**

Disassociate an Elastic IP address from an instance

The following code example shows how to disassociate an Elastic IP address from an Amazon EC2 instance.

**AWS CLI**

**To disassociate an Elastic IP addresses in EC2-Classic**

This example disassociates an Elastic IP address from an instance in EC2-Classic. If the command succeeds, no output is returned.

Command:

```bash
aws ec2 disassociate-address --public-ip 198.51.100.0
```

**To disassociate an Elastic IP address in EC2-VPC**

This example disassociates an Elastic IP address from an instance in a VPC. If the command succeeds, no output is returned.

Command:

```bash
aws ec2 disassociate-address --association-id eipassoc-2bebb745
```

• For API details, see [DisassociateAddress](https://docs.aws.amazon.com/cli/latest/reference/ec2/disassociate-address.html) in *AWS CLI Command Reference*. 

For API details, see [UnmonitorInstances](https://docs.aws.amazon.com/cli/latest/reference/ec2/unmonitor-instances.html) in *AWS CLI Command Reference*. 

Actions and scenarios
Enable monitoring

The following code example shows how to enable monitoring for a running Amazon EC2 instance.

AWS CLI

To enable detailed monitoring for an instance

This example command enables detailed monitoring for the specified instance.

Command:

```bash
aws ec2 monitor-instances --instance-ids i-1234567890abcdef0
```

Output:

```json
{
   "InstanceMonitorings": [
   {
      "InstanceId": "i-1234567890abcdef0",
      "Monitoring": {
         "State": "pending"
      }
   }
   ]
}
```

- For API details, see [MonitorInstances] in AWS CLI Command Reference.

Get data about Amazon Machine Images

The following code example shows how to get data about Amazon Machine Images (AMIs).

AWS CLI

Example 1: To describe an AMI

The following describe-images example describes the specified AMI in the specified Region.

```bash
aws ec2 describe-images \
   --region us-east-1 \
```
Output:

```
{
   "Images": [
   {
   "VirtualizationType": "hvm",
   "Description": "Provided by Red Hat, Inc.",
   "PlatformDetails": "Red Hat Enterprise Linux",
   "EnaSupport": true,
   "Hypervisor": "xen",
   "State": "available",
   "SriovNetSupport": "simple",
   "ImageId": "ami-1234567890EXAMPLE",
   "UsageOperation": "RunInstances:0010",
   "BlockDeviceMappings": [
   {
   "DeviceName": "/dev/sda1",
   "Ebs": {
   "SnapshotId": "snap-11122233444aaabb",
   "DeleteOnTermination": true,
   "VolumeType": "gp2",
   "VolumeSize": 10,
   "Encrypted": false
   }
   }
   ],
   "Architecture": "x86_64",
   "ImageLocation": "123456789012/RHEL-8.0.0_HVM-20190618-x86_64-1-Hourly2-GP2",
   "RootDeviceType": "ebs",
   "OwnerId": "123456789012",
   "RootDeviceName": "/dev/sda1",
   "CreationDate": "2019-05-10T13:17:12.000Z",
   "Public": true,
   "ImageType": "machine",
   "Name": "RHEL-8.0.0_HVM-20190618-x86_64-1-Hourly2-GP2"
   }
   ]
   }
}
```

Example 2: To describe AMIs based on filters

The following describe-images example describes Windows AMIs provided by Amazon that are backed by Amazon EBS.

```
aws ec2 describe-images \
   --owners amazon \
   --filters "Name=platform,Values=windows" "Name=root-device-type,Values=ebs"
```

For an example of the output for describe-images, see Example 1.

For additional examples using filters, see [Listing and filtering your resources](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/listing-and-filtering-resources.html) in the *Amazon EC2 User Guide*.

Example 3: To describe AMIs based on tags

The following describe-images example describes all AMIs that have the tag Type=Custom. The example uses the --query parameter to display only the AMI IDs.

```
aws ec2 describe-images \
   --filters "Name=tag:Type,Values=Custom" \
   --query 'Images[*].[ImageId]' \
   --output text
```

Output:

```
ami-1234567890EXAMPLE
ami-0abcdef1234567890
```

For additional examples using tag filters, see [Working with tags](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/using-tags.html) in the *Amazon EC2 User Guide*.

- For API details, see DescribeImages in [AWS CLI Command Reference](https://docs.aws.amazon.com/cli/latest/reference/ec2/describe-images.html).

Get data about a security group

The following code example shows how to get data about an Amazon EC2 security group.

AWS CLI

Example 1: To describe a security group
The following describe-security-groups example describes the specified security group.

```bash
aws ec2 describe-security-groups \
  --group-ids sg-903004f8
```

Output:

```json
{
  "SecurityGroups": [
    {
      "IpPermissionsEgress": [
        {
          "IpProtocol": "-1",
          "IpRanges": [
            {
              "CidrIp": "0.0.0.0/0"
            }
          ],
          "UserIdGroupPairs": [],
          "PrefixListIds": []
        }
      ],
      "Description": "My security group",
      "Tags": [
        {
          "Value": "SG1",
          "Key": "Name"
        }
      ],
      "IpPermissions": [
        {
          "IpProtocol": "-1",
          "IpRanges": [],
          "UserIdGroupPairs": [
            {
              "UserId": "123456789012",
              "GroupId": "sg-903004f8"
            }
          ],
          "PrefixListIds": []
        }
      ]
    }
  ]
}
```
"FromPort": 22,
"IpRanges": [
{
  "Description": "Access from NY office",
  "CidrIp": "203.0.113.0/24"
},
"ToPort": 22,
"IpProtocol": "tcp",
"UserIdGroupPairs": []
},
"GroupName": "MySecurityGroup",
"VpcId": "vpc-1a2b3c4d",
"OwnerId": "123456789012",
"GroupId": "sg-903004f8",
]}
}

Example 2: To describe security groups that have specific rules

The following describe-security-groups example uses filters to scope the results to security groups that have a rule that allows SSH traffic (port 22) and a rule that allows traffic from all addresses (0.0.0.0/0). The example uses the --query parameter to display only the names of the security groups. Security groups must match all filters to be returned in the results; however, a single rule does not have to match all filters. For example, the output returns a security group with a rule that allows SSH traffic from a specific IP address and another rule that allows HTTP traffic from all addresses.

```bash
aws ec2 describe-security-groups \
  --filters Name=ip-permission.from-port,Values=22 Name=ip-permission.to-port,Values=22 Name=ip-permission.cidr,Values='0.0.0.0/0' \
  --query "SecurityGroups[*].[GroupName]" \
  --output text
```

Output:

```
default
my-security-group
web-servers
```
Example 3: To describe security groups based on tags

The following `describe-security-groups` example uses filters to scope the results to security groups that include test in the security group name, and that have the tag `Test=To-delete`. The example uses the `--query` parameter to display only the names and IDs of the security groups.

```
aws ec2 describe-security-groups \
  --filters Name=group-name,Values=*test* Name=tag:Test,Values=To-delete \
  --query "SecurityGroups[*].{Name:GroupName,ID:GroupId}"
```

Output:
```
[
  {
    "Name": "testfornewinstance",
    "ID": "sg-33bb22aa"
  },
  {
    "Name": "newgrouptest",
    "ID": "sg-1a2b3c4d"
  }
]
```


- For API details, see [DescribeSecurityGroups](https://docs.aws.amazon.com/cli/latest/reference/ec2/describe-security-groups.html) in *AWS CLI Command Reference*.

Get data about instance types

The following code example shows how to get data about Amazon EC2 instance types.

AWS CLI

Example 1: To describe an instance type

The following `describe-instance-types` example displays details for the specified instance type.
aws ec2 describe-instance-types \
--instance-types t2.micro

Output:

{
  "InstanceTypes": [
    {
      "InstanceType": "t2.micro",
      "CurrentGeneration": true,
      "FreeTierEligible": true,
      "SupportedUsageClasses": [
        "on-demand",
        "spot"
      ],
      "SupportedRootDeviceTypes": ["ebs"],
      "BareMetal": false,
      "Hypervisor": "xen",
      "ProcessorInfo": {
        "SupportedArchitectures": ["i386", "x86_64"],
        "SustainedClockSpeedInGhz": 2.5
      },
      "VCpuInfo": {
        "DefaultVCpus": 1,
        "DefaultCores": 1,
        "DefaultThreadsPerCore": 1,
        "ValidCores": [1],
        "ValidThreadsPerCore": [1]
      },
      "MemoryInfo": {
        "SizeInMiB": 1024
      },
      "InstanceStorageSupported": false,
      "EbsInfo": {

For more information, see [Instance Types](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ InstanceTypes.html) in *Amazon Elastic Compute Cloud User Guide for Linux Instances*.

**Example 2: To filter the available instance types**

You can specify a filter to scope the results to instance types that have a specific characteristic. The following `describe-instance-types` example lists the instance types that support hibernation.

```bash
aws ec2 describe-instance-types \
  --filters Name=hibernation-supported,Values=true --query 'InstanceTypes[*].InstanceType'
```

Output:

```json
[
  "m5.8xlarge",
  "r3.large",
]"
For more information, see [Instance Types](https://docs.aws.amazon.com/AmazonECS/latest/developerguide/task-definition-iam-roles.html) in *Amazon Elastic Compute Cloud User Guide for Linux Instances*.

- For API details, see [DescribeInstanceTypes](https://docs.aws.amazon.com/cli/latest/reference/ec2/describe-instance-types.html) in *AWS CLI Command Reference*.

Get data about the instance profile associated with an instance

The following code example shows how to get data about the instance profile associated with an Amazon EC2 instance.

**AWS CLI**

**To describe IAM instance profile associations**

This example describes all of your IAM instance profile associations.

Command:

```
aws ec2 describe-iam-instance-profile-associations
```

Output:

```
{
   "IamInstanceProfileAssociations": [
   {
      "InstanceId": "i-09eb09efa73ec1dee",
      "State": "associated",
      "AssociationId": "iip-assoc-0db249b1f25fa24b8",
```
"IamInstanceProfile": {  
    "Id": "AIPAJVQN4F5WVLGCJDRGM",  
    "Arn": "arn:aws:iam::123456789012:instance-profile/admin-role"  
},  
{  
    "InstanceId": "i-0402909a2f4dffc14",  
    "State": "associating",  
    "AssociationId": "iip-assoc-0d1ec06278d29f44a",  
    "IamInstanceProfile": {  
        "Id": "AGJAJVQN4F5WVLGCJABCM",  
        "Arn": "arn:aws:iam::123456789012:instance-profile/user1-role"  
    }  
}  
]

• For API details, see [DescribeIamInstanceProfileAssociations](https://awscli.amazonaws.com/v2/documentation/api/current/reference/operations/Iam/DescribeIamInstanceProfileAssociations.html) in [AWS CLI Command Reference](https://awscli.amazonaws.com/v2/documentation/api/current/index.html).

### Get details about Elastic IP addresses

The following code example shows how to get details about Elastic IP addresses.

**AWS CLI**

**Example 1: To retrieve details about all of your Elastic IP addresses**

The following `describe addresses` example displays details about your Elastic IP addresses.

```bash
aws ec2 describe-addresses
```

**Output:**

```
{
    "Addresses": [
        {
            "InstanceId": "i-1234567890abcdef0",
            "PublicIp": "198.51.100.0",
            "PublicIpv4Pool": "amazon",
            "Domain": "standard"
        },
        {
            "Domain": "vpc",
```
"PublicIpv4Pool": "amazon",
"InstanceId": "i-1234567890abcdef0",
"NetworkInterfaceId": "eni-12345678",
"AssociationId": "eipassoc-12345678",
"NetworkInterfaceOwnerId": "123456789012",
"PublicIp": "203.0.113.0",
"AllocationId": "eipalloc-12345678",
"PrivateIpAddress": "10.0.1.241"
}
]
}

Example 2: To retrieve details your Elastic IP addresses for EC2-VPC

The following describe-addresses example displays details about your Elastic IP addresses for use with instances in a VPC.

```bash
aws ec2 describe-addresses \
  --filters "Name=domain,Values=vpc"
```

Output:

```json
{
  "Addresses": [
    {
      "Domain": "vpc",
      "PublicIpv4Pool": "amazon",
      "InstanceId": "i-1234567890abcdef0",
      "NetworkInterfaceId": "eni-12345678",
      "AssociationId": "eipassoc-12345678",
      "NetworkInterfaceOwnerId": "123456789012",
      "PublicIp": "203.0.113.0",
      "AllocationId": "eipalloc-12345678",
      "PrivateIpAddress": "10.0.1.241"
    }
  ]
}
```

Example 3: To retrieve details about an Elastic IP address specified by allocation ID

The following describe-addresses example displays details about the Elastic IP address with the specified allocation ID, which is associated with an instance in EC2-VPC.
aws ec2 describe-addresses \
--allocation-ids eipalloc-282d9641

Output:

{
  "Addresses": [
    {
      "Domain": "vpc",
      "PublicIpv4Pool": "amazon",
      "InstanceId": "i-1234567890abcdef0",
      "NetworkInterfaceId": "eni-1a2b3c4d",
      "AssociationId": "eipassoc-123abc12",
      "NetworkInterfaceOwnerId": "1234567891012",
      "PublicIp": "203.0.113.25",
      "AllocationId": "eipalloc-282d9641",
      "PrivateIpAddress": "10.251.50.12"
    }
  ]
}

**Example 4: To retrieve details about an Elastic IP address specified by its VPC private IP address**

The following `describe-addresses` example displays details about the Elastic IP address associated with a particular private IP address in EC2-VPC.

```
aws ec2 describe-addresses \
--filters "Name=private-ip-address,Values=10.251.50.12"
```

**Example 5: To retrieve details about Elastic IP addresses in EC2-Classic**

The following `describe-addresses` example displays details about your Elastic IP addresses for use in EC2-Classic.

```
aws ec2 describe-addresses \
--filters "Name=domain,Values=standard"
```

Output:

```
Example 6: To retrieve details about an Elastic IP addresses specified by its public IP address

The following `describe-addresses` example displays details about the Elastic IP address with the value 203.0.110.25, which is associated with an instance in EC2-Classic.

```
aws ec2 describe-addresses \
   --public-ips 203.0.110.25
```

Output:

```
{
   "Addresses": [
      {
         "InstanceId": "i-1234567890abcdef0",
         "PublicIp": "203.0.110.25",
         "PublicIpv4Pool": "amazon",
         "Domain": "standard"
      }
   ]
}
```

- For API details, see [DescribeAddresses](#) in AWS CLI Command Reference.

Get the default VPC

The following code example shows how to get the default VPC of the current account.

AWS CLI

**Example 1: To describe all of your VPCs**

The following `describe-vpcs` example retrieves details about your VPCs.
aws ec2 describe-vpcs

Output:

```json
{
    "Vpcs": [
        {
            "CidrBlock": "30.1.0.0/16",
            "DhcpOptionsId": "dopt-19edf471",
            "State": "available",
            "VpcId": "vpc-0e9801d129EXAMPLE",
            "OwnerId": "111122223333",
            "InstanceTenancy": "default",
            "CidrBlockAssociationSet": [
                {
                    "AssociationId": "vpc-cidr-assoc-062c64cfafEXAMPLE",
                    "CidrBlock": "30.1.0.0/16",
                    "CidrBlockState": {
                        "State": "associated"
                    }
                }
            ],
            "IsDefault": false,
            "Tags": [
                {
                    "Key": "Name",
                    "Value": "Not Shared"
                }
            ]
        },
        {
            "CidrBlock": "10.0.0.0/16",
            "DhcpOptionsId": "dopt-19edf471",
            "State": "available",
            "VpcId": "vpc-06e4ab6c6cEXAMPLE",
            "OwnerId": "222222222222",
            "InstanceTenancy": "default",
            "CidrBlockAssociationSet": [
                {
                    "AssociationId": "vpc-cidr-assoc-00b17b4eddEXAMPLE",
                    "CidrBlock": "10.0.0.0/16",
                    "CidrBlockState": {
                        "State": "associated"
                    }
                }
            ],
            "IsDefault": false,
            "Tags": [
                {
                    "Key": "Name",
                    "Value": "Not Shared"
                }
            ]
        }
    ]
}
```
Example 2: To describe a specified VPC

The following `describe-vpcs` example retrieves details for the specified VPC.

```
aws ec2 describe-vpcs \
    --vpc-ids vpc-06e4ab6c6cEXAMPLE
```

Output:

```json
{
    "Vpcs": [
        {
            "CidrBlock": "10.0.0.0/16",
            "DhcpOptionsId": "dopt-19edf471",
            "State": "available",
            "VpcId": "vpc-06e4ab6c6cEXAMPLE",
            "OwnerId": "111122223333",
            "InstanceTenancy": "default",
            "CidrBlockAssociationSet": [
                {
                    "AssociationId": "vpc-cidr-assoc-00b17b4eddEXAMPLE",
                    "CidrBlock": "10.0.0.0/16",
                    "CidrBlockState": {
                        "State": "associated"
                    }
                }
            ],
            "IsDefault": false,
            "Tags": [
```
• For API details, see [DescribeVpcs](awscli://ec2/describe-vpcs) in *AWS CLI Command Reference*.

**Get the default subnets for a VPC**

The following code example shows how to get the default subnets for a VPC.

**AWS CLI**

**Example 1: To describe all your subnets**

The following `describe-subnets` example displays the details of your subnets.

```bash
aws ec2 describe-subnets
```

**Output:**

```json
{
   "Subnets": [
      {
         "AvailabilityZone": "us-east-1d",
         "AvailabilityZoneId": "use1-az2",
         "AvailableIpAddressCount": 4089,
         "CidrBlock": "172.31.80.0/20",
         "DefaultForAz": true,
         "MapPublicIpOnLaunch": false,
         "MapCustomerOwnedIpOnLaunch": true,
         "State": "available",
         "SubnetId": "subnet-0bb1c79de3EXAMPLE",
         "VpcId": "vpc-0ee975135dEXAMPLE",
         "OwnerId": "111122223333",
         "AssignIpv6AddressOnCreation": false,
         "Ipv6CidrBlockAssociationSet": [],
         "CustomerOwnedIpv4Pool": "pool-2EXAMPLE",
         "CustomerOwnedIpv6Pool": "pool-3EXAMPLE",
         "VpnGatewayId": null,
         "PeeringConnectionId": null,
         "VpcPeeringConnectionId": null,
         "IpAddress": null
      }
   ]
}
```
"SubnetArn": "arn:aws:ec2:us-east-2:111122223333:subnet/subnet-0bb1c79de3EXAMPLE",
   "EnableDns64": false,
   "Ipv6Native": false,
   "PrivateDnsNameOptionsOnLaunch": {
      "HostnameType": "ip-name",
      "EnableResourceNameDnsARecord": false,
      "EnableResourceNameDnsAAAARecord": false
   }
},
{
   "AvailabilityZone": "us-east-1d",
   "AvailabilityZoneId": "use1-az2",
   "AvailableIpAddressCount": 4089,
   "CidrBlock": "172.31.80.0/20",
   "DefaultForAz": true,
   "MapPublicIpOnLaunch": true,
   "MapCustomerOwnedIpOnLaunch": false,
   "State": "available",
   "SubnetId": "subnet-8EXAMPLE",
   "VpcId": "vpc-3EXAMPLE",
   "OwnerId": "1111222233333",
   "AssignIpv6AddressOnCreation": false,
   "Ipv6CidrBlockAssociationSet": [],
   "Tags": [
      {
         "Key": "Name",
         "Value": "MySubnet"
      }
   ],
   "EnableDns64": false,
   "Ipv6Native": false,
   "PrivateDnsNameOptionsOnLaunch": {
      "HostnameType": "ip-name",
      "EnableResourceNameDnsARecord": false,
      "EnableResourceNameDnsAAAARecord": false
   }
}
For more information, see Working with VPCs and Subnets in the AWS VPC User Guide.

**Example 2: To describe the subnets of a specific VPC**

The following describe-subnets example uses a filter to retrieve details for the subnets of the specified VPC.

```bash
aws ec2 describe-subnets \\
   --filters "Name=vpc-id,Values=vpc-3EXAMPLE"
```

Output:

```json
{
   "Subnets": [
      {
         "AvailabilityZone": "us-east-1d",
         "AvailabilityZoneId": "use1-az2",
         "AvailableIpAddressCount": 4089,
         "CidrBlock": "172.31.80.0/20",
         "DefaultForAz": true,
         "MapPublicIpOnLaunch": true,
         "MapCustomerOwnedIpOnLaunch": false,
         "State": "available",
         "SubnetId": "subnet-8EXAMPLE",
         "VpcId": "vpc-3EXAMPLE",
         "OwnerId": "1111222233333",
         "AssignIpv6AddressOnCreation": false,
         "Ipv6CidrBlockAssociationSet": [],
         "Tags": [
            {
               "Key": "Name",
               "Value": "MySubnet"
            }
         ],
         "EnableDns64": false,
         "Ipv6Native": false,
         "PrivateDnsNameOptionsOnLaunch": {
            "HostnameType": "ip-name",
            "EnableResourceNameDnsARecord": false,
            "EnableResourceNameDnsAAAARecord": false
         }
      }
   ]
}
```
Example 3: To describe the subnets with a specific tag

The following describe-subnets example uses a filter to retrieve the details of those subnets with the tag CostCenter=123 and the --query parameter to display the subnet IDs of the subnets with this tag.

```bash
aws ec2 describe-subnets \
   --filters "Name=tag:CostCenter,Values=123" \ 
   --query "Subnets[*].SubnetId" \ 
   --output text
```

Output:

```
subnet-0987a87c8b37348ef
subnet-02a95061c45f372ee
subnet-03f720e7de2788d73
```

For more information, see Working with VPCs and Subnets in the Amazon VPC User Guide.

- For API details, see DescribeSubnets in AWS CLI Command Reference.

List security key pairs

The following code example shows how to list Amazon EC2 security key pairs.

AWS CLI

To display a key pair

The following describe-key-pairs example displays information about the specified key pair.

```bash
aws ec2 describe-key-pairs \ 
   --key-names my-key-pair
```
Output:

```json
{
    "KeyPairs": [
        {
            "KeyPairId": "key-0b94643da6EXAMPLE",
            "KeyName": "my-key-pair",
            "KeyType": "rsa",
            "Tags": [],
        }
    ]
}
```

For more information, see Describe public keys in the Amazon EC2 User Guide.

- For API details, see DescribeKeyPairs in AWS CLI Command Reference.

**Reboot an instance**

The following code example shows how to reboot an Amazon EC2 instance.

**AWS CLI**

To reboot an Amazon EC2 instance

This example reboots the specified instance. If the command succeeds, no output is returned.

Command:

```
aws ec2 reboot-instances --instance-ids i-1234567890abcdef5
```

For more information, see Reboot Your Instance in the Amazon Elastic Compute Cloud User Guide.

- For API details, see RebootInstances in AWS CLI Command Reference.

**Release an Elastic IP address**

The following code example shows how to release an Elastic IP address.
**AWS CLI**

**To release an Elastic IP addresses for EC2-Classic**

This example releases an Elastic IP address for use with instances in EC2-Classic. If the command succeeds, no output is returned.

Command:

```sh/aws ec2 release-address --public-ip 198.51.100.0
```

**To release an Elastic IP address for EC2-VPC**

This example releases an Elastic IP address for use with instances in a VPC. If the command succeeds, no output is returned.

Command:

```sh/aws ec2 release-address --allocation-id eipalloc-64d5890a
```

- For API details, see [ReleaseAddress](#) in *AWS CLI Command Reference*.

**Replace the instance profile associated with an instance**

The following code example shows how to replace the instance profile associated with an Amazon EC2 instance.

**AWS CLI**

**To replace an IAM instance profile for an instance**

This example replaces the IAM instance profile represented by the association iip-assoc-060bae234aac2e7fa with the IAM instance profile named AdminRole.

```sh/aws ec2 replace-iam-instance-profile-association \\   --iam-instance-profile Name=AdminRole \\   --association-id iip-assoc-060bae234aac2e7fa
```

Output:

```json
{
}
```
Set inbound rules for a security group

The following code example shows how to set inbound rules for an Amazon EC2 security group.

**AWS CLI**

**Example 1: To add a rule that allows inbound SSH traffic**

The following `authorize-security-group-ingress` example adds a rule that allows inbound traffic on TCP port 22 (SSH).

```bash
aws ec2 authorize-security-group-ingress \
    --group-id sg-1234567890abcdef0 \
    --protocol tcp \n    --port 22 \n    --cidr 203.0.113.0/24
```

Output:

```
{
    "Return": true,
    "SecurityGroupRules": [
        {
            "SecurityGroupRuleId": "sgr-01afa97ef3e1bedfc",
            "GroupId": "sg-1234567890abcdef0",
            "GroupOwnerId": "123456789012",
            "IsEgress": false,
            "IpProtocol": "tcp",
            "FromPort": 22,
            "ToPort": 22,
            "CidrIp": "203.0.113.0/24"
        }
    ]
}
```
"ToPort": 22,
    "CidrIpv4": "203.0.113.0/24"
  ]
}
}

Example 2: To add a rule that allows inbound HTTP traffic from another security group

The following authorize-security-group-ingress example adds a rule that allows inbound access on TCP port 80 from the source security group sg-1a2b3c4d. The source group must be in the same VPC or in a peer VPC (requires a VPC peering connection). Incoming traffic is allowed based on the private IP addresses of instances that are associated with the source security group (not the public IP address or Elastic IP address).

    aws ec2 authorize-security-group-ingress \
        --group-id sg-1234567890abcdef0 \
        --protocol tcp \
        --port 80 \ 
        --source-group sg-1a2b3c4d

Output:

{
    "Return": true,
    "SecurityGroupRules": [
        {
            "SecurityGroupRuleId": "sgr-01f4be99110f638a7",
            "GroupId": "sg-1234567890abcdef0",
            "GroupOwnerId": "123456789012",
            "IsEgress": false,
            "IpProtocol": "tcp",
            "FromPort": 80,
            "ToPort": 80,
            "ReferencedGroupInfo": {
                "GroupId": "sg-1a2b3c4d",
                "UserId": "123456789012"
            }
        }
    ]
}

Example 3: To add multiple rules in the same call
The following `authorize-security-group-ingress` example uses the `ip-permissions` parameter to add two inbound rules, one that enables inbound access on TCP port 3389 (RDP) and the other that enables ping/ICMP.

```
aws ec2 authorize-security-group-ingress --group-id sg-1234567890abcdef0 --ip-permissions
IpProtocol=tcp,FromPort=3389,ToPort=3389,IpRanges="[[CidrIp=172.31.0.0/16]]"
IpProtocol=icmp,FromPort=-1,ToPort=-1,IpRanges="[[CidrIp=172.31.0.0/16]]"
```

Output:

```
{
  "Return": true,
  "SecurityGroupRules": [
    {
      "SecurityGroupRuleId": "sgr-00e06e5d3690f29f3",
      "GroupId": "sg-1234567890abcdef0",
      "GroupOwnerId": "123456789012",
      "IsEgress": false,
      "IpProtocol": "tcp",
      "FromPort": 3389,
      "ToPort": 3389,
      "CidrIpv4": "172.31.0.0/16"
    },
    {
      "SecurityGroupRuleId": "sgr-0a133dd4493944b87",
      "GroupId": "sg-1234567890abcdef0",
      "GroupOwnerId": "123456789012",
      "IsEgress": false,
      "IpProtocol": "tcp",
      "FromPort": -1,
      "ToPort": -1,
      "CidrIpv4": "172.31.0.0/16"
    }
  ]
}
```

**Example 4: To add a rule for ICMP traffic**

The following `authorize-security-group-ingress` example uses the `ip-permissions` parameter to add an inbound rule that allows the ICMP message Destination Unreachable: Fragmentation Needed and Don't Fragment was Set (Type 3, Code 4) from anywhere.
aws ec2 authorize-security-group-ingress --group-id sg-1234567890abcdef0 --ip-permissions IpProtocol=icmp,FromPort=3,ToPort=4,IpRanges="[CidrIp=0.0.0.0/0]"

Output:

```json
{
  "Return": true,
  "SecurityGroupRules": [ 
    {
      "SecurityGroupRuleId": "sgr-0de3811019069b787",
      "GroupId": "sg-1234567890abcdef0",
      "GroupOwnerId": "123456789012",
      "IsEgress": false,
      "IpProtocol": "icmp",
      "FromPort": 3,
      "ToPort": 4,
      "CidrIpv4": "0.0.0.0/0"
    }
  ]
}
```

**Example 5: To add a rule for IPv6 traffic**

The following authorize-security-group-ingress example uses the ip-permissions parameter to add an inbound rule that allows SSH access (port 22) from the IPv6 range 2001:db8:1234:1a00::/64.

aws ec2 authorize-security-group-ingress --group-id sg-1234567890abcdef0 --ip-permissions IpProtocol=tcp,FromPort=22,ToPort=22,Ipv6Ranges="[[CidrIpv6=2001:db8:1234:1a00::/64]]"

Output:

```json
{
  "Return": true,
  "SecurityGroupRules": [ 
    {
      "SecurityGroupRuleId": "sgr-0455bc68b60805563",
      "GroupId": "sg-1234567890abcdef0",
      "GroupOwnerId": "123456789012",
      "IsEgress": false,
      "IpProtocol": "tcp",
      "FromPort": 22,
      "ToPort": 22,
```
Example 6: To add a rule for ICMPv6 traffic

The following `authorize-security-group-ingress` example uses the `ip-permissions` parameter to add an inbound rule that allows ICMPv6 traffic from anywhere.

```bash
aws ec2 authorize-security-group-ingress --group-id sg-1234567890abcdef0 --ip-permissions IpProtocol=icmpv6,Ipv6Ranges="[{CidrIpv6=::/0}]"
```

Output:

```json
{
   "Return": true,
   "SecurityGroupRules": [
   {
      "SecurityGroupRuleId": "sgr-04b612d9363ab6327",
      "GroupId": "sg-1234567890abcdef0",
      "GroupOwnerId": "123456789012",
      "IsEgress": false,
      "IpProtocol": "icmpv6",
      "FromPort": -1,
      "ToPort": -1,
      "CidrIpv6": "::/0"
    }
   ]
}
```

Example 7: Add a rule with a description

The following `authorize-security-group-ingress` example uses the `ip-permissions` parameter to add an inbound rule that allows RDP traffic from the specified IPv4 address range. The rule includes a description to help you identify it later.

```bash
aws ec2 authorize-security-group-ingress --group-id sg-1234567890abcdef0 --ip-permissions IpProtocol=tcp,FromPort=3389,ToPort=3389,IpRanges="[{CidrIp=203.0.113.0/24,Description='RDP access from NY office'}]"
```

Output:

```json
{
   "Return": true,
   "SecurityGroupRules": [
   {
      "SecurityGroupRuleId": "sgr-04b612d9363ab6327",
      "GroupId": "sg-1234567890abcdef0",
      "GroupOwnerId": "123456789012",
      "IsEgress": false,
      "IpProtocol": "tcp",
      "FromPort": 3389,
      "ToPort": 3389,
      "CidrIp": "203.0.113.0/24",
      "Description": "RDP access from NY office"
    }
   ]
}
```
Example 8: To add an inbound rule that uses a prefix list

The following authorize-security-group-ingress example uses the ip-permissions parameter to add an inbound rule that allows all traffic for the CIDR ranges in the specified prefix list.

```bash
aws ec2 authorize-security-group-ingress --group-id sg-04a351bfe432d4e71 --ip-permissions IpProtocol=all,PrefixListIds="[[PrefixListId=pl-002dc3ec097de1514]]"
```

Output:

```json
{
  "Return": true,
  "SecurityGroupRules": [
    {
      "SecurityGroupRuleId": "sgr-09c74b32f677c6c7c",
      "GroupId": "sg-1234567890abcdef0",
      "GroupOwnerId": "123456789012",
      "IsEgress": false,
      "IpProtocol": "-1",
      "FromPort": -1,
      "ToPort": -1,
      "PrefixListId": "pl-0721453c7ac4ec009"
    }
  ]
}
```
For more information, see Security groups in the Amazon VPC User Guide.

- For API details, see AuthorizeSecurityGroupIngress in AWS CLI Command Reference.

Start an instance

The following code example shows how to start an Amazon EC2 instance.

AWS CLI

To start an Amazon EC2 instance

This example starts the specified Amazon EBS-backed instance.

Command:

```
aws ec2 start-instances --instance-ids i-1234567890abcdef0
```

Output:

```
{
    "StartingInstances": [
        {
            "InstanceId": "i-1234567890abcdef0",
            "CurrentState": {
                "Code": 0,
                "Name": "pending"
            },
            "PreviousState": {
                "Code": 80,
                "Name": "stopped"
            }
        }
    ]
}
```

For more information, see Stop and Start Your Instance in the Amazon Elastic Compute Cloud User Guide.

- For API details, see StartInstances in AWS CLI Command Reference.
Stop an instance

The following code example shows how to stop an Amazon EC2 instance.

AWS CLI

Example 1: To stop an Amazon EC2 instance

The following stop-instances example stops the specified Amazon EBS-backed instance.

```
aws ec2 stop-instances \
    --instance-ids i-1234567890abcdef0
```

Output:

```
{
    "StoppingInstances": [
        {
            "InstanceId": "i-1234567890abcdef0",
            "CurrentState": {
                "Code": 64,
                "Name": "stopping"
            },
            "PreviousState": {
                "Code": 16,
                "Name": "running"
            }
        }
    ]
}
```

For more information, see Stop and Start Your Instance in the Amazon Elastic Compute Cloud User Guide.

Example 2: To hibernate an Amazon EC2 instance

The following stop-instances example hibernates Amazon EBS-backed instance if the instance is enabled for hibernation and meets the hibernation prerequisites. After the instance is put into hibernation the instance is stopped.

```
aws ec2 stop-instances \
```
--instance-ids i-1234567890abcdef0 \
--hibernate

Output:

```json
{
    "StoppingInstances": [
        {
            "CurrentState": {
                "Code": 64,
                "Name": "stopping"
            },
            "InstanceId": "i-1234567890abcdef0",
            "PreviousState": {
                "Code": 16,
                "Name": "running"
            }
        }
    ]
}
```

For more information, see [Hibernate your On-Demand Linux instance](#) in the Amazon Elastic Cloud Compute User Guide.

- For API details, see [StopInstances](#) in AWS CLI Command Reference.

## Terminate an instance

The following code example shows how to terminate an Amazon EC2 instance.

### AWS CLI

**To terminate an Amazon EC2 instance**

This example terminates the specified instance.

**Command:**

```
aws ec2 terminate-instances --instance-ids i-1234567890abcdef0
```

**Output:**
For more information, see Using Amazon EC2 Instances in the *AWS Command Line Interface User Guide*.

- For API details, see **TerminateInstances** in *AWS CLI Command Reference*.

**accept-address-transfer**

The following code example shows how to use `accept-address-transfer`.

**AWS CLI**

**To accept an Elastic IP address transferred to your account**

The following `accept-address-transfer` example accepts the transfer of the specified Elastic IP address to your account.

```
aws ec2 accept-address-transfer \
  --address 100.21.184.216
```

**Output:**

```json
{
  "AddressTransfer": {
    "PublicIp": "100.21.184.216",
    "AllocationId": "eipalloc-09ad461b0d03f6aaf",
```

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For more information, see Transfer Elastic IP addresses in the Amazon VPC User Guide.

- For API details, see AcceptAddressTransfer in AWS CLI Command Reference.

### accept-reserved-instances-exchange-quote

The following code example shows how to use accept-reserved-instances-exchange-quote.

**AWS CLI**

**To perform a Convertible Reserved Instance exchange**

This example performs an exchange of the specified Convertible Reserved Instances.

**Command:**

```bash
aws ec2 accept-reserved-instances-exchange-quote --reserved-instance-ids 7b8750c3-397e-4da4-bbcb-a45ebexample --target-configurations OfferingId=b747b472-423c-48f3-8cee-679bexample
```

**Output:**

```
{
   "ExchangeId": "riex-e68ed3c1-8bc8-4c17-af77-811afexample"
}
```

- For API details, see AcceptReservedInstancesExchangeQuote in AWS CLI Command Reference.

### accept-transit-gateway-peering-attachment

The following code example shows how to use accept-transit-gateway-peering-attachment.
### AWS CLI

#### To accept a transit gateway peering attachment

The following `accept-transit-gateway-peering-attachment` example accepts the specified transit gateway peering attachment. The `--region` parameter specifies the Region that the accepter transit gateway is located in.

```bash
aws ec2 accept-transit-gateway-peering-attachment \
   --transit-gateway-attachment-id tgw-attach-4455667788aabbcccd \
   --region us-east-2
```

Output:

```
{
   "TransitGatewayPeeringAttachment": {
      "TransitGatewayAttachmentId": "tgw-attach-4455667788aabbcccd",
      "RequesterTgwInfo": {
         "TransitGatewayId": "tgw-123abc05e04123abc",
         "OwnerId": "123456789012",
         "Region": "us-west-2"
      },
      "AccepterTgwInfo": {
         "TransitGatewayId": "tgw-11223344aabbcc112",
         "OwnerId": "123456789012",
         "Region": "us-east-2"
      },
      "State": "pending",
      "CreationTime": "2019-12-09T11:38:31.000Z"
   }
}
```


- For API details, see [AcceptTransitGatewayPeeringAttachment](https://docs.aws.amazon.com/cli/latest/reference/ec2/accept-transit-gateway-peering-attachment.html) in *AWS CLI Command Reference*.

---

#### accept-transit-gateway-vpc-attachment

The following code example shows how to use `accept-transit-gateway-vpc-attachment`.

### AWS CLI

#### To accept a request to attach a VPC to a transit gateway.
The following `accept-transit-gateway-vpc-attachment` example accepts the request for the specified attachment.

```bash
aws ec2 accept-transit-gateway-vpc-attachment \
   --transit-gateway-attachment-id tgw-attach-0a34fe6b4fEXAMPLE
```

Output:

```json
{
   "TransitGatewayVpcAttachment": {
      "TransitGatewayAttachmentId": "tgw-attach-0a34fe6b4fEXAMPLE",
      "TransitGatewayId": "tgw-0262a0e521EXAMPLE",
      "VpcId": "vpc-07e8ffdd5fEXAMPLE",
      "VpcOwnerId": "123456789012",
      "State": "pending",
      "SubnetIds": [
         "subnet-0752213d59EXAMPLE"
      ],
      "CreationTime": "2019-07-10T17:33:46.000Z",
      "Options": {
         "DnsSupport": "enable",
         "Ipv6Support": "disable"
      }
   }
}
```

For more information, see [Transit Gateway Attachments to a VPC](https://docs.aws.amazon.com/-transit-gateway/latest/userguide/attach-interface-vpc-overview.html) in the Transit Gateways Guide.

- For API details, see [AcceptTransitGatewayVpcAttachment](https://docs.aws.amazon.com/cli/latest/reference/ec2/accept-transit-gateway-vpc-attachment.html) in *AWS CLI Command Reference*.

**accept-vpc-endpoint-connections**

The following code example shows how to use `accept-vpc-endpoint-connections`.

**AWS CLI**

**To accept an interface endpoint connection request**

This example accepts the specified endpoint connection request for the specified endpoint service.

Command:
aws ec2 accept-vpc-endpoint-connections --service-id vpce-svc-03d5ebb7d9579a2b3 --vpc-endpoint-ids vpce-0c1308d7312217abc

Output:

```json
{
    "Unsuccessful": []
}
```

- For API details, see [AcceptVpcEndpointConnections](https://docs.aws.amazon.com/cli/latest/reference/ec2/accept-vpc-endpoint-connections.html) in *AWS CLI Command Reference*.

**accept-vpc-peering-connection**

The following code example shows how to use `accept-vpc-peering-connection`.

**AWS CLI**

**To accept a VPC peering connection**

This example accepts the specified VPC peering connection request.

**Command:**

```shell
aws ec2 accept-vpc-peering-connection --vpc-peering-connection-id pcx-1a2b3c4d
```

**Output:**

```json
{
    "VpcPeeringConnection": {
        "Status": {
            "Message": "Provisioning",
            "Code": "provisioning"
        },
        "Tags": [],
        "AccepterVpcInfo": {
            "OwnerId": "444455556666",
            "VpcId": "vpc-4445555666",
            "CidrBlock": "10.0.1.0/28"
        },
        "VpcPeeringConnectionId": "pcx-1a2b3c4d",
        "RequesterVpcInfo": {
            "OwnerId": "444455556666",
```
advertise-byoip-cidr

The following code example shows how to use `advertise-byoip-cidr`.

**AWS CLI**

**To advertise an address range**

The following `advertise-byoip-cidr` example advertises the specified public IPv4 address range.

```bash
aws ec2 advertise-byoip-cidr \
    --cidr 203.0.113.25/24
```

Output:

```json
{
    "ByoipCidr": {
        "Cidr": "203.0.113.25/24",
        "StatusMessage": "ipv4pool-ec2-1234567890abcdef0",
        "State": "provisioned"
    }
}
```

**allocate-hosts**

The following code example shows how to use `allocate-hosts`.

**AWS CLI**

**Example 1: To allocate a Dedicated Host**
The following `allocate-hosts` example allocates a single Dedicated Host in the eu-west-1a Availability Zone, onto which you can launch `m5.large` instances. By default, the Dedicated Host accepts only target instance launches, and does not support host recovery.

```
aws ec2 allocate-hosts \
   --instance-type m5.large \
   --availability-zone eu-west-1a \
   --quantity 1
```

Output:

```
{
   "HostIds": [
       "h-07879acf49EXAMPLE"
   ]
}
```

**Example 2: To allocate a Dedicated Host with auto-placement and host recovery enabled**

The following `allocate-hosts` example allocates a single Dedicated Host in the eu-west-1a Availability Zone with auto-placement and host recovery enabled.

```
aws ec2 allocate-hosts \
   --instance-type m5.large \
   --availability-zone eu-west-1a \
   --auto-placement on \
   --host-recovery on \
   --quantity 1
```

Output:

```
{
   "HostIds": [
       "h-07879acf49EXAMPLE"
   ]
}
```

**Example 3: To allocate a Dedicated Host with tags**

The following `allocate-hosts` example allocates a single Dedicated Host and applies a tag with a key named `purpose` and a value of `production`.
aws ec2 allocate-hosts \
   --instance-type m5.large \
   --availability-zone eu-west-1a \
   --quantity 1 \
   --tag-specifications 'ResourceType=dedicated-host,Tags={Key=purpose,Value=production}'

Output:

```json
{
   "HostIds": [
      "h-07879acf49EXAMPLE"
   ]
}
```

For more information, see Allocating Dedicated Hosts in the Amazon Elastic Compute Cloud User Guide for Linux Instances.

- For API details, see AllocateHosts in AWS CLI Command Reference.

**allocate-ipam-pool-cidr**

The following code example shows how to use allocate-ipam-pool-cidr.

**AWS CLI**

**To allocate a CIDR from an IPAM pool**

The following allocate-ipam-pool-cidr example allocates a CIDR from an IPAM pool.

(Linux):

```bash
aws ec2 allocate-ipam-pool-cidr \
   --ipam-pool-id ipam-pool-0533048da7d823723 \
   --netmask-length 24
```

(Windows):

```bash
aws ec2 allocate-ipam-pool-cidr ^
   --ipam-pool-id ipam-pool-0533048da7d823723 ^
```
--netmask-length 24

Output:

```json
{
  "IpamPoolAllocation": {
    "Cidr": "10.0.0.0/24",
    "IpamPoolAllocationId": "ipam-pool-alloc-018ecc28043b54ba38e2cd99943cebfbd",
    "ResourceType": "custom",
    "ResourceOwner": "123456789012"
  }
}
```

For more information, see [Manually allocate a CIDR to a pool to reserve IP address space](https://docs.aws.amazon.com/vpc-ipam/latest/userguide/ipam-manually-allocate-cidr.html) in the *Amazon VPC IPAM User Guide*.

- For API details, see [AllocateIpamPoolCidr](https://docs.aws.amazon.com/cli/latest/reference/ec2/allocate-ipam-pool-cidr.html) in *AWS CLI Command Reference*.

---

**apply-security-groups-to-client-vpn-target-network**

The following code example shows how to use `apply-security-groups-to-client-vpn-target-network`.

**AWS CLI**

**To apply security groups to a target network for a Client VPN endpoint**

The following `apply-security-groups-to-client-vpn-target-network` example applies security group `sg-01f6e627a89f4db32` to the association between the specified target network and Client VPN endpoint.

```bash
aws ec2 apply-security-groups-to-client-vpn-target-network \
  --security-group-ids sg-01f6e627a89f4db32 \
  --vpc-id vpc-0e2110c2f324332e0 \
  --client-vpn-endpoint-id cvpn-endpoint-123456789123abcde
```

Output:

```json
{
  "SecurityGroupIds": [
  ]
}
```
assign-ipv6-addresses

The following code example shows how to use assign-ipv6-addresses.

AWS CLI

**To assign specific IPv6 addresses to a network interface**

This example assigns the specified IPv6 addresses to the specified network interface.

Command:

```
```

Output:

```
{
   "AssignedIpv6Addresses": [
      "2001:db8:1234:1a00:3304:8879:34cf:4071",
      "2001:db8:1234:1a00:9691:9503:25ad:1761"
   ],
   "NetworkInterfaceId": "eni-38664473"
}
```

**To assign IPv6 addresses that Amazon selects to a network interface**

This example assigns two IPv6 addresses to the specified network interface. Amazon automatically assigns these IPv6 addresses from the available IPv6 addresses in the IPv6 CIDR block range of the subnet.

Command:
aws ec2 assign-ipv6-addresses --network-interface-id eni-38664473 --ipv6-address-count 2

Output:

```
{
    "AssignedIpv6Addresses": [
        "2001:db8:1234:1a00:3304:8879:34cf:4071",
        "2001:db8:1234:1a00:9691:9503:25ad:1761"
    ],
    "NetworkInterfaceId": "eni-38664473"
}
```

• For API details, see AssignIpv6Addresses in AWS CLI Command Reference.

assign-private-ip-addresses

The following code example shows how to use assign-private-ip-addresses.

AWS CLI

**To assign a specific secondary private IP address a network interface**

This example assigns the specified secondary private IP address to the specified network interface. If the command succeeds, no output is returned.

Command:

```
aws ec2 assign-private-ip-addresses --network-interface-id eni-e5aa89a3 --private-ip-addresses 10.0.0.82
```

**To assign secondary private IP addresses that Amazon EC2 selects to a network interface**

This example assigns two secondary private IP addresses to the specified network interface. Amazon EC2 automatically assigns these IP addresses from the available IP addresses in the CIDR block range of the subnet the network interface is associated with. If the command succeeds, no output is returned.

Command:
aws ec2 assign-private-ip-addresses --network-interface-id eni-e5aa89a3 --secondary-private-ip-address-count 2

• For API details, see AssignPrivateIpAddresses in AWS CLI Command Reference.

**assign-private-nat-gateway-address**

The following code example shows how to use assign-private-nat-gateway-address.

**AWS CLI**

**To assign private IP addresses to your private NAT gateway**

The following assign-private-nat-gateway-address example assigns two private IP addresses to the specified private NAT gateway.

```bash
aws ec2 assign-private-nat-gateway-address \
   --nat-gateway-id nat-1234567890abcdef0 \
   --private-ip-address-count 2
```

**Output:**

```json
{
   "NatGatewayId": "nat-1234567890abcdef0",
   "NatGatewayAddresses": [
      {
         "NetworkInterfaceId": "eni-0065a61b324d1897a",
         "IsPrimary": false,
         "Status": "assigning"
      },
      {
         "NetworkInterfaceId": "eni-0065a61b324d1897a",
         "IsPrimary": false,
         "Status": "assigning"
      }
   ]
}
```

For more information, see NAT gateways in the Amazon VPC User Guide.

• For API details, see AssignPrivateNatGatewayAddress in AWS CLI Command Reference.
associate-client-vpn-target-network

The following code example shows how to use `associate-client-vpn-target-network`.

**AWS CLI**

To associate a target network with a Client VPN endpoint

The following `associate-client-vpn-target-network` example associates a subnet with the specified Client VPN endpoint.

```bash
aws ec2 associate-client-vpn-target-network \
--subnet-id subnet-0123456789abcabca \
--client-vpn-endpoint-id cvpn-endpoint-123456789123abcde
```

Output:

```
{
    "AssociationId": "cvpn-assoc-12312312312312312",
    "Status": {
        "Code": "associating"
    }
}
```

For more information, see [Target Networks](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/assign-vpc-dhcp-options.html) in the *AWS Client VPN Administrator Guide*.

- For API details, see [AssociateClientVpnTargetNetwork](https://docs.aws.amazon.com/cli/latest/reference/ec2/associate-client-vpn-target-network.html) in *AWS CLI Command Reference*.

associate-dhcp-options

The following code example shows how to use `associate-dhcp-options`.

**AWS CLI**

To associate a DHCP options set with your VPC

This example associates the specified DHCP options set with the specified VPC. If the command succeeds, no output is returned.

Command:

```bash
aws ec2 associate-dhcp-options --dhcp-options-id dopt-d9070ebb --vpc-id vpc-a01106c2
```
To associate the default DHCP options set with your VPC

This example associates the default DHCP options set with the specified VPC. If the command succeeds, no output is returned.

Command:

```bash
aws ec2 associate-dhcp-options --dhcp-options-id default --vpc-id vpc-a01106c2
```

- For API details, see AssociateDhcpOptions in AWS CLI Command Reference.

associate-iam-instance-profile

The following code example shows how to use associate-iam-instance-profile.

AWS CLI

To associate an IAM instance profile with an instance

This example associates an IAM instance profile named admin-role with instance i-123456789abcdef123.

Command:

```bash
aws ec2 associate-iam-instance-profile --instance-id i-123456789abcdef123 --iam-instance-profile Name=admin-role
```

Output:

```json
{
   "IamInstanceProfileAssociation": {  
      "InstanceId": "i-123456789abcdef123",  
      "State": "associating",  
      "AssociationId": "iip-assoc-0e7736511a163c209",  
      "IamInstanceProfile": {  
         "Id": "AIPAJBLK7RKJKWDXVHIEC",  
         "Arn": "arn:aws:iam::123456789012:instance-profile/admin-role"
      }
   }
}
```

- For API details, see AssociateIamInstanceProfile in AWS CLI Command Reference.
associate-instance-event-window

The following code example shows how to use `associate-instance-event-window`.

**AWS CLI**

**Example 1: To associate one or more instances with an event window**

The following `associate-instance-event-window` example associates one or more instances with an event window.

```bash
aws ec2 associate-instance-event-window --region us-east-1 --instance-event-window-id iew-0abcdef1234567890 --association-target "InstanceIds=i-1234567890abcdef0,i-0598c7d356eba48d7"
```

**Output:**

```json
{
   "InstanceEventWindow": {
      "InstanceEventWindowId": "IEW-0abcdef1234567890",
      "Name": "myEventWindowName",
      "CronExpression": "* 21-23 * * 2,3",
      "AssociationTarget": {
         "InstanceIds": ["i-1234567890abcdef0",
         "i-0598c7d356eba48d7"],
         "Tags": [],
         "DedicatedHostIds": []
      },
      "State": "creating"
   }
}
```

For event window constraints, see [Considerations](#) in the Scheduled Events section of the Amazon EC2 User Guide.

**Example 2: To associate instance tags with an event window**

The following `associate-instance-event-window` example associates instance tags with an event window. Enter an `instance-event-window-id` parameter to specify the event
window. To associate instance tags, specify the `association-target` parameter, and for the parameter value, specify one or more tags.

```
aws ec2 associate-instance-event-window \
   --region us-east-1 \
   --instance-event-window-id iew-0abcdef1234567890 \
   --association-target "InstanceTags=[{Key=k2,Value=v2},{Key=k1,Value=v1}]"
```

Output:

```
{
   "InstanceEventWindow": {
      "InstanceEventWindowId": "iew-0abcdef1234567890",
      "Name": "myEventWindowName",
      "CronExpression": "* 21-23 * * 2,3",
      "AssociationTarget": {
         "InstanceIds": [],
         "Tags": [
            {
               "Key": "k2",
               "Value": "v2"
            },
            {
               "Key": "k1",
               "Value": "v1"
            }
         ],
         "DedicatedHostIds": []
      },
      "State": "creating"
   }
}
```

For event window constraints, see [Considerations](#) in the Scheduled Events section of the [Amazon EC2 User Guide](#).

**Example 3: To associate a Dedicated Host with an event window**

The following `associate-instance-event-window` example associates a Dedicated Host with an event window. Enter an `instance-event-window-id` parameter to specify the event window. To associate a Dedicated Host, specify the `--association-target` parameter, and for the parameter values, specify one of more Dedicated Host IDs.
aws ec2 associate-instance-event-window \
    --region us-east-1 \
    --instance-event-window-id iew-0abcdef1234567890 \
    --association-target "DedicatedHostIds=h-029fa35a02b99801d"

Output:

```
{
    "InstanceEventWindow": {
        "InstanceEventWindowId": "iew-0abcdef1234567890",
        "Name": "myEventWindowName",
        "CronExpression": "* 21-23 * * 2,3",
        "AssociationTarget": {
            "InstanceIds": [],
            "Tags": [],
            "DedicatedHostIds": [
                "h-029fa35a02b99801d"
            ],
            "State": "creating"
        }
    }
}
```

For event window constraints, see [Considerations](#) in the Scheduled Events section of the [Amazon EC2 User Guide](#).

- For API details, see [AssociateInstanceEventWindow](#) in [AWS CLI Command Reference](#).

**associate-nat-gateway-address**

The following code example shows how to use associate-nat-gateway-address.

**AWS CLI**

To associate an Elastic IP address with a public NAT gateway

The following associate-nat-gateway-address example associates the specified Elastic IP address with the specified public NAT gateway. AWS automatically assigns a secondary private IPv4 address.

```
aws ec2 associate-nat-gateway-address \
    --nat-gateway-id nat-1234567890abcdef0 \
```
associate-route-table

The following code example shows how to use associate-route-table.

**AWS CLI**

To associate a route table with a subnet

This example associates the specified route table with the specified subnet.

Command:

```
aws ec2 associate-route-table --route-table-id rtb-22574640 --subnet-id subnet-9d4a7b6c
```

Output:

```
{  
  "AssociationId": "rtbassoc-781d0d1a"
}
```

- For API details, see [AssociateRouteTable](https://docs.aws.amazon.com/cli/latest/reference/ec2/associate-route-table.html) in AWS CLI Command Reference.
associate-subnet-cidr-block

The following code example shows how to use associate-subnet-cidr-block.

AWS CLI

To associate an IPv6 CIDR block with a subnet

This example associates an IPv6 CIDR block with the specified subnet.

Command:

```bash
aws ec2 associate-subnet-cidr-block --subnet-id subnet-5f46ec3b --ipv6-cidr-block 2001:db8:1234:1a00::/64
```

Output:

```json
{
   "SubnetId": "subnet-5f46ec3b",
   "Ipv6CidrBlockAssociation": {
      "Ipv6CidrBlock": "2001:db8:1234:1a00::/64",
      "AssociationId": "subnet-cidr-assoc-3aa54053",
      "Ipv6CidrBlockState": {
         "State": "associating"
      }
   }
}
```

- For API details, see [AssociateSubnetCidrBlock](https://docs.aws.amazon.com/cli/latest/reference/ec2/associate-subnet-cidr-block.html) in *AWS CLI Command Reference*.

associate-transit-gateway-multicast-domain

The following code example shows how to use associate-transit-gateway-multicast-domain.

AWS CLI

To associate a transit gateway with a multicast domain

The following associate-transit-gateway-multicast-domain example associates the specified subnet and attachment with the specified multicast domain.

```bash
aws ec2 associate-transit-gateway-multicast-domain \
```
```bash
--transit-gateway-multicast-domain-id tgw-mcast-domain-0c4905cef79d6e597 \
--transit-gateway-attachment-id tgw-attach-028c1dd0f8f5cbe8e \
--subnet-ids subnet-000de86e3b49c932a \
--transit-gateway-multicast-domain-id tgw-mcast-domain-0c4905cef7EXAMPLE
```

Output:

```json
{
  "Associations": {
    "TransitGatewayMulticastDomainId": "tgw-mcast-domain-0c4905cef79d6e597",
    "TransitGatewayAttachmentId": "tgw-attach-028c1dd0f8f5cbe8e",
    "ResourceId": "vpc-01128d2c240c09bd5",
    "ResourceType": "vpc",
    "Subnets": [
      {
        "SubnetId": "subnet-000de86e3b49c932a",
        "State": "associating"
      }
    ]
  }
}
```

For more information, see [Managing multicast domains](https://docs.aws.amazon.com/TransitGates/Guides/TransitGatewaysGuide/index.html) in the *Transit Gateways Guide*.

- For API details, see [AssociateTransitGatewayMulticastDomain](https://docs.aws.amazon.com/cli/latest/reference/ec2/associate-transit-gateway-multicast-domain.html) in *AWS CLI Command Reference*.

### `associate-transit-gateway-route-table`

The following code example shows how to use `associate-transit-gateway-route-table`.

**AWS CLI**

**To associate a transit gateway route table with a transit gateway attachment**

The following example associates the specified transit gateway route table with the specified VPC attachment.

```bash
aws ec2 associate-transit-gateway-route-table \
  --transit-gateway-route-table-id tgw-rtb-002573ed1eEXAMPLE \
  --transit-gateway-attachment-id tgw-attach-0b5968d3b6EXAMPLE
```

Output:
```json
{
    "Association": {
        "TransitGatewayRouteTableId": "tgw-rtb-002573ed1eEXAMPLE",
        "TransitGatewayAttachmentId": "tgw-attach-0b5968d3b6EXAMPLE",
        "ResourceId": "vpc-0065acced4EXAMPLE",
        "ResourceType": "vpc",
        "State": "associating"
    }
}
```

For more information, see [Associate a Transit Gateway Route Table](https://docs.aws.amazon.com/translate/latest/dg/associate-transit-gateway-route-table.html) in the [AWS Transit Gateways Guide](https://docs.aws.amazon.com/translate/latest/dg/associate-transit-gateway-route-table.html).


### associate-vpc-cidr-block

The following code example shows how to use `associate-vpc-cidr-block`.

**AWS CLI**

**Example 1: To associate an Amazon-provided IPv6 CIDR block with a VPC**

The following `associate-vpc-cidr-block` example associates an IPv6 CIDR block with the specified VPC:

```
aws ec2 associate-vpc-cidr-block \
  --amazon-provided-ipv6-cidr-block \
  --ipv6-cidr-block-network-border-group us-west-2-lax-1 \
  --vpc-id vpc-8EXAMPLE
```

**Output:**

```json
{
    "Ipv6CidrBlockAssociation": {
      "AssociationId": "vpc-cidr-assoc-0838ce7d9dEXAMPLE",
      "Ipv6CidrBlockState": {
        "State": "associating"
      },
      "NetworkBorderGroup": "us-west-2-lax-1"
    },
    "VpcId": "vpc-8EXAMPLE"
}
```
Example 2: To associate an additional IPv4 CIDR block with a VPC

The following associate-vpc-cidr-block example associates the IPv4 CIDR block 10.2.0.0/16 with the specified VPC.

```bash
aws ec2 associate-vpc-cidr-block \
  --vpc-id vpc-1EXAMPLE \
  --cidr-block 10.2.0.0/16
```

Output:

```json
{
  "CidrBlockAssociation": {
    "AssociationId": "vpc-cidr-assoc-2EXAMPLE",
    "CidrBlock": "10.2.0.0/16",
    "CidrBlockState": {
      "State": "associating"
    }
  },
  "VpcId": "vpc-1EXAMPLE"
}
```

- For API details, see [AssociateVpcCidrBlock](#) in AWS CLI Command Reference.

attach-classic-link-vpc

The following code example shows how to use attach-classic-link-vpc.

**AWS CLI**

**To link (attach) an EC2-Classic instance to a VPC**

This example links instance i-1234567890abcdef0 to VPC vpc-88888888 through the VPC security group sg-12312312.

Command:

```bash
aws ec2 attach-classic-link-vpc --instance-id i-1234567890abcdef0 --vpc-id vpc-88888888 --groups sg-12312312
```
The following code example shows how to use `attach-internet-gateway`.

**AWS CLI**

To attach an internet gateway to your VPC

The following `attach-internet-gateway` example attaches the specified internet gateway to the specific VPC.

```
aws ec2 attach-internet-gateway \
    --internet-gateway-id igw-0d0fb496b3EXAMPLE \
    --vpc-id vpc-0a60eb65b4EXAMPLE
```

This command produces no output.

For more information, see [Internet gateways](https://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/) in the Amazon VPC User Guide.

- For API details, see [AttachInternetGateway](https://docs.aws.amazon.com/AWSCommandReference/attach-internet-gateway.html) in AWS CLI Command Reference.

**attach-network-interface**

The following code example shows how to use `attach-network-interface`.

**AWS CLI**

**Example 1: To attach a network interface to an instance**

The following `attach-network-interface` example attaches the specified network interface to the specified instance.

```
aws ec2 attach-network-interface \
    --network-interface-id eni-0dc56a8d4640ad10a \
```

- For API details, see [AttachClassicLinkVpc](https://docs.aws.amazon.com/AWSCommandReference/attach-classic-link-vpc.html) in AWS CLI Command Reference.
Output:

```json
{
  "AttachmentId": "eni-attach-01a8fc87363f07cf9"
}
```

For more information, see Elastic network interfaces in the Amazon EC2 User Guide.

**Example 2: To attach a network interface to an instance with multiple network cards**

The following attach-network-interface example attaches the specified network interface to the specified instance and network card.

```bash
aws ec2 attach-network-interface \
   --network-interface-id eni-07483b1897541ad83 \
   --instance-id i-01234567890abcdef \
   --network-card-index 1 \
   --device-index 1
```

Output:

```json
{
  "AttachmentId": "eni-attach-0fbd7ee87a88cd06c"
}
```

For more information, see Elastic network interfaces in the Amazon EC2 User Guide.

- For API details, see AttachNetworkInterface in AWS CLI Command Reference.

**attach-verified-access-trust-provider**

The following code example shows how to use attach-verified-access-trust-provider.

**AWS CLI**

**To attach a trust provider to an instance**

The following attach-verified-access-trust-provider example attaches the specified Verified Access trust provider to the specified Verified Access instance.
aws ec2 attach-verified-access-trust-provider \
   --verified-access-instance-id vai-0ce000c0b7643abea \ 
   --verified-access-trust-provider-id vatp-0bb32de759a3e19e7

Output:

```json
{
    "VerifiedAccessTrustProvider": {
        "VerifiedAccessTrustProviderId": "vatp-0bb32de759a3e19e7",
        "Description": "",
        "TrustProviderType": "user",
        "UserTrustProviderType": "iam-identity-center",
        "PolicyReferenceName": "idc",
        "CreationTime": "2023-08-25T19:00:38",
        "LastUpdatedTime": "2023-08-25T19:00:38"
    },
    "VerifiedAccessInstance": {
        "VerifiedAccessInstanceId": "vai-0ce000c0b7643abea",
        "Description": "",
        "VerifiedAccessTrustProviders": [
            {
                "VerifiedAccessTrustProviderId": "vatp-0bb32de759a3e19e7",
                "TrustProviderType": "user",
                "UserTrustProviderType": "iam-identity-center"
            }
        ],
        "CreationTime": "2023-08-25T18:27:56",
        "LastUpdatedTime": "2023-08-25T18:27:56"
    }
}
```


### attach-volume

The following code example shows how to use `attach-volume`.

**AWS CLI**

To attach a volume to an instance
This example command attaches a volume (vol-1234567890abcdef0) to an instance (i-01474ef662b89480) as /dev/sdf.

Command:

```
aws ec2 attach-volume --volume-id vol-1234567890abcdef0 --instance-id i-01474ef662b89480 --device /dev/sdf
```

Output:

```
{
   "AttachTime": "YYYY-MM-DDTHH:MM:SS.000Z",
   "InstanceId": "i-01474ef662b89480",
   "VolumeId": "vol-1234567890abcdef0",
   "State": "attaching",
   "Device": "/dev/sdf"
}
```

- For API details, see AttachVolume in AWS CLI Command Reference.

attach-vpn-gateway

The following code example shows how to use attach-vpn-gateway.

AWS CLI

To attach a virtual private gateway to your VPC

The following attach-vpn-gateway example attaches the specified virtual private gateway to the specified VPC.

```
aws ec2 attach-vpn-gateway \
   --vpn-gateway-id vgw-9a4cacf3 \
   --vpc-id vpc-a01106c2
```

Output:

```
{
   "VpcAttachment": {
      "State": "attaching",
```

Actions and scenarios
For API details, see AttachVpnGateway in AWS CLI Command Reference.

**authorize-client-vpn-ingress**

The following code example shows how to use authorize-client-vpn-ingress.

**AWS CLI**

**To add an authorization rule for a Client VPN endpoint**

The following authorize-client-vpn-ingress example adds an ingress authorization rule that permits all clients to access the internet (0.0.0.0/0).

```
aws ec2 authorize-client-vpn-ingress \
   --client-vpn-endpoint-id cvpn-endpoint-123456789123abcde \
   --target-network-cidr 0.0.0.0/0 \
   --authorize-all-groups
```

Output:

```
{
   "Status": {
      "Code": "authorizing"
   }
}
```

For more information, see Authorization Rules in the AWS Client VPN Administrator Guide.

For API details, see AuthorizeClientVpnIngress in AWS CLI Command Reference.

**authorize-security-group-egress**

The following code example shows how to use authorize-security-group-egress.

**AWS CLI**

**To add a rule that allows outbound traffic to a specific address range**
This example command adds a rule that grants access to the specified address ranges on TCP port 80.

Command (Linux):

```bash
aws ec2 authorize-security-group-egress --group-id sg-1a2b3c4d --ip-permissions
  IpProtocol=tcp,FromPort=80,ToPort=80,IpRanges='[[CidrIp=10.0.0.0/16]]'
```

Command (Windows):

```bash
aws ec2 authorize-security-group-egress --group-id sg-1a2b3c4d --ip-permissions
  IpProtocol=tcp,FromPort=80,ToPort=80,IpRanges='[[CidrIp=10.0.0.0/16]]'
```

To add a rule that allows outbound traffic to a specific security group

This example command adds a rule that grants access to the specified security group on TCP port 80.

Command (Linux):

```bash
aws ec2 authorize-security-group-egress --group-id sg-1a2b3c4d --ip-permissions
  IpProtocol=tcp,FromPort=80,ToPort=80,UserIdGroupPairs='[[GroupId=sg-4b51a32f]]'
```

Command (Windows):

```bash
aws ec2 authorize-security-group-egress --group-id sg-1a2b3c4d --ip-permissions
  IpProtocol=tcp,FromPort=80,ToPort=80,UserIdGroupPairs='[[GroupId=sg-4b51a32f]]'
```


**bundle-instance**

The following code example shows how to use `bundle-instance`.

**AWS CLI**

**To bundle an instance**

This example bundles instance i-1234567890abcdef0 to a bucket called bundletasks. Before you specify values for your access key IDs, review and follow the guidance in Best Practices for Managing AWS Access Keys.
Command:

```
aws ec2 bundle-instance --instance-id i-1234567890abcdef0 --bucket bundletasks --prefix winami --owner-akid AK12AJEXAMPLE --owner-sak example123example
```

Output:

```
{
   "BundleTask": {
      "UpdateTime": "2015-09-15T13:30:35.000Z",
      "InstanceId": "i-1234567890abcdef0",
      "Storage": {
         "S3": {
            "Prefix": "winami",
            "Bucket": "bundletasks"
         }
      },
      "State": "pending",
      "StartTime": "2015-09-15T13:30:35.000Z",
      "BundleId": "bun-294e041f"
   }
}
```

- For API details, see [BundleInstance](#) in [AWS CLI Command Reference](#).

### cancel-bundle-task

The following code example shows how to use `cancel-bundle-task`.

**AWS CLI**

**To cancel a bundle task**

This example cancels bundle task `bun-2a4e041c`.

Command:

```
aws ec2 cancel-bundle-task --bundle-id bun-2a4e041c
```

Output:
For API details, see CancelBundleTask in AWS CLI Command Reference.

cancel-capacity-reservation

The following code example shows how to use cancel-capacity-reservation.

AWS CLI

To cancel a capacity reservation

The following cancel-capacity-reservation example cancels the specified capacity reservation.

```
aws ec2 cancel-capacity-reservation \
  --capacity-reservation-id cr-1234abcd56EXAMPLE
```

Output:

```
{
  "Return": true
}
```

For more information, see Canceling a Capacity Reservation in the Amazon Elastic Compute Cloud User Guide for Linux Instances.
cancel-capacity-reservation-fleets

The following code example shows how to use cancel-capacity-reservation-fleets.

**AWS CLI**

To cancel a Capacity Reservation Fleet

The following `cancel-capacity-reservation-fleets` example cancels the specified Capacity Reservation Fleet and the capacity it reserves. When you cancel a Fleet, its status changes to **cancelled**, and it can no longer create new Capacity Reservations. Additionally, all of the individual Capacity Reservations in the Fleet are cancelled, and the instances that were previously running in the reserved capacity continue to run normally in shared capacity.

```
aws ec2 cancel-capacity-reservation-fleets \
    --capacity-reservation-fleet-ids crf-abcdef01234567890
```

Output:

```
{
    "SuccessfulFleetCancellations": [
    {
        "CurrentFleetState": "cancelling",
        "PreviousFleetState": "active",
        "CapacityReservationFleetId": "crf-abcdef01234567890"
    }
    ],
    "FailedFleetCancellations": []
}
```

For more information about Capacity Reservation Fleets, see [Capacity Reservation Fleets](https://docs.aws.amazon.com/zu3/index.html#CapacityReservationFleets) in the *Amazon EC2 User Guide*.

- For API details, see [CancelCapacityReservationFleets](https://docs.aws.amazon.com/zu3/index.html#CancelCapacityReservationFleets) in *AWS CLI Command Reference*.

cancel-conversion-task

The following code example shows how to use cancel-conversion-task.
**AWS CLI**

**To cancel an active conversion of an instance or a volume**

This example cancels the upload associated with the task ID import-i-fh95npoc. If the command succeeds, no output is returned.

Command:

```
aws ec2 cancel-conversion-task --conversion-task-id import-i-fh95npoc
```

- For API details, see [CancelConversionTask](https://docs.aws.amazon.com/cli/latest/reference/ec2/cancel-conversion-task.html) in *AWS CLI Command Reference*.

**cancel-export-task**

The following code example shows how to use `cancel-export-task`.

**AWS CLI**

**To cancel an active export task**

This example cancels an active export task with the task ID export-i-fgelt0i7. If the command succeeds, no output is returned.

Command:

```
aws ec2 cancel-export-task --export-task-id export-i-fgelt0i7
```

- For API details, see [CancelExportTask](https://docs.aws.amazon.com/cli/latest/reference/ec2/cancel-export-task.html) in *AWS CLI Command Reference*.

**cancel-image-launch-permission**

The following code example shows how to use `cancel-image-launch-permission`.

**AWS CLI**

**To cancel having an AMI shared with your Amazon Web Services account**

The following `cancel-image-launch-permission` example removes your account from the specified AMI's launch permissions.

```
aws ec2 cancel-image-launch-permission
```
Output:

```json
{
    "Return": true
}
```

For more information, see [Cancel having an AMI shared with your Amazon Web Services account](https://docs.aws.amazon.com/AmazonEC2/latest/UserGuide/EC2General.html) in the *Amazon EC2 User Guide*.

- For API details, see [CancelImageLaunchPermission](https://docs.aws.amazon.com/cli/latest/reference/ec2/cancel-image-launch-permission.html) in *AWS CLI Command Reference*.

### cancel-import-task

The following code example shows how to use `cancel-import-task`.

**AWS CLI**

**To cancel an import task**

The following `cancel-import-task` example cancels the specified import image task.

```
aws ec2 cancel-import-task \
    --import-task-id import-ami-1234567890abcdef0
```

Output:

```json
{
    "ImportTaskId": "import-ami-1234567890abcdef0",
    "PreviousState": "active",
    "State": "deleting"
}
```

- For API details, see [CancelImportTask](https://docs.aws.amazon.com/cli/latest/reference/ec2/cancel-import-task.html) in *AWS CLI Command Reference*.

### cancel-reserved-instances-listing

The following code example shows how to use `cancel-reserved-instances-listing`.

**Actions and scenarios**
AWS CLI

To cancel a Reserved Instance listing

The following cancel-reserved-instances-listing example cancels the specified Reserved Instance listing.

```bash
aws ec2 cancel-reserved-instances-listing \
   --reserved-instances-listing-id 5ec28771-05ff-4b9b-aa31-9e57dexample
```

- For API details, see [CancelReservedInstancesListing](https://awscli.amazonaws.com/v2/docs/2015-08-15/userguide.html#cancelreserved-instances-listing) in *AWS CLI Command Reference*.

cancel-spot-fleet-requests

The following code example shows how to use cancel-spot-fleet-requests.

AWS CLI

**Example 1: To cancel a Spot fleet request and terminate the associated instances**

The following cancel-spot-fleet-requests example cancels a Spot Fleet request and terminates the associated On-Demand Instances and Spot Instances.

```bash
aws ec2 cancel-spot-fleet-requests \
   --spot-fleet-request-ids sfr-73fbd2ce-aa30-494c-8788-1cee4EXAMPLE \
   --terminate-instances
```

Output:

```json
{
    "SuccessfulFleetRequests": [
      {
        "SpotFleetRequestId": "sfr-73fbd2ce-aa30-494c-8788-1cee4EXAMPLE",
        "CurrentSpotFleetRequestState": "cancelled_terminating",
        "PreviousSpotFleetRequestState": "active"
      }
    ],
    "UnsuccessfulFleetRequests": []
}
```

For more information, see [Cancel a Spot Fleet request](https://docs.aws.amazon.com/AmazonElasticComputeCloud/latest/UG/Linux-InstanceSpotFleetCancel.html) in the *Amazon Elastic Compute Cloud User Guide for Linux Instances*.
Example 2: To cancel a Spot fleet request without terminating the associated instances

The following cancel-spot-fleet-requests example cancels a Spot Fleet request without terminating the associated On-Demand Instances and Spot Instances.

```
aws ec2 cancel-spot-fleet-requests \
  --spot-fleet-request-ids sfr-73fbd2ce-aa30-494c-8788-1cee4EXAMPLE \
  --no-terminate-instances
```

Output:

```
{
    "SuccessfulFleetRequests": [
    {
        "SpotFleetRequestId": "sfr-73fbd2ce-aa30-494c-8788-1cee4EXAMPLE",
        "CurrentSpotFleetRequestState": "cancelled_running",
        "PreviousSpotFleetRequestState": "active"
    }
    ],
    "UnsuccessfulFleetRequests": []
}
```

For more information, see [Cancel a Spot Fleet request](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/spot-fleet-cancel.html) in the *Amazon Elastic Compute Cloud User Guide for Linux Instances*.

- For API details, see [CancelSpotFleetRequests](https://docs.aws.amazon.com/cli/latest/reference/ec2/cancel-spot-fleet-requests.html) in *AWS CLI Command Reference*.

cancel-spot-instance-requests

The following code example shows how to use cancel-spot-instance-requests.

AWS CLI

To cancel Spot Instance requests

This example command cancels a Spot Instance request.

Command:

```
aws ec2 cancel-spot-instance-requests --spot-instance-request-ids sir-08b93456
```
Output:

```json
{
   "CancelledSpotInstanceRequests": [
      {
         "State": "cancelled",
         "SpotInstanceRequestId": "sir-08b93456"
      }
   }
}
```

- For API details, see [CancelSpotInstanceRequests](#) in *AWS CLI Command Reference*.

**confirm-product-instance**

The following code example shows how to use `confirm-product-instance`.

**AWS CLI**

*To confirm the product instance*

This example determines whether the specified product code is associated with the specified instance.

Command:

```
aws ec2 confirm-product-instance --product-code 774F4FF8 --instance-id i-1234567890abcdef0
```

Output:

```json
{
   "OwnerId": "123456789012"
}
```

- For API details, see [ConfirmProductInstance](#) in *AWS CLI Command Reference*.

**copy-fpga-image**

The following code example shows how to use `copy-fpga-image`.

AWS CLI

To copy an Amazon FPGA image

This example copies the specified AFI from the us-east-1 region to the current region (eu-west-1).

Command:

```bash
aws ec2 copy-fpga-image --name copy-afi --source-fpga-image-id afi-0d123e123bfc85abc --source-region us-east-1 --region eu-west-1
```

Output:

```json
{
   "FpgaImageId": "afi-06b12350a123fbabc"
}
```

For API details, see CopyFpgaImage in AWS CLI Command Reference.

copy-image

The following code example shows how to use copy-image.

AWS CLI

Example 1: To copy an AMI to another Region

The following copy-image example command copies the specified AMI from the us-west-2 Region to the us-east-1 Region and adds a short description.

```bash
aws ec2 copy-image
   --region us-east-1
   --name ami-name
   --source-region us-west-2
   --source-image-id ami-066877671789bd71b
   --description "This is my copied image."
```

Output:

```json
{
}
```
Example 2: To copy an AMI to another Region and encrypt the backing snapshot

The following `copy-image` command copies the specified AMI from the `us-west-2` Region to the current Region and encrypts the backing snapshot using the specified KMS key.

```bash
aws ec2 copy-image \
  --source-region us-west-2 \
  --name ami-name \
  --source-image-id ami-066877671789bd71b \
  --encrypted \n  --kms-key-id alias/my-kms-key
```

Output:

```json
{
  "ImageId": "ami-0123456789abcdefg"
}
```

For more information, see Copy an AMI in the Amazon EC2 User Guide.

Example 3: To include your user-defined AMI tags when copying an AMI

The following `copy-image` command uses the `--copy-image-tags` parameter to copy your user-defined AMI tags when copying the AMI.

```bash
aws ec2 copy-image \
  --region us-east-1 \
  --name ami-name \
  --source-region us-west-2 \
  --source-image-id ami-066877671789bd71b \
  --description "This is my copied image." \n  --copy-image-tags
```

Output:

```json
{
}
```
copy-snapshot

The following code example shows how to use copy-snapshot.

AWS CLI

Example 1: To copy a snapshot to another Region

The following copy-snapshot example command copies the specified snapshot from the us-west-2 Region to the us-east-1 Region and adds a short description.

```
aws ec2 copy-snapshot \
  --region us-east-1 \
  --source-region us-west-2 \
  --source-snapshot-id snap-066877671789bd71b \
  --description "This is my copied snapshot."
```

Output:

```
{
  "SnapshotId": "snap-066877671789bd71b"
}
```

For more information, see Copy an Amazon EBS snapshot in the Amazon EC2 User Guide.

Example 2: To copy an unencrypted snapshot and encrypt the new snapshot

The following copy-snapshot command copies the specified unencrypted snapshot from the us-west-2 Region to the current Region and encrypts the new snapshot using the specified KMS key.

```
aws ec2 copy-snapshot \
  --source-region us-west-2 \
  --source-snapshot-id snap-066877671789bd71b \
  --encrypted
```
create-capacity-reservation

The following code example shows how to use create-capacity-reservation.

AWS CLI

Example 1: To create a Capacity Reservation

The following create-capacity-reservation example creates a capacity reservation in the eu-west-1a Availability Zone, into which you can launch three t2.medium instances running a Linux/Unix operating system. By default, the capacity reservation is created with open instance matching criteria and no support for ephemeral storage, and it remains active until you manually cancel it.

```bash
aws ec2 create-capacity-reservation \
   --availability-zone eu-west-1a \
   --instance-type t2.medium \
   --instance-platform Linux/UNIX \
   --instance-count 3
```

Output:

```json
{
   "CapacityReservation": {
      "CapacityReservationId": "cr-1234abcd56EXAMPLE ",
      "EndDateType": "unlimited",
      "AvailabilityZone": "eu-west-1a",
      "InstanceMatchCriteria": "open",
      "EphemeralStorage": false,
   }
}
```
Example 2: To create a Capacity Reservation that automatically ends at a specified date/time

The following create-capacity-reservation example creates a capacity reservation in the eu-west-1a Availability Zone, into which you can launch three m5.large instances running a Linux/Unix operating system. This capacity reservation automatically ends on 08/31/2019 at 23:59:59.

```bash
aws ec2 create-capacity-reservation \
  --availability-zone eu-west-1a \
  --instance-type m5.large \
  --instance-platform Linux/UNIX \n  --instance-count 3 \n  --end-date-type limited \n  --end-date 2019-08-31T23:59:59Z
```

Output:

```json
{
  "CapacityReservation": {
    "CapacityReservationId": "cr-1234abcd56EXAMPLE ",
    "EndDateType": "limited",
    "AvailabilityZone": "eu-west-1a",
    "EndDate": "2019-08-31T23:59:59.000Z",
    "InstanceMatchCriteria": "open",
    "EphemeralStorage": false,
    "CreateDate": "2019-08-16T10:15:53.000Z",
    "AvailableInstanceCount": 3,
    "InstancePlatform": "Linux/UNIX",
    "TotalInstanceCount": 3,
    "State": "active",
  }
}
```
Example 3: To create a Capacity Reservation that accepts only targeted instance launches

The following create-capacity-reservation example creates a capacity reservation that accepts only targeted instance launches.

```bash
aws ec2 create-capacity-reservation \
   --availability-zone eu-west-1a \
   --instance-type m5.large \
   --instance-platform Linux/UNIX \
   --instance-count 3 \
   --instance-match-criteria targeted
```

Output:

```json
{
   "CapacityReservation": {
      "CapacityReservationId": "cr-1234abcd56EXAMPLE ",
      "EndDateType": "unlimited",
      "AvailabilityZone": "eu-west-1a",
      "InstanceMatchCriteria": "targeted",
      "EphemeralStorage": false,
      "CreateDate": "2019-08-16T10:21:57.000Z",
      "AvailableInstanceCount": 3,
      "InstancePlatform": "Linux/UNIX",
      "TotalInstanceCount": 3,
      "State": "active",
      "Tenancy": "default",
      "EbsOptimized": false,
      "InstanceType": "m5.large"
   }
}
```

For more information, see Creating a Capacity Reservation in the Amazon Elastic Compute Cloud User Guide for Linux Instances.

- For API details, see CreateCapacityReservation in AWS CLI Command Reference.
create-capacity-reservation-fleet

The following code example shows how to use create-capacity-reservation-fleet.

AWS CLI

To create a Capacity Reservation Fleet

The following create-capacity-reservation-fleet example creates a Capacity Reservation Fleet for the instance type specified in the request, up to the specified total target capacity. The number of instances for which the Capacity Reservation Fleet reserves capacity depends on the total target capacity and instance type weights that you specify in the request. Specify the instance types to use and a priority for each of the designated instance types.

```
aws ec2 create-capacity-reservation-fleet \
--total-target-capacity 24 \
--allocation-strategy prioritized \
--instance-match-criteria open \
--tenancy default \
--end-date 2022-12-31T23:59:59.000Z \
--instance-type-specifications file://instanceTypeSpecification.json
```

Contents of instanceTypeSpecification.json:

```
[
  {
    "InstanceType": "m5.xlarge",
    "InstancePlatform": "Linux/UNIX",
    "Weight": 3.0,
    "AvailabilityZone": "us-east-1a",
    "EbsOptimized": true,
    "Priority": 1
  }
]
```

Output:

```
{
  "Status": "submitted",
  "TotalFulfilledCapacity": 0.0,
  "CapacityReservationFleetId": "crf-abcdef01234567890",
  "TotalTargetCapacity": 24
}
```
For more information about Capacity Reservation Fleets, see [Capacity Reservation Fleets](#) in the [Amazon EC2 User Guide](#).

For more information about instance type weight and total target capacity, see [Instance type weight](#) and [Total target capacity](#) in the Amazon EC2 User Guide.

For more information about designating priority for specified instance types, see [Allocation strategy](#) and [Instance type priority](#) in the Amazon EC2 User Guide.

- For API details, see [CreateCapacityReservationFleet](#) in AWS CLI Command Reference.

### create-carrier-gateway

The following code example shows how to use `create-carrier-gateway`.

**AWS CLI**

**To create a carrier gateway**

The following `create-carrier-gateway` example creates a carrier gateway for the specified VPC.

```bash
aws ec2 create-carrier-gateway \
--vpc-id vpc-0c529aEXAMPLE1111
```

**Output:**

```json
{
    "CarrierGateway": {
        "CarrierGatewayId": "cagw-0465cdEXAMPLE1111",
        "VpcId": "vpc-0c529aEXAMPLE1111",
        "State": "pending",
        "OwnerId": "123456789012"
    }
}
```

For more information, see [Carrier gateways](#) in the AWS Wavelength User Guide.

- For API details, see [CreateCarrierGateway](#) in AWS CLI Command Reference.
create-client-vpn-endpoint

The following code example shows how to use create-client-vpn-endpoint.

AWS CLI

To create a Client VPN endpoint

The following create-client-vpn-endpoint example creates a Client VPN endpoint that uses mutual authentication and specifies a value for the client CIDR block.

```bash
aws ec2 create-client-vpn-endpoint \
  --client-cidr-block "172.31.0.0/16" \
  --server-certificate-arn arn:aws:acm:ap-south-1:123456789012:certificate/a1b2c3d4-5678-90ab-cdef-11111EXAMPLE \
  --authentication-options Type=certificate-authentication,MutualAuthentication=[ClientRootCertificateChainArn=arn:aws:acm:ap-south-1:123456789012:certificate/a1b2c3d4-5678-90ab-cdef-22222EXAMPLE] \
  --connection-log-options Enabled=false
```

Output:

```json
{
  "ClientVpnEndpointId": "cvpn-endpoint-123456789123abcde",
  "Status": {
    "Code": "pending-associate"
  },
  "DnsName": "cvpn-endpoint-123456789123abcde.prod.clientvpn.ap-south-1.amazonaws.com"
}
```

For more information, see Client VPN Endpoints in the AWS Client VPN Administrator Guide.

- For API details, see CreateClientVpnEndpoint in AWS CLI Command Reference.

create-client-vpn-route

The following code example shows how to use create-client-vpn-route.

AWS CLI

To create a route for a Client VPN endpoint
The following create-client-vpn-route example adds a route to the internet (0.0.0.0/0) for the specified subnet of the Client VPN endpoint.

```bash
aws ec2 create-client-vpn-route \
  --client-vpn-endpoint-id cvpn-endpoint-123456789123abcde \
  --destination-cidr-block 0.0.0.0/0 \
  --target-vpc-subnet-id subnet-0123456789abcabca
```

Output:

```json
{
  "Status": {
    "Code": "creating"
  }
}
```

For more information, see Routes in the AWS Client VPN Administrator Guide.

- For API details, see CreateClientVpnRoute in AWS CLI Command Reference.

create-coip-cidr

The following code example shows how to use create-coip-cidr.

AWS CLI

**To create a range of customer-owned IP (CoIP) addresses**

The following create-coip-cidr example creates the specified range of CoIP addresses in the specified CoIP pool.

```bash
aws ec2 create-coip-cidr \
  --cidr 15.0.0.0/24 \
  --coip-pool-id ipv4pool-coip-1234567890abcdefg
```

Output:

```json
{
  "CoipCidr": {
    "Cidr": "15.0.0.0/24",
```
For more information, see [Customer-owned IP addresses](#) in the [AWS Outposts User Guide](#).

- For API details, see [CreateCoipCidr](#) in [AWS CLI Command Reference](#).

### create-coip-pool

The following code example shows how to use `create-coip-pool`.

**AWS CLI**

**To create a pool of customer-owned IP (CoIP) addresses**

The following `create-coip-pool` example creates a CoIP pool for CoIP addresses in the specified local gateway route table.

```
aws ec2 create-coip-pool \
  --local-gateway-route-table-id lgw-rtb-abcdefg1234567890
```

**Output:**

```
{
  "CoipPool": {
    "PoolId": "ipv4pool-coip-1234567890abcdefg",
    "LocalGatewayRouteTableId": "lgw-rtb-abcdefg1234567890",
  }
}
```

For more information, see [Customer-owned IP addresses](#) in the [AWS Outposts User Guide](#).

- For API details, see [CreateCoipPool](#) in [AWS CLI Command Reference](#).

### create-customer-gateway

The following code example shows how to use `create-customer-gateway`.

---

**Actions and scenarios**

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AWS CLI

To create a customer gateway

This example creates a customer gateway with the specified IP address for its outside interface.

Command:

```bash
aws ec2 create-customer-gateway --type ipsec.1 --public-ip 12.1.2.3 --bgp-asn 65534
```

Output:

```json
{
    "CustomerGateway": {
        "CustomerGatewayId": "cgw-0e11f167",
        "IpAddress": "12.1.2.3",
        "State": "available",
        "Type": "ipsec.1",
        "BgpAsn": "65534"
    }
}
```

- For API details, see CreateCustomerGateway in AWS CLI Command Reference.

create-default-subnet

The following code example shows how to use create-default-subnet.

AWS CLI

To create a default subnet

This example creates a default subnet in Availability Zone us-east-2a.

Command:

```bash
aws ec2 create-default-subnet --availability-zone us-east-2a
```

```json
{
    "Subnet": {
        "AvailabilityZone": "us-east-2a",
    }
}
create-default-vpc

The following code example shows how to use create-default-vpc.

**AWS CLI**

To create a default VPC

This example creates a default VPC.

**Command:**

```
aws ec2 create-default-vpc
```

**Output:**

```
{
   "Vpc": {
      "VpcId": "vpc-8eaae5ea",
      "InstanceTenancy": "default",
      "Tags": [],
      "Ipv6CidrBlockAssociationSet": [],
      "State": "pending",
      "DhcpOptionsId": "dopt-af0c32c6",
      "CidrBlock": "172.31.0.0/16",
      "IsDefault": true
   }
}
```

For API details, see [CreateDefaultSubnet](https://docs.aws.amazon.com/cli/latest/reference/ec2/create-default-vpc.html) in *AWS CLI Command Reference*. 
create-dhcp-options

The following code example shows how to use create-dhcp-options.

AWS CLI

To create a set of DHCP options

The following create-dhcp-options example creates a set of DHCP options that specifies the domain name, the domain name servers, and the NetBIOS node type.

```
aws ec2 create-dhcp-options \
  --dhcp-configuration \
    "Key=domain-name-servers,Values=10.2.5.1,10.2.5.2" \
    "Key=domain-name,Values=example.com" \
    "Key=netbios-node-type,Values=2"
```

Output:

```
{
    "DhcpOptions": {
        "DhcpConfigurations": [
            {
                "Key": "domain-name",
                "Values": [
                    {
                        "Value": "example.com"
                    }
                ]
            },
            {
                "Key": "domain-name-servers",
                "Values": [
                    {
                        "Value": "10.2.5.1"
                    },
                    {
                        "Value": "10.2.5.2"
                    }
                ]
            }
        ]
    }
}
```
• For API details, see CreateDhcpOptions in AWS CLI Command Reference.

create-egress-only-internet-gateway

The following code example shows how to use create-egress-only-internet-gateway.

AWS CLI

To create an egress-only Internet gateway

This example creates an egress-only Internet gateway for the specified VPC.

Command:

```
aws ec2 create-egress-only-internet-gateway --vpc-id vpc-0c62a468
```

Output:

```json
{
   "EgressOnlyInternetGateway": {
      "EgressOnlyInternetGatewayId": "eigw-015e0e244e24dfe8a",
      "Attachments": [
         {
            "State": "attached",
            "VpcId": "vpc-0c62a468"
         }
      ]
   }
}
```
create-fleet

The following code example shows how to use `create-fleet`.

**AWS CLI**

**Example 1: To create an EC2 Fleet that launches Spot Instances as the default purchasing model**

The following `create-fleet` example creates an EC2 Fleet using the minimum parameters required to launch a fleet: a launch template, target capacity, and default purchasing model. The launch template is identified by its launch template ID and version number. The target capacity for the fleet is 2 instances, and the default purchasing model is `spot`, which results in the fleet launching 2 Spot Instances.

When you create an EC2 Fleet, use a JSON file to specify information about the instances to launch.

```bash
aws ec2 create-fleet \
   --cli-input-json file://file_name.json
```

**Contents of `file_name.json`:**

```json
{
   "LaunchTemplateConfigs": [
   {
      "LaunchTemplateSpecification": {
         "LaunchTemplateName": "lt-0e8c754449b27161c",
         "Version": "1"
      }
   },
   "TargetCapacitySpecification": {
      "TotalTargetCapacity": 2,
```
"DefaultTargetCapacityType": "spot"
}]

Output:

{
   "FleetId": "fleet-12a34b55-67cd-8ef9-ba9b-9208dEXAMPLE"
}

Example 2: To create an EC2 Fleet that launches On-Demand Instances as the default purchasing model

The following create-fleet example creates an EC2 Fleet using the minimum parameters required to launch a fleet: a launch template, target capacity, and default purchasing model. The launch template is identified by its launch template ID and version number. The target capacity for the fleet is 2 instances, and the default purchasing model is on-demand, which results in the fleet launching 2 On-Demand Instances.

When you create an EC2 Fleet, use a JSON file to specify information about the instances to launch.

aws ec2 create-fleet \
   --cli-input-json file://file_name.json

Contents of file_name.json:

{
   "LaunchTemplateConfigs": [
   {
      "LaunchTemplateSpecification": {
         "LaunchTemplateId": "lt-0e8c754449b27161c",
         "Version": "1"
      }
   },
   "TargetCapacitySpecification": {
      "TotalTargetCapacity": 2,
      "DefaultTargetCapacityType": "on-demand"
   }
}
Example 3: To create an EC2 Fleet that launches On-Demand Instances as the primary capacity

The following `create-fleet` example creates an EC2 Fleet that specifies the total target capacity of 2 instances for the fleet, and a target capacity of 1 On-Demand Instance. The default purchasing model is `spot`. The fleet launches 1 On-Demand Instance as specified, but needs to launch one more instance to fulfil the total target capacity. The purchasing model for the difference is calculated as `TotalTargetCapacity - OnDemandTargetCapacity = DefaultTargetCapacityType`, which results in the fleet launching 1 Spot Instance.

When you create an EC2 Fleet, use a JSON file to specify information about the instances to launch.

```
aws ec2 create-fleet \
  --cli-input-json file://file_name.json
```

Contents of `file_name.json`:

```
{
  "LaunchTemplateConfigs": [
    {
      "LaunchTemplateSpecification": {
        "LaunchTemplateId": "lt-0e8c75449b27161c",
        "Version": "1"
      }
    },
    "TargetCapacitySpecification": {
      "TotalTargetCapacity": 2,
      "OnDemandTargetCapacity": 1,
      "DefaultTargetCapacityType": "spot"
    }
  ]
}
```
Example 4: To create an EC2 Fleet that launches Spot Instances using the lowest-price allocation strategy

If the allocation strategy for Spot Instances is not specified, the default allocation strategy, which is lowest-price, is used. The following create-fleet example creates an EC2 Fleet using the lowest-price allocation strategy. The three launch specifications, which override the launch template, have different instance types but the same weighted capacity and subnet. The total target capacity is 2 instances and the default purchasing model is spot. The EC2 Fleet launches 2 Spot Instances using the instance type of the launch specification with the lowest price.

When you create an EC2 Fleet, use a JSON file to specify information about the instances to launch.

```
aws ec2 create-fleet \
    --cli-input-json file://file_name.json
```

Contents of file_name.json::

```
{
    "LaunchTemplateConfigs": [
    {
        "LaunchTemplateSpecification": {
            "LaunchTemplateId": "lt-0e8c754449b27161c",
            "Version": "1"
        },
        "Overrides": [
            {
                "InstanceType": "c4.large",
                "WeightedCapacity": 1,
                "SubnetId": "subnet-a4f6c5d3"
            },
            {
                "InstanceType": "c3.large",
                "WeightedCapacity": 1,
```
Output:

```json
{
    "FleetId": "fleet-12a34b55-67cd-8ef9-ba9b-9208dEXAMPLE"
}
```

- For API details, see [CreateFleet](https://docs.aws.amazon.com/cli/latest/reference/ec2/create-flow-logs.html) in *AWS CLI Command Reference*.

**create-flow-logs**

The following code example shows how to use `create-flow-logs`.

**AWS CLI**

**Example 1: To create a flow log**

The following `create-flow-logs` example creates a flow log that captures all rejected traffic for the specified network interface. The flow logs are delivered to a log group in CloudWatch Logs using the permissions in the specified IAM role.

```
aws ec2 create-flow-logs \
    --resource-type NetworkInterface \
    --resource-ids eni-11223344556677889 \
    --traffic-type REJECT \
    --log-group-name my-flow-logs \
```
--deliver-logs-permission-arn arn:aws:iam::123456789101:role/publishFlowLogs

Output:

```json
{
    "ClientToken": "so0eNA2uSHUNlHI0S2cJ305GuIX1CezaRdGtexample",
    "FlowLogIds": [
        "fl-12345678901234567"
    ],
    "Unsuccessful": []
}
```

For more information, see [VPC Flow Logs](https://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/VPCFlowLogs.html) in the *Amazon VPC User Guide*.

**Example 2: To create a flow log with a custom format**

The following `create-flow-logs` example creates a flow log that captures all traffic for the specified VPC and delivers the flow logs to an Amazon S3 bucket. The `--log-format` parameter specifies a custom format for the flow log records. To run this command on Windows, change the single quotes (') to double quotes (").

```bash
aws ec2 create-flow-logs \
--resource-type VPC \
--resource-ids vpc-00112233344556677 \
--traffic-type ALL \
--log-destination-type s3 \
--log-destination arn:aws:s3:::flow-log-bucket/my-custom-flow-logs/ \
--log-format '${version} ${vpc-id} ${subnet-id} ${instance-id} ${srcaddr} ${dstaddr} ${srcport} ${dstport} ${protocol} ${tcp-flags} ${type} ${pkt-srcaddr} ${pkt-dstaddr}'
```

For more information, see [VPC Flow Logs](https://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/VPCFlowLogs.html) in the *Amazon VPC User Guide*.

**Example 3: To create a flow log with a one-minute maximum aggregation interval**

The following `create-flow-logs` example creates a flow log that captures all traffic for the specified VPC and delivers the flow logs to an Amazon S3 bucket. The `--max-aggregation-interval` parameter specifies a maximum aggregation interval of 60 seconds (1 minute).

```bash
aws ec2 create-flow-logs \
--resource-type VPC \
```
For more information, see VPC Flow Logs in the Amazon VPC User Guide.

- For API details, see CreateFlowLogs in AWS CLI Command Reference.

create-fpga-image

The following code example shows how to use create-fpga-image.

AWS CLI

To create an Amazon FPGA image

This example creates an AFI from the specified tarball in the specified bucket.

Command:

```bash
aws ec2 create-fpga-image --name my-afi --description test-afi --input-storage-location Bucket=my-fpga-bucket,Key=dcp/17_12_22-103226.Developer_CL.tar --logs-storage-location Bucket=my-fpga-bucket,Key=logs
```

Output:

```
{
   "FpgaImageId": "afi-0d123e123bfc85abc",
   "FpgaImageGlobalId": "agfi-123cb27b5e84a0abc"
}
```

- For API details, see CreateFpgaImage in AWS CLI Command Reference.

create-image

The following code example shows how to use create-image.

AWS CLI

Example 1: To create an AMI from an Amazon EBS-backed instance
The following `create-image` example creates an AMI from the specified instance.

```bash
aws ec2 create-image \
  --instance-id i-1234567890abcdef0 \
  --name "My server" \
  --description "An AMI for my server"
```

Output:

```
{
  "ImageId": "ami-abcdef01234567890"
}
```

For more information about specifying a block device mapping for your AMI, see [Specifying a block device mapping for an AMI](#) in the *Amazon EC2 User Guide*.

**Example 2: To create an AMI from an Amazon EBS-backed instance without reboot**

The following `create-image` example creates an AMI and sets the `--no-reboot` parameter, so that the instance is not rebooted before the image is created.

```bash
aws ec2 create-image \
  --instance-id i-1234567890abcdef0 \
  --name "My server" \n  --no-reboot
```

Output:

```
{
  "ImageId": "ami-abcdef01234567890"
}
```

For more information about specifying a block device mapping for your AMI, see [Specifying a block device mapping for an AMI](#) in the *Amazon EC2 User Guide*.

**Example 3: To tag an AMI and snapshots on creation**

The following `create-image` example creates an AMI, and tags the AMI and the snapshots with the same tag `cost-center=cc123`

```bash
aws ec2 create-image \
```
create-instance-connect-endpoint

The following code example shows how to use `create-instance-connect-endpoint`.

AWS CLI

**To create an EC2 Instance Connect Endpoint**

The following `create-instance-connect-endpoint` example creates an EC2 Instance Connect Endpoint in the specified subnet.

```bash
aws ec2 create-instance-connect-endpoint \
  --region us-east-1 \
  --subnet-id subnet-0123456789example
```

Output:

```json
{
  "VpcId": "vpc-0123abcd",
  "InstanceConnectEndpointArn": "arn:aws:ec2:us-east-1:111111111:instance-connect-endpoint/eice-0123456789example",
  "AvailabilityZone": "us-east-1a",
  "NetworkInterfaceIds": ["eni-0123abcd"],
  "PreserveClientIp": true,
  "PreserveClientIp": true,
}
```
For more information, see [Create an EC2 Instance Connect Endpoint](https://docs.aws.amazon.com/AmazonEC2/latest/UserGuide/create-instance-connect-endpoint.html) in the *Amazon EC2 User Guide*.


### create-instance-event-window

The following code example shows how to use `create-instance-event-window`.

**AWS CLI**

**Example 1: To create an event window with a time range**

The following `create-instance-event-window` example creates an event window with a time range. You can't also specify the `cron-expression` parameter.

```bash
aws ec2 create-instance-event-window \
  --region us-east-1 \
  --time-range StartWeekDay=monday,StartHour=2,EndWeekDay=wednesday,EndHour=8 \
  --tagSpecifications "ResourceType=instance-event-window,Tags=[{Key=K1,Value=V1}]" \
  --name myEventWindowName
```

Output:

```json
{}
```
"InstanceEventWindow": {
    "InstanceEventWindowId": "iew-0abcdef1234567890",
    "TimeRanges": [
        {
            "StartWeekDay": "monday",
            "StartHour": 2,
            "EndWeekDay": "wednesday",
            "EndHour": 8
        }
    ],
    "Name": "myEventWindowName",
    "State": "creating",
    "Tags": [
        {
            "Key": "K1",
            "Value": "V1"
        }
    ]
}

For event window constraints, see [Considerations](#) in the Scheduled Events section of the Amazon EC2 User Guide.

**Example 2: To create an event window with a cron expression**

The following `create-instance-event-window` example creates an event window with a cron expression. You can't also specify the time-range parameter.

```bash
aws ec2 create-instance-event-window \
    --region us-east-1 \
    --cron-expression "* 21-23 * * 2,3" \
    --tag-specifications "ResourceType=instance-event-window,Tags={Key=K1,Value=V1}]" \
    --name myEventWindowName
```

**Output:**

```json
{
    "InstanceEventWindow": {
        "InstanceEventWindowId": "iew-0abcdef1234567890",
        "Name": "myEventWindowName",
```
For event window constraints, see Considerations in the Scheduled Events section of the Amazon EC2 User Guide.

- For API details, see CreateInstanceEventWindow in AWS CLI Command Reference.

create-instance-export-task

The following code example shows how to use create-instance-export-task.

AWS CLI

To export an instance

This example command creates a task to export the instance i-1234567890abcdef0 to the Amazon S3 bucket myexportbucket.

Command:

```bash
aws ec2 create-instance-export-task --description "RHEL5 instance" --instance-id i-1234567890abcdef0 --target-environment vmware --export-to-s3-task DiskImageFormat=vmdk,ContainerFormat=ova,S3Bucket=myexportbucket,S3Prefix=RHEL5
```

Output:

```
{
    "ExportTask": {
        "State": "active",
        "InstanceExportDetails": {
            "InstanceId": "i-1234567890abcdef0",
            "TargetEnvironment": "vmware"
        }
    }
}
```
"ExportToS3Task": {
    "S3Bucket": "myexportbucket",
    "S3Key": "RHEL5export-i-fh8sjjsq.ova",
    "DiskImageFormat": "vmdk",
    "ContainerFormat": "ova"
},
"Description": "RHEL5 instance",
"ExportTaskId": "export-i-fh8sjjsq"
}

• For API details, see `CreateInstanceExportTask` in AWS CLI Command Reference.

create-internet-gateway

The following code example shows how to use create-internet-gateway.

AWS CLI

**To create an internet gateway**

The following create-internet-gateway example creates an internet gateway with the tag Name=my-igw.

```bash
aws ec2 create-internet-gateway \
    --tag-specifications ResourceType=internet-gateway,Tags= [{Key=Name,Value=my-igw}]
```

Output:

```
{
    "InternetGateway": {
        "Attachments": [],
        "InternetGatewayId": "igw-0d0fb496b3994d755",
        "OwnerId": "123456789012",
        "Tags": [
            {
                "Key": "Name",
                "Value": "my-igw"
            }
        ]
    }
}
```
For more information, see Internet gateways in the Amazon VPC User Guide.

- For API details, see CreateInternetGateway in AWS CLI Command Reference.

create-ipam

The following code example shows how to use create-ipam.

AWS CLI

To create an IPAM

The following create-ipam example creates an IPAM.

(Linux):

```
aws ec2 create-ipam \
  --description "Example description" \
  --operating-regions "RegionName=us-east-2" "RegionName=us-west-1" \
  --tag-specifications 'ResourceType=ipam,Tags=[[Key=Name,Value=ExampleIPAM]]'
```

(Windows):

```
aws ec2 create-ipam ^
  --description "Example description" ^
  --operating-regions "RegionName=us-east-2" "RegionName=us-west-1" ^
  --tag-specifications ResourceType=ipam,Tags=[[Key=Name,Value=ExampleIPAM]]
```

Output:

```
{
  "Ipam": {
    "OwnerId": "123456789012",
    "IpamId": "ipam-036486dfa6af58ee0",
    "IpamArn": "arn:aws:ec2:123456789012:ipam/ipam-036486dfa6af58ee0",
    "IpamRegion": "us-east-1",
    "PublicDefaultScopeId": "ipam-scope-071b8042b0195c183",
    "PrivateDefaultScopeId": "ipam-scope-0807405dece705a30",
    "ScopeCount": 2,
  }
}
```
For more information, see Create an IPAM in the Amazon VPC IPAM User Guide.

- For API details, see CreateIpam in AWS CLI Command Reference.

create-ipam-pool

The following code example shows how to use create-ipam-pool.

AWS CLI

To create an IPAM pool

The following create-ipam-pool example creates an IPAM pool.

(Linux):

```
aws ec2 create-ipam-pool
  --ipam-scope-id ipam-scope-02fc38cd4c48e7d38
  --address-family ipv4
  --auto-import
  --allocation-min-netmask-length 16
  --allocation-max-netmask-length 26
```
--allocation-default-netmask-length 24 \
--allocation-resource-tags "Key=Environment,Value=Preprod" \
--tag-specifications 'ResourceType=ipam-pool,Tags=[[Key=Name,Value="Preprod pool"]]

(Windows):

aws ec2 create-ipam-pool ^
   --ipam-scope-id ipam-scope-02fc38cd4c48e7d38 ^
   --address-family ipv4 ^
   --auto-import ^
   --allocation-min-netmask-length 16 ^
   --allocation-max-netmask-length 26 ^
   --allocation-default-netmask-length 24 ^
   --allocation-resource-tags "Key=Environment,Value=Preprod" ^
   --tag-specifications ResourceType=ipam-pool,Tags=[[Key=Name,Value="Preprod pool"]]

Output:

{
   "IpamPool": {
      "OwnerId": "123456789012",
      "IpamPoolId": "ipam-pool-0533048da7d823723",
      "IpamPoolArn": "arn:aws:ec2::123456789012:ipam-pool/ipam-pool-0533048da7d823723",
      "IpamScopeArn": "arn:aws:ec2::123456789012:ipam-scope/ipam-scope-02fc38cd4c48e7d38",
      "IpamScopeType": "private",
      "IpamArn": "arn:aws:ec2::123456789012:ipam-08440e7a3acde3908",
      "IpamRegion": "us-east-1",
      "Locale": "None",
      "PoolDepth": 1,
      "State": "create-in-progress",
      "AutoImport": true,
      "AddressFamily": "ipv4",
      "AllocationMinNetmaskLength": 16,
      "AllocationMaxNetmaskLength": 26,
      "AllocationDefaultNetmaskLength": 24,
      "AllocationResourceTags": [
      {
         "Key": "Environment",
         "Value": "Preprod"}}]
For more information, see [Plan for IP address provisioning](https://docs.aws.amazon.com/vpc-ipam/latest/userguide/planning-provisioning.html) in the Amazon VPC IPAM User Guide.

- For API details, see [CreateIpamPool](https://docs.aws.amazon.com/cli/latest/reference/ec2/create-ipam-scope.html) in AWS CLI Command Reference.

**create-ipam-scope**

The following code example shows how to use `create-ipam-scope`.

**AWS CLI**

To create an IPAM scope

The following `create-ipam-scope` example creates an IPAM scope.

(Linux):

```
aws ec2 create-ipam-scope \
   --ipam-id ipam-08440e7a3acde3908 \
   --description "Example description" \
   --tag-specifications 'ResourceType=ipam-scope,Tags=[{Key=Name,Value="Example name value"}]
```

(Windows):

```
aws ec2 create-ipam-scope ^
   --ipam-id ipam-08440e7a3acde3908 ^
   --description "Example description" ^
   --tag-specifications ResourceType=ipam-scope,Tags=[{Key=Name,Value="Example name value"}]
```

Output:
```json
{
    "IpamScope": {
        "OwnerId": "123456789012",
        "IpamScopeId": "ipam-scope-01c1ebab2b63bd7e4",
        "IpamScopeArn": "arn:aws:ec2::123456789012:ipam-scope/ipam-scope-01c1ebab2b63bd7e4",
        "IpamArn": "arn:aws:ec2::123456789012:ipam/ipam-08440e7a3acde3908",
        "IpamRegion": "us-east-1",
        "IpamScopeType": "private",
        "IsDefault": false,
        "Description": "Example description",
        "PoolCount": 0,
        "State": "create-in-progress",
        "Tags": [
            {
                "Key": "Name",
                "Value": "Example name value"
            }
        ]
    }
}
```

For more information, see [Create additional scopes](https://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/ipam.html) in the Amazon VPC IPAM User Guide.

- For API details, see [CreateIpamScope](https://docs.aws.amazon.com/cli/latest/reference/ec2/create-ipam-scope.html) in AWS CLI Command Reference.

### create-launch-template-version

The following code example shows how to use `create-launch-template-version`.

**AWS CLI**

**To create a launch template version**

This example creates a new launch template version based on version 1 of the launch template and specifies a different AMI ID.

**Command:**

```bash
aws ec2 create-launch-template-version --launch-template-id lt-0abcd290751193123
    --version-description WebVersion2 --source-version 1
    --launch-template-data
    '{}"ImageId":"ami-c998b6b2"'
```
Output:

```json
{
    "LaunchTemplateVersion": {
        "VersionDescription": "WebVersion2",
        "LaunchTemplateId": "lt-0abcd290751193123",
        "LaunchTemplateName": "WebServers",
        "VersionNumber": 2,
        "CreatedBy": "arn:aws:iam::123456789012:root",
        "LaunchTemplateData": {
            "ImageId": "ami-c998b6b2",
            "InstanceType": "t2.micro",
            "NetworkInterfaces": [
                {
                    "Ipv6Addresses": [
                        {
                            "Ipv6Address": "2001:db8:1234:1a00::123"
                        }
                    ],
                    "DeviceIndex": 0,
                    "SubnetId": "subnet-7b16de0c",
                    "AssociatePublicIpAddress": true
                }
            ],
            "DefaultVersion": false,
            "CreateTime": "2017-12-01T13:35:46.000Z"
        }
    }
}
```

- For API details, see [CreateLaunchTemplateVersion](https://docs.aws.amazon.com/cli/latest/reference/ec2/create-launch-template-version.html) in *AWS CLI Command Reference*.

**create-local-gateway-route**

The following code example shows how to use `create-local-gateway-route`.

**AWS CLI**

To create a static route for a local gateway route table

The following `create-local-gateway-route` example creates the specified route in the specified local gateway route table.
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aws ec2 create-local-gateway-route \
   --destination-cidr-block 0.0.0.0/0 \ 
   --local-gateway-route-table-id lgw-rtb-059615ef7dEXAMPLE

Output:

```json
{
   "Route": {
      "DestinationCidrBlock": "0.0.0.0/0",
      "LocalGatewayVirtualInterfaceGroupId": "lgw-vif-grp-07145b276bEXAMPLE",
      "Type": "static",
      "State": "deleted",
      "LocalGatewayRouteTableId": "lgw-rtb-059615ef7dEXAMPLE"
   }
}
```

- For API details, see CreateLocalGatewayRoute in AWS CLI Command Reference.

create-local-gateway-route-table

The following code example shows how to use create-local-gateway-route-table.

AWS CLI

**To create a local gateway route table**

The following create-local-gateway-route-table example creates a local gateway route table with the direct VPC routing mode.

```bash
aws ec2 create-local-gateway-route-table \
   --local-gateway-id lgw-1a2b3c4d5e6f7g8h9 \ 
   --mode direct-vpc-routing
```

Output:

```json
{
   "LocalGatewayRouteTable": {
      "LocalGatewayRouteTableId": "lgw-rtb-abcdefg1234567890",
```

Actions and scenarios 2095
"LocalGatewayId": "lgw-1a2b3c4d5e6f7g8h9",
"OwnerId": "111122223333",
"State": "pending",
"Tags": [],
"Mode": "direct-vpc-routing"
}
}

For more information, see Local gateway route tables in the AWS Outposts User Guide.
- For API details, see CreateLocalGatewayRouteTable in AWS CLI Command Reference.

create-local-gateway-route-table-virtual-interface-group-association

The following code example shows how to use create-local-gateway-route-table-virtual-interface-group-association.

AWS CLI

To associate a local gateway route table with a virtual interfaces (VIFs) group

The following create-local-gateway-route-table-virtual-interface-group-association example creates an association between the specified local gateway route table and VIF group.

aws ec2 create-local-gateway-route-table-virtual-interface-group-association \
  --local-gateway-route-table-id lgw-rtb-exampleidabcd1234 \
  --local-gateway-virtual-interface-group-id lgw-vif-grp-exampleid0123abcd

Output:

{
  "LocalGatewayRouteTableVirtualInterfaceGroupAssociation": {
    "LocalGatewayRouteTableVirtualInterfaceGroupAssociationId": "lgw-grp-assoc-examleid12345678",
    "LocalGatewayVirtualInterfaceGroupId": "lgw-vif-grp-exampleid0123abcd",
    "LocalGatewayId": "lgw-exampleid11223344",
    "LocalGatewayRouteTableId": "lgw-rtb-exampleidabcd1234",
    "LocalGatewayRouteTableArn": "arn:aws:ec2:us-west-2:11122223333:local-gateway-route-table/lgw-rtb-exampleidabcd1234",
  }
}
For more information, see VIF group associations in the AWS Outposts User Guide.

- For API details, see CreateLocalGatewayRouteTableVirtualInterfaceGroupAssociation in AWS CLI Command Reference.

create-local-gateway-route-table-vpc-association

The following code example shows how to use create-local-gateway-route-table-vpc-association.

AWS CLI

To associate a VPC with a route table

The following create-local-gateway-route-table-vpc-association example associates the specified VPC with the specified local gateway route table.

```bash
aws ec2 create-local-gateway-route-table-vpc-association \
   --local-gateway-route-table-id lgw-rtb-059615ef7dEXAMPLE \
   --vpc-id vpc-07ef66ac71EXAMPLE
```

Output:

```json
{
   "LocalGatewayRouteTableVpcAssociation": {
      "LocalGatewayRouteTableVpcAssociationId": "lgw-vpc-assoc-0ee765bce8EXAMPLE",
      "LocalGatewayRouteTableId": "lgw-rtb-059615ef7dEXAMPLE",
      "LocalGatewayId": "lgw-09b493aa71EXAMPLE",
      "VpcId": "vpc-07ef66ac71EXAMPLE",
      "State": "associated"
   }
}
```

- For API details, see CreateLocalGatewayRouteTableVpcAssociation in AWS CLI Command Reference.
create-managed-prefix-list

The following code example shows how to use create-managed-prefix-list.

AWS CLI

To create a prefix list

The following create-managed-prefix-list example creates an IPv4 prefix list with a maximum of 10 entries, and creates 2 entries in the prefix list.

```bash
aws ec2 create-managed-prefix-list \
   --address-family IPv4 \
   --max-entries 10 \
   --entries Cidr=10.0.0.0/16,Description=vpc-a Cidr=10.2.0.0/16,Description=vpc-b \
   --prefix-list-name vpc-cidrs
```

Output:

```
{
   "PrefixList": {
      "PrefixListId": "pl-0123456abcabcabc1",
      "AddressFamily": "IPv4",
      "State": "create-in-progress",
      "PrefixListName": "vpc-cidrs",
      "MaxEntries": 10,
      "Version": 1,
      "Tags": [],
      "OwnerId": "123456789012"
   }
}
```

For more information, see Managed prefix lists in the Amazon VPC User Guide.

- For API details, see CreateManagedPrefixList in AWS CLI Command Reference.

create-nat-gateway

The following code example shows how to use create-nat-gateway.
Example 1: To create a public NAT gateway

The following `create-nat-gateway` example creates a public NAT gateway in the specified subnet and associates the Elastic IP address with the specified allocation ID. When you create a public NAT gateway, you must associate an Elastic IP address.

```bash
aws ec2 create-nat-gateway \\
   --subnet-id subnet-0250c25a1fEXAMPLE \\
   --allocation-id eipalloc-09ad461b0dEXAMPLE
```

Output:

```json
{
   "NatGateway": {
      "CreateTime": "2021-12-01T22:22:38.000Z",
      "NatGatewayAddresses": [
         {
            "AllocationId": "eipalloc-09ad461b0dEXAMPLE"
         }
      ],
      "NatGatewayId": "nat-0c61bf8a12EXAMPLE",
      "State": "pending",
      "SubnetId": "subnet-0250c25a1fEXAMPLE",
      "VpcId": "vpc-0a60eb65b4EXAMPLE",
      "ConnectivityType": "public"
   }
}
```

For more information, see [NAT gateways](https://docs.aws.amazon.com/vpc/latest/userguide/NAT-gateways.html) in the *Amazon VPC User Guide*.

Example 2: To create a private NAT gateway

The following `create-nat-gateway` example creates a private NAT gateway in the specified subnet. A private NAT gateway does not have an associated Elastic IP address.

```bash
aws ec2 create-nat-gateway \\
   --subnet-id subnet-0250c25a1fEXAMPLE \\
   --connectivity-type private
```

Output:
For more information, see [NAT gateways](https://docs.aws.amazon.com/vpc/latest/userguide/NAT-gateways.html) in the Amazon VPC User Guide.

- For API details, see [CreateNatGateway](https://docs.aws.amazon.com/cli/latest/reference/ec2/create-network-acl.html) in AWS CLI Command Reference.

**create-network-acl**

The following code example shows how to use `create-network-acl`.

**AWS CLI**

**To create a network ACL**

This example creates a network ACL for the specified VPC.

**Command:**

```bash
aws ec2 create-network-acl --vpc-id vpc-a01106c2
```

**Output:**

```json
{
    "NetworkAcl": {
        "Associations": [],
        "NetworkAclId": "acl-5fb85d36",
        "VpcId": "vpc-a01106c2",
        "Tags": [],
        "Entries": [ ]
    }
}
```
For API details, see `CreateNetworkAcl` in *AWS CLI Command Reference*.

**create-network-acl-entry**

The following code example shows how to use `create-network-acl-entry`.

**AWS CLI**

To create a network ACL entry

This example creates an entry for the specified network ACL. The rule allows ingress traffic from any IPv4 address (0.0.0.0/0) on UDP port 53 (DNS) into any associated subnet. If the command succeeds, no output is returned.

Command:

```bash
aws ec2 create-network-acl-entry --network-acl-id acl-5fb85d36 --ingress --rule-number 100 --protocol udp --port-range From=53,To=53 --cidr-block 0.0.0.0/0 --rule-action allow
```

This example creates a rule for the specified network ACL that allows ingress traffic from any IPv6 address (:/0) on TCP port 80 (HTTP).
Command:

```bash
aws ec2 create-network-acl-entry --network-acl-id acl-5fb85d36 --ingress --rule-number 120 --protocol tcp --port-range From=80,To=80 --ipv6-cidr-block ::/0 --rule-action allow
```

- For API details, see [CreateNetworkAclEntry](https://docs.aws.amazon.com/cli/latest/reference/ec2/create-network-acl-entry.html) in AWS CLI Command Reference.

**create-network-insights-access-scope**

The following code example shows how to use `create-network-insights-access-scope`.

**AWS CLI**

**To create a Network Access Scope**

The following `create-network-insights-access-scope` example creates a Network Access Scope.

```bash
aws ec2 create-network-insights-access-scope \
 --cli-input-json file://access-scope-file.json
```

Contents of `access-scope-file.json`:

```json
{
    "MatchPaths": [
        {
            "Source": {
                "ResourceStatement": {
                    "Resources": [
                        "vpc-abcd12e3"
                    ]
                }
            }
        },
        "ExcludePaths": [
            {
                "Source": {
                    "ResourceStatement": {
                        "ResourceTypes": [
                            "AWS::EC2::InternetGateway"
                        ]
                    }
                }
            }
        ]
    }
}
```
Output:

```json
{

  "NetworkInsightsAccessScope": {
    "NetworkInsightsAccessScopeId": "nis-123456789abc01234",
    "CreatedDate": "2022-01-25T19:20:28.796000+00:00",
    "UpdatedDate": "2022-01-25T19:20:28.797000+00:00"
  },

  "NetworkInsightsAccessScopeContent": {
    "NetworkInsightsAccessScopeId": "nis-123456789abc01234",
    "MatchPaths": [
      {
        "Source": {
          "ResourceStatement": {
            "Resources": [
              "vpc-abcd12e3"
            ]
          }
        }
      }
    ],

    "ExcludePaths": [
      {
        "Source": {
          "ResourceStatement": {
            "ResourceTypes": [
              "AWS::EC2::InternetGateway"
            ]
          }
        }
      }
    ]
  }

}
```
For more information, see Getting started with Network Access Analyzer using the AWS CLI in the Network Access Analyzer Guide.

- For API details, see CreateNetworkInsightsAccessScope in AWS CLI Command Reference.

create-network-insights-path

The following code example shows how to use create-network-insights-path.

**AWS CLI**

To create a path

The following create-network-insights-path example creates a path. The source is the specified internet gateway and the destination is the specified EC2 instance. To determine whether the destination is reachable using the specified protocol and port, analyze the path using the start-network-insights-analysis command.

```bash
aws ec2 create-network-insights-path \
--source igw-0797cccdd39d73b0e5 \
--destination i-0495d385ad28331c7 \
--destination-port 22 \
--protocol TCP
```

Output:

```
{
    "NetworkInsightsPaths": {
        "NetworkInsightsPathId": "nip-0b26f224f1d131fa8",
        "CreateDate": "2021-01-20T22:43:46.933Z",
        "Source": "igw-0797cccdd39d73b0e5",
        "Destination": "i-0495d385ad28331c7",
        "Protocol": "tcp"
    }
}
```

For more information, see Getting started using the AWS CLI in the Reachability Analyzer Guide.

- For API details, see CreateNetworkInsightsPath in AWS CLI Command Reference.
create-network-interface

The following code example shows how to use `create-network-interface`.

AWS CLI

**Example 1: To specify an IPv4 address for a network interface**

The following `create-network-interface` example creates a network interface for the specified subnet with the specified primary IPv4 address.

```bash
aws ec2 create-network-interface \
    --subnet-id subnet-00a24d0d67acf6333 \
    --description "my network interface" \
    --groups sg-09dfba7ed20cda78b \
    --private-ip-address 10.0.8.17
```

Output:

```json
{
    "NetworkInterface": {
        "AvailabilityZone": "us-west-2a",
        "Description": "my network interface",
        "Groups": [
            {
                "GroupName": "my-security-group",
                "GroupId": "sg-09dfba7ed20cda78b"
            }
        ],
        "InterfaceType": "interface",
        "Ipv6Addresses": [],
        "MacAddress": "06:6a:0f:9a:49:37",
        "NetworkInterfaceId": "eni-0492b355f0cf3b3f8",
        "OwnerId": "123456789012",
        "PrivateDnsName": "ip-10-0-8-18.us-west-2.compute.internal",
        "PrivateIpAddress": "10.0.8.17",
        "PrivateIpAddresses": [
            {
                "Primary": true,
                "PrivateDnsName": "ip-10-0-8-17.us-west-2.compute.internal",
                "PrivateIpAddress": "10.0.8.17"
            }
        ]
    }
}
```
Example 2: To create a network interface with an IPv4 address and an IPv6 address

The following create-network-interface example creates a network interface for the specified subnet with an IPv4 address and an IPv6 address that are selected by Amazon EC2.

```bash
aws ec2 create-network-interface \
  --subnet-id subnet-00a24d0d67acf6333 \
  --description "my dual stack network interface" \
  --ipv6-address-count 1 \
  --groups sg-09dfba7ed20cda78b
```

Output:

```
{
  "NetworkInterface": {
    "AvailabilityZone": "us-west-2a",
    "Description": "my dual stack network interface",
    "Groups": [
      {
        "GroupName": "my-security-group",
        "GroupId": "sg-09dfba7ed20cda78b"
      }
    ],
    "InterfaceType": "interface",
    "Ipv6Addresses": [
      {
        "Ipv6Address": "2600:1f13:cfe:3650:a1dc:237c:393a:4ba7",
        "IsPrimaryIpv6": false
      }
    ],
    "MacAddress": "06:b8:68:d2:b2:2d",
    "NetworkInterfaceId": "eni-05da417453f9a84bf",
  }
}
```
Example 3: To create a network interface with connection tracking configuration options

The following create-network-interface example creates a network interface and configures the idle connection tracking timeouts.

```
aws ec2 create-network-interface \
  --subnet-id subnet-00a24d0d67acf6333 \
  --groups sg-02e57d00e0331c1b \
  --connection-tracking-specification TcpEstablishedTimeout=86400,UdpTimeout=60
```

Output:

```
{
    "NetworkInterface": {
        "AvailabilityZone": "us-west-2a",
        "ConnectionTrackingConfiguration": {
            "TcpEstablishedTimeout": 86400,
            "UdpTimeout": 60
        },
        "Description": "",
        "Groups": [
```
Example 4: To create an Elastic Fabric Adapter

The following `create-network-interface` example creates an EFA.

```bash
aws ec2 create-network-interface
  --interface-type efa
  --subnet-id subnet-00a24d0d67acf6333
  --description "my efa"
  --groups sg-02e57dbcf0331c1b
```

Output:

```json
{
  "NetworkInterface": {
```
"AvailabilityZone": "us-west-2a",
"Description": "my efa",
"Groups": [
  {
    "GroupName": "my-efa-sg",
    "GroupId": "sg-02e57dcbfe0331c1b"
  }
],
"InterfaceType": "efa",
"Ipv6Addresses": [],
"MacAddress": "06:d7:a4:f7:4d:57",
"NetworkInterfaceId": "eni-034acc2885e862b65",
"OwnerId": "123456789012",
"PrivateDnsName": "ip-10-0-8-180.us-west-2.compute.internal",
"PrivateIpAddress": "10.0.8.180",
"PrivateIpAddresses": [
  {
    "Primary": true,
    "PrivateDnsName": "ip-10-0-8-180.us-west-2.compute.internal",
    "PrivateIpAddress": "10.0.8.180"
  }
],
"RequesterId": "AIDA4Z3Y7GSXTMEXAMPLE",
"RequesterManaged": false,
"SourceDestCheck": true,
"Status": "pending",
"SubnetId": "subnet-00a24d0d67acf6333",
"TagSet": [],
"VpcId": "vpc-02723a0feeeb9d57b"
}

For more information, see Elastic network interfaces in the Amazon EC2 User Guide.

- For API details, see CreateNetworkInterface in AWS CLI Command Reference.

create-network-interface-permission

The following code example shows how to use create-network-interface-permission.

AWS CLI

To create a network interface permission
This example grants permission to account 123456789012 to attach network interface eni-1a2b3c4d to an instance.

Command:

```
aws ec2 create-network-interface-permission --network-interface-id eni-1a2b3c4d --aws-account-id 123456789012 --permission INSTANCE-ATTACH
```

Output:

```
{
  "InterfacePermission": {
    "PermissionState": {
      "State": "GRANTED"
    },
    "NetworkInterfacePermissionId": "eni-perm-06fd19020ede149ea",
    "NetworkInterfaceId": "eni-1a2b3c4d",
    "Permission": "INSTANCE-ATTACH",
    "AwsAccountId": "123456789012"
  }
}
```

- For API details, see [CreateNetworkInterfacePermission](https://docs.aws.amazon.com/cli/latest/reference/ec2/create-network-interface-permission.html) in *AWS CLI Command Reference*.

**create-placement-group**

The following code example shows how to use `create-placement-group`.

**AWS CLI**

**To create a placement group**

This example command creates a placement group with the specified name.

Command:

```
aws ec2 create-placement-group --group-name my-cluster --strategy cluster
```

**To create a partition placement group**

This example command creates a partition placement group named HDFS-Group-A with five partitions.
Command:

```bash
aws ec2 create-placement-group --group-name HDFS-Group-A --strategy partition --partition-count 5
```

- For API details, see CreatePlacementGroup in AWS CLI Command Reference.

**create-replace-root-volume-task**

The following code example shows how to use create-replace-root-volume-task.

**AWS CLI**

**Example 1: To restore a root volume to its initial launch state**

The following create-replace-root-volume-task example restores the root volume of instance i-0123456789abcdefa to its initial launch state.

```bash
aws ec2 create-replace-root-volume-task \
--instance-id i-0123456789abcdefa
```

**Output:**

```
{
   "ReplaceRootVolumeTask":
   {
      "InstanceId": "i-0123456789abcdefa",
      "ReplaceRootVolumeTaskId": "replacevol-0111122223333abcd",
      "TaskState": "pending",
      "StartTime": "2022-03-14T15:06:38Z",
      "Tags": []
   }
}
```

For more information, see Replace a root volume in the Amazon Elastic Compute Cloud User Guide.

**Example 2: To restore a root volume to a specific snapshot**

The following create-replace-root-volume-task example restores the root volume of instance i-0123456789abcdefa to snapshot snap-0abcdef1234567890.
aws ec2 create-replace-root-volume-task \\    --instance-id i-0123456789abcdefa \\    --snapshot-id snap-0abcdef1234567890

Output:

{
    "ReplaceRootVolumeTask":
    {
        "InstanceId": "i-0123456789abcdefa",
        "ReplaceRootVolumeTaskId": "replacevol-0555566667777abcd",
        "TaskState": "pending",
        "StartTime": "2022-03-14T15:16:28Z",
        "Tags": []
    }
}

For more information, see Replace a root volume in the Amazon Elastic Compute Cloud User Guide.

- For API details, see CreateReplaceRootVolumeTask in AWS CLI Command Reference.

create-reserved-instances-listing

The following code example shows how to use create-reserved-instances-listing.

AWS CLI

To list a Reserved Instance in the Reserved Instance Marketplace

The following create-reserved-instances-listing example creates a listing for the specified Reserved Instance in the Reserved Instance Marketplace.

aws ec2 create-reserved-instances-listing \\
    --reserved-instances-id 5ec28771-05ff-4b9b-aa31-9e57dexample \\
    --instance-count 3 \\
    --price-schedules CurrencyCode=USD,Price=25.50 \\
    --client-token 550e8400-e29b-41d4-a716-446655440000

- For API details, see CreateReservedInstancesListing in AWS CLI Command Reference.
**create-restore-image-task**

The following code example shows how to use `create-restore-image-task`.

**AWS CLI**

**To restore an AMI from an S3 bucket**

The following `create-restore-image-task` example restores an AMI from an S3 bucket. Use the values for `S3ObjectKey` and `Bucket` from the `describe-store-image-tasks` output, specify the object key of the AMI and the name of the S3 bucket to which the AMI was copied, and specify the name for the restored AMI. The name must be unique for AMIs in the Region for this account. The restored AMI will receive a new AMI ID.

```bash
aws ec2 create-restore-image-task \
  --object-key ami-1234567890abcdef0.bin \
  --bucket my-ami-bucket \
  --name "New AMI Name"
```

Output:

```json
{
  "ImageId": "ami-0eab20fe36f83e1a8"
}
```


- For API details, see [CreateRestoreImageTask](aws cli command reference) in *AWS CLI Command Reference*.

**create-route**

The following code example shows how to use `create-route`.

**AWS CLI**

**To create a route**

This example creates a route for the specified route table. The route matches all IPv4 traffic (0.0.0.0/0) and routes it to the specified Internet gateway. If the command succeeds, no output is returned.
Command:

```
aws ec2 create-route --route-table-id rtb-22574640 --destination-cidr-block 0.0.0.0/0 --gateway-id igw-c0a643a9
```

This example command creates a route in route table rtb-g8ff4ea2. The route matches traffic for the IPv4 CIDR block 10.0.0.0/16 and routes it to VPC peering connection, pcx-111aaa22. This route enables traffic to be directed to the peer VPC in the VPC peering connection. If the command succeeds, no output is returned.

Command:

```
aws ec2 create-route --route-table-id rtb-g8ff4ea2 --destination-cidr-block 10.0.0.0/16 --vpc-peering-connection-id pcx-1a2b3c4d
```

This example creates a route in the specified route table that matches all IPv6 traffic (: /0) and routes it to the specified egress-only Internet gateway.

Command:

```
aws ec2 create-route --route-table-id rtb-dce620b8 --destination-ipv6-cidr-block ::/0 --egress-only-internet-gateway-id eigw-01eadbd45ecd7943f
```

- For API details, see `CreateRoute` in *AWS CLI Command Reference*.

**create-snapshot**

The following code example shows how to use `create-snapshot`.

**AWS CLI**

**To create a snapshot**

This example command creates a snapshot of the volume with a volume ID of `vol-1234567890abcdef0` and a short description to identify the snapshot.

Command:

```
aws ec2 create-snapshot --volume-id vol-1234567890abcdef0 --description "This is my root volume snapshot"
```
Output:

```json
{
    "Description": "This is my root volume snapshot",
    "Tags": [],
    "Encrypted": false,
    "VolumeId": "vol-1234567890abcdef0",
    "State": "pending",
    "VolumeSize": 8,
    "StartTime": "2018-02-28T21:06:01.000Z",
    "Progress": "",
    "OwnerId": "012345678910",
    "SnapshotId": "snap-066877671789bd71b"
}
```

**To create a snapshot with tags**

This example command creates a snapshot and applies two tags: purpose=prod and costcenter=123.

**Command:**

```bash
aws ec2 create-snapshot --volume-id vol-1234567890abcdef0 --description 'Prod backup' --tag-specifications 'ResourceType=snapshot,Tags=[{Key=purpose,Value=prod}, {Key=costcenter,Value=123}]
```

**Output:**

```json
{
    "Description": "Prod backup",
    "Tags": [
    {
        "Value": "prod",
        "Key": "purpose"
    },
    {
        "Value": "123",
        "Key": "costcenter"
    }
    ],
    "Encrypted": false,
    "VolumeId": "vol-1234567890abcdef0",
    "State": "pending",
```
• For API details, see CreateSnapshot in AWS CLI Command Reference.

create-snapshots

The following code example shows how to use create-snapshots.

AWS CLI

Example 1: To create a multi-volume snapshot

The following create-snapshots example creates snapshots of all volumes attached to the specified instance.

```
aws ec2 create-snapshots \
  --instance-specification InstanceId=i-1234567890abcdef0 \
  --description "This is snapshot of a volume from my-instance"
```

Output:

```
{
   "Snapshots": [ 
   {
      "Description": "This is a snapshot of a volume from my-instance",
      "Tags": [],
      "Encrypted": false,
      "VolumeId": "vol-0a01d2d5a34697479",
      "State": "pending",
      "VolumeSize": 16,
      "StartTime": "2019-08-05T16:58:19.000Z",
      "Progress": ",",
      "OwnerId": "123456789012",
      "SnapshotId": "snap-07f30e3909aa0045e"
   },
   {
      "Description": "This is a snapshot of a volume from my-instance",
      "Tags": [],
      "Encrypted": false,
      "VolumeId": "vol-0123456789a0b1234",
      "State": "pending",
      "VolumeSize": 16,
      "StartTime": "2019-08-05T16:58:19.000Z",
      "Progress": ",",
      "OwnerId": "123456789012",
      "SnapshotId": "snap-07f30e3909aa0045e"
   }
  ]
}
```
"Tags": [],
"Encrypted": false,
"VolumeId": "vol-02d0d4947008cb1a2",
"State": "pending",
"VolumeSize": 20,
"StartTime": "2019-08-05T16:58:19.000Z",
"Progress": "",
"OwnerId": "123456789012",
"SnapshotId": "snap-0ec20b602264aad48"
},
...
]
}

Example 2: To create a multi-volume snapshot with tags from the source volume

The following create-snapshots example creates snapshots of all volumes attached to the specified instance and copies the tags from each volume to its corresponding snapshot.

```bash
aws ec2 create-snapshots \
   --instance-specification InstanceId=i-1234567890abcdef0 \
   --copy-tags-from-source volume \
   --description "This is snapshot of a volume from my-instance"
```

Output:

```json
{
   "Snapshots": [
   {
      "Description": "This is a snapshot of a volume from my-instance",
      "Tags": [
      {
         "Key": "Name",
         "Value": "my-volume"
      }
      ],
      "Encrypted": false,
      "VolumeId": "vol-02d0d4947008cb1a2",
      "State": "pending",
      "VolumeSize": 20,
      "StartTime": "2019-08-05T16:53:04.000Z",
      "Progress": "",
      "OwnerId": "123456789012",
      "SnapshotId": "snap-0ec20b602264aad48"
   }
   ]
}
```
Example 3: To create a multi-volume snapshot not including the root volume

The following create-snapshots example creates a snapshot of all volumes attached to the specified instance except for the root volume.

```
aws ec2 create-snapshots \
--instance-specification InstanceId=i-1234567890abcdef0,ExcludeBootVolume=true
```

See example 1 for sample output.

Example 4: To create a multi-volume snapshot and add tags

The following create-snapshots example creates snapshots of all volumes attached to the specified instance and adds two tags to each snapshot.

```
aws ec2 create-snapshots \
--instance-specification InstanceId=i-1234567890abcdef0 \ 
--tag-specifications 'ResourceType=snapshot,Tags=[{Key=Name,Value=backup}, \ 
{Key=costcenter,Value=123}]'
```

See example 1 for sample output.

- For API details, see CreateSnapshots in AWS CLI Command Reference.

create-spot-datafeed-subscription

The following code example shows how to use create-spot-datafeed-subscription.

AWS CLI

To create a Spot Instance data feed

The following create-spot-datafeed-subscription example creates a Spot Instance data feed.

```
aws ec2 create-spot-datafeed-subscription \ 
```
--bucket my-bucket \
--prefix spot-data-feed

Output:

{
    "SpotDatafeedSubscription": {
        "Bucket": "my-bucket",
        "OwnerId": "123456789012",
        "Prefix": "spot-data-feed",
        "State": "Active"
    }
}

The data feed is stored in the Amazon S3 bucket that you specified. The file names for this data feed have the following format.

my-bucket.s3.amazonaws.com/spot-data-feed/123456789012.YYYY-MM-DD-HH.n.abcd1234.gz


- For API details, see [CreateSpotDatafeedSubscription](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/spot-instance-data-feed.html) in *AWS CLI Command Reference*.

**create-store-image-task**

The following code example shows how to use `create-store-image-task`.

**AWS CLI**

To store an AMI in an S3 bucket

The following `create-store-image-task` example stores an AMI in an S3 bucket. Specify the ID of the AMI and the name of the S3 bucket in which to store the AMI.

```bash
aws ec2 create-store-image-task \
  --image-id ami-1234567890abcdef0 \
  --bucket my-ami-bucket
```

Output:

```json
{
}
```
The following code example shows how to use `create-subnet-cidr-reservation`.

AWS CLI

To create a subnet CIDR reservation

The following `create-subnet-cidr-reservation` example creates a subnet CIDR reservation for the specified subnet and CIDR range.

```bash
aws ec2 create-subnet-cidr-reservation \
   --subnet-id subnet-03c51e2eEXAMPLE \
   --reservation-type prefix \
   --cidr 10.1.0.20/26
```

Output:

```json
{
   "SubnetCidrReservation": {
      "SubnetCidrReservationId": "scr-044f977c4eEXAMPLE",
      "SubnetId": "subnet-03c51e2e6cEXAMPLE",
      "Cidr": "10.1.0.16/28",
      "ReservationType": "prefix",
      "OwnerId": "123456789012"
   }
}
```

For more information, see [Subnet CIDR reservations](https://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/subnet-cidr-reservations.html) in the Amazon VPC User Guide.

- For API details, see [CreateSubnetCidrReservation](https://docs.aws.amazon.com/cli/latest/reference/ec2/create-subnet-cidr-reservation.html) in AWS CLI Command Reference.

create-traffic-mirror-filter

The following code example shows how to use `create-traffic-mirror-filter`.

For more information, see [Store and restore an AMI using S3](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/store-and-restore-ami.html) in the Amazon EC2 User Guide.

- For API details, see [CreateStoreImageTask](https://docs.aws.amazon.com/cli/latest/reference/ec2/create-store-image-task.html) in AWS CLI Command Reference.
AWS CLI

**To create a Traffic Mirror Filter**

The following `create-traffic-mirror-filter` example creates a Traffic Mirror filter. After you create the filter, use `create-traffic-mirror-filter-rule` to add rules to the filter.

```bash/aws ec2 create-traffic-mirror-filter \
   --description "TCP Filter"
```

Output:

```
{
   "ClientToken": "28908518-100b-4987-8233-8c744EXAMPLE",
   "TrafficMirrorFilter": {
      "TrafficMirrorFilterId": "tmf-04812ff784EXAMPLE",
      "Description": "TCP Filter",
      "EgressFilterRules": [],
      "IngressFilterRules": [],
      "Tags": [],
      "NetworkServices": []
   }
}
```

For more information, see Create a Traffic Mirror Filter in the AWS Traffic Mirroring Guide.

- For API details, see `CreateTrafficMirrorFilter` in AWS CLI Command Reference.

**create-traffic-mirror-filter-rule**

The following code example shows how to use `create-traffic-mirror-filter-rule`.

AWS CLI

**To create a filter rule for incoming TCP traffic**

The following `create-traffic-mirror-filter-rule` example creates a rule that you can use to mirror all incoming TCP traffic. Before you run this command, use `create-traffic-mirror-filter` to create the Traffic Mirror filter.

```bash/aws ec2 create-traffic-mirror-filter-rule \
   --description "TCP Rule" \
   --destination-cidr-block 0.0.0.0/0 \
```

Actions and scenarios 2121
--protocol 6 \ 
--rule-action accept \ 
--rule-number 1 \ 
--source-cidr-block 0.0.0.0/0 \ 
--traffic-direction ingress \ 
--traffic-mirror-filter-id tmf-04812ff784b25ae67

Output:

```json
{
    "TrafficMirrorFilterRule": {
        "DestinationCidrBlock": "0.0.0.0/0",
        "TrafficMirrorFilterId": "tmf-04812ff784b25ae67",
        "TrafficMirrorFilterRuleId": "tmfr-02d20d996673f3732",
        "SourceCidrBlock": "0.0.0.0/0",
        "TrafficDirection": "ingress",
        "Description": "TCP Rule",
        "RuleNumber": 1,
        "RuleAction": "accept",
        "Protocol": 6
    },
    "ClientToken": "4752b573-40a6-4eac-a8a4-a72058761219"
}
```

For more information, see [Create a Traffic Mirror Filter](https://aws.amazon.com/documentation/traffic-mirroring/) in the [AWS Traffic Mirroring Guide](https://aws.amazon.com/documentation/traffic-mirroring/).

- For API details, see [CreateTrafficMirrorFilterRule](https://docs.aws.amazon.com/cli/latest/reference/ec2/create-traffic-mirror-rule.html) in [AWS CLI Command Reference](https://aws.amazon.com/documentation/cli/).

### create-traffic-mirror-session

The following code example shows how to use `create-traffic-mirror-session`.

**AWS CLI**

**To create a Traffic Mirror Session**

The following `create-traffic-mirror-session` command creates a traffic mirror session for the specified source and target for 25 bytes of the packet.

```
aws ec2 create-traffic-mirror-session \
    --description "example session" \
    --traffic-mirror-target-id tmt-07f75d8feeEXAMPLE \
    --network-interface-id eni-070203f901EXAMPLE \
```
The following code example shows how to use create-traffic-mirror-target.

**AWS CLI**

**To create a Network Load Balancer Traffic Mirror target**

The following example creates a Network Load Balancer Traffic Mirror target.

```
aws ec2 create-traffic-mirror-target \
  --description "Example Network Load Balancer Target" \
```

Output:
To create a network Traffic Mirror target

The following create-traffic-mirror-target example creates a network interface Traffic Mirror target.

```
aws ec2 create-traffic-mirror-target --description "Network interface target" --network-interface-id eni-eni-01f6f631eEXAMPLE
```

Output:

```
{
  "ClientToken": "d5c090f5-8a0f-49c7-8281-72c796a21f72",
  "TrafficMirrorTarget": {
    "Description": "Network interface target",
    "NetworkInterfaceId": "eni-01f6f631eEXAMPLE",
    "TrafficMirrorTargetId": "tmt-02dcdbe2abEXAMPLE",
    "OwnerId": "111122223333",
    "Type": "network-interface",
    "Tags": []
  }
}
```

For more information, see Create a Traffic Mirror Target in the AWS Traffic Mirroring Guide.

- For API details, see CreateTrafficMirrorTarget in AWS CLI Command Reference.

create-transit-gateway

The following code example shows how to use create-transit-gateway.
AWS CLI

To create a transit gateway

The following create-transit-gateway example creates a transit gateway.

```
aws ec2 create-transit-gateway \
  --description MyTGW \ 
  --options 
  AmazonSideAsn=64516,AutoAcceptSharedAttachments=enable,DefaultRouteTableAssociation=enable, \\
  DefaultRouteTablePropagation=enable,VpnEcmpSupport=enable,DnsSupport=enable
```

Output:

```
{
  "TransitGateway": {
    "TransitGatewayId": "tgw-0262a0e521EXAMPLE",
    "State": "pending",
    "OwnerId": "111122223333",
    "Description": "MyTGW",
    "CreationTime": "2019-07-10T14:02:12.000Z",
    "Options": {
      "AmazonSideAsn": 64516,
      "AutoAcceptSharedAttachments": "enable",
      "DefaultRouteTableAssociation": "enable",
      "AssociationDefaultRouteTableId": "tgw-rtb-018774adf3EXAMPLE",
      "DefaultRouteTablePropagation": "enable",
      "PropagationDefaultRouteTableId": "tgw-rtb-018774adf3EXAMPLE",
      "VpnEcmpSupport": "enable",
      "DnsSupport": "enable"
    }
  }
}
```

For more information, see Create a transit gateway in the Transit Gateways Guide.  

- For API details, see CreateTransitGateway in AWS CLI Command Reference.

create-transit-gateway-connect

The following code example shows how to use create-transit-gateway-connect.
AWS CLI

To create a transit gateway Connect attachment

The following create-transit-gateway-connect example creates a Connect attachment, with the "gre" protocol, for the specified attachment.

```
aws ec2 create-transit-gateway-connect \
   --transport-transit-gateway-attachment-id tgw-attach-0a89069f57EXAMPLE \
   --options "Protocol=gre"
```

Output:

```
{
   "TransitGatewayConnect": {
      "TransitGatewayAttachmentId": "tgw-attach-037012e5dcEXAMPLE",
      "TransportTransitGatewayAttachmentId": "tgw-attach-0a89069f57EXAMPLE",
      "TransitGatewayId": "tgw-02f776b1a7EXAMPLE",
      "State": "pending",
      "CreationTime": "2021-03-09T19:59:17+00:00",
      "Options": {
         "Protocol": "gre"
      }
   }
}
```

For more information, see Transit gateway Connect attachments and Transit Gateway Connect peers in the Transit Gateways Guide.

- For API details, see CreateTransitGatewayConnect in AWS CLI Command Reference.

create-transit-gateway-connect-peer

The following code example shows how to use create-transit-gateway-connect-peer.

AWS CLI

To create a Transit Gateway Connect peer

The following create-transit-gateway-connect-peer example creates a Connect peer.

```
aws ec2 create-transit-gateway-connect-peer \
```

Actions and scenarios
--transit-gateway-attachment-id tgw-attach-0f0927767cEXAMPLE \n--peer-address 172.31.1.11 \n--inside-cidr-blocks 169.254.6.0/29

Output:

```json
{
   "TransitGatewayConnectPeer": {
      "TransitGatewayAttachmentId": "tgw-attach-0f0927767cEXAMPLE",
      "TransitGatewayConnectPeerId": "tgw-connect-peer-0666adbac4EXAMPLE",
      "State": "pending",
      "CreationTime": "2021-10-13T03:35:17.000Z",
      "ConnectPeerConfiguration": {
         "TransitGatewayAddress": "10.0.0.234",
         "PeerAddress": "172.31.1.11",
         "InsideCidrBlocks": [
            "169.254.6.0/29"
         ],
         "Protocol": "gre",
         "BgpConfigurations": [
            {
              "TransitGatewayAsn": 64512,
              "PeerAsn": 64512,
              "TransitGatewayAddress": "169.254.6.2",
              "PeerAddress": "169.254.6.1",
              "BgpStatus": "down"
            },
            {
              "TransitGatewayAsn": 64512,
              "PeerAsn": 64512,
              "TransitGatewayAddress": "169.254.6.3",
              "PeerAddress": "169.254.6.1",
              "BgpStatus": "down"
            }
         ]
      }
   }
}
```

For more information, see Transit gateway Connect attachments and Transit Gateway Connect peers in the Transit Gateways Guide.

- For API details, see CreateTransitGatewayConnectPeer in AWS CLI Command Reference.
create-transit-gateway-multicast-domain

The following code example shows how to use create-transit-gateway-multicast-domain.

AWS CLI

Example 1: To create an IGMP multicast domain

The following create-transit-gateway-multicast-domain example creates a multicast domain for the specified transit gateway. With static sources disabled, any instances in subnets associated with the multicast domain can send multicast traffic. If at least one member uses the IGMP protocol, you must enable IGMPv2 support.

```bash
aws ec2 create-transit-gateway-multicast-domain \
  --transit-gateway-id tgw-0bf0bffeEXAMPLE \ 
  --options StaticSourcesSupport=disable,Igmpv2Support=enable
```

Output:

```
{
  "TransitGatewayMulticastDomain": {
    "TransitGatewayMulticastDomainId": "tgw-mcast-domain-0c9e29e2a7EXAMPLE",
    "TransitGatewayId": "tgw-0bf0bffeEXAMPLE",
    "OwnerIds": ["123456789012"],
    "Options": {
      "Igmpv2Support": "enable",
      "StaticSourcesSupport": "disable",
      "AutoAcceptSharedAssociations": "disable"
    },
    "State": "pending",
    "CreationTime": "2021-09-29T22:17:13.000Z"
  }
}
```

Example 2: To create a static multicast domain

The following create-transit-gateway-multicast-domain example creates a multicast domain for the specified transit gateway. With static sources enabled, you must statically add sources.
aws ec2 create-transit-gateway-multicast-domain \
   --transit-gateway-id tgw-0bf0bffeefaEXAMPLE \
   --options StaticSourcesSupport=enable,Igmpv2Support=disable

Output:

```json
{
   "TransitGatewayMulticastDomain": {
      "TransitGatewayMulticastDomainId": "tgw-mcast-domain-000fb24d04EXAMPLE",
      "TransitGatewayId": "tgw-0bf0bffeefaEXAMPLE",
      "OwnerId": "123456789012",
      "Options": {
         "Igmpv2Support": "disable",
         "StaticSourcesSupport": "enable",
         "AutoAcceptSharedAssociations": "disable"
      },
      "State": "pending",
      "CreationTime": "2021-09-29T22:20:19.000Z"
   }
}
```

For more information, see [Managing multicast domains](https://docs.aws.amazon.com/TransitGateways/latest/userguide/managed-domains.html) in the *Transit Gateways Guide*.

- For API details, see [CreateTransitGatewayMulticastDomain](https://docs.aws.amazon.com/cli/latest/reference/ec2/create-transit-gateway-multicast-domain.html) in *AWS CLI Command Reference*.

**create-transit-gateway-peering-attachment**

The following code example shows how to use `create-transit-gateway-peering-attachment`.

**AWS CLI**

**To create a transit gateway peering attachment**

The following `create-transit-gateway-peering-attachment` example creates a peering attachment request between the two specified transit gateways.

```bash
aws ec2 create-transit-gateway-peering-attachment \
   --transit-gateway-id tgw-123abc05e04123abc \
```
Output:

```json
{
    "TransitGatewayPeeringAttachment": {
        "TransitGatewayAttachmentId": "tgw-attach-4455667788aabbcccd",
        "RequesterTgwInfo": {
            "TransitGatewayId": "tgw-123abc05e04123abc",
            "OwnerId": "123456789012",
            "Region": "us-west-2"
        },
        "AccepterTgwInfo": {
            "TransitGatewayId": "tgw-11223344aabbcc112",
            "OwnerId": "123456789012",
            "Region": "us-east-2"
        },
        "State": "initiatingRequest",
        "CreationTime": "2019-12-09T11:38:05.000Z"
    }
}
```

For more information, see [Transit Gateway Peering Attachments](#) in the *Transit Gateways Guide*.

- For API details, see [CreateTransitGatewayPeeringAttachment](#) in *AWS CLI Command Reference*.

### create-transit-gateway-policy-table

The following code example shows how to use create-transit-gateway-policy-table.

**AWS CLI**

**To create a transit gateway policy table**

The following create-transit-gateway-policy-table example creates a transit gateway policy table for the specified transit gateway.

```
aws ec2 create-transit-gateway-policy-table \
    --transit-gateway-id tgw-067f8505c18f0bd6e
```

Output:
For more information, see Transit gateway policy tables in the Transit Gateway User Guide.

- For API details, see CreateTransitGatewayPolicyTable in AWS CLI Command Reference.

create-transit-gateway-prefix-list-reference

The following code example shows how to use create-transit-gateway-prefix-list-reference.

AWS CLI

To create a reference to a prefix list

The following create-transit-gateway-prefix-list-reference example creates a reference to the specified prefix list in the specified transit gateway route table.

```bash
aws ec2 create-transit-gateway-prefix-list-reference \
    --transit-gateway-route-table-id tgw-rtb-0123456789abcd123 \
    --prefix-list-id pl-11111122222222333 \
    --transit-gateway-attachment-id tgw-attach-aaaaaabbbaaab11111
```

Output:

```json
{
    "TransitGatewayPrefixListReference": {
        "TransitGatewayRouteTableId": "tgw-rtb-0123456789abcd123",
        "PrefixListId": "pl-11111122222222333",
        "PrefixListOwnerId": "123456789012",
        "State": "pending",
        "Blackhole": false,
        "TransitGatewayAttachment": {
            "TransitGatewayAttachmentId": "tgw-attach-aaaaaabbbaaab11111"
        }
    }
}
```
For more information, see Prefix list references in the Transit Gateways Guide.

- For API details, see CreateTransitGatewayPrefixListReference in AWS CLI Command Reference.

**create-transit-gateway-route**

The following code example shows how to use create-transit-gateway-route.

**AWS CLI**

**To create a transit gateway route**

The following create-transit-gateway-route example creates a route, with the specified destination, for the specified route table.

```shell
aws ec2 create-transit-gateway-route \
--destination-cidr-block 10.0.2.0/24 \
--transit-gateway-route-table-id tgw-rtb-0b6f6aaa01EXAMPLE \
--transit-gateway-attachment-id tgw-attach-0b5968d3b6EXAMPLE
```

Output:

```json
{
   "Route": {
      "DestinationCidrBlock": "10.0.2.0/24",
      "TransitGatewayAttachments": [
         {
            "ResourceId": "vpc-0065acced4EXAMPLE",
            "TransitGatewayAttachmentId": "tgw-attach-0b5968d3b6EXAMPLE",
            "ResourceType": "vpc"
         }
      ],
      "Type": "static",
      "State": "active"
   }
}
```
For more information, see [Transit gateway route tables](https://docs.aws.amazon.com/TransitGateways/latest/UserGuide/) in the *Transit Gateways Guide*.

- For API details, see [CreateTransitGatewayRoute](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/) in *AWS CLI Command Reference*.

**create-transit-gateway-route-table**

The following code example shows how to use `create-transit-gateway-route-table`.

**AWS CLI**

**To create a Transit Gateway Route Table**

The following `create-transit-gateway-route-table` example creates a route table for the specified transit gateway.

```
aws ec2 create-transit-gateway-route-table \
    --transit-gateway-id tgw-0262a0e521EXAMPLE
```

Output:

```
{
    "TransitGatewayRouteTable": {
        "TransitGatewayRouteTableId": "tgw-rtb-0960981be7EXAMPLE",
        "TransitGatewayId": "tgw-0262a0e521EXAMPLE",
        "State": "pending",
        "DefaultAssociationRouteTable": false,
        "DefaultPropagationRouteTable": false,
        "CreationTime": "2019-07-10T19:01:46.000Z"
    }
}
```

For more information, see [Create a transit gateway route table](https://docs.aws.amazon.com/TransitGateways/latest/UserGuide/) in the *Transit Gateways Guide*.

- For API details, see [CreateTransitGatewayRouteTable](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/) in *AWS CLI Command Reference*.

**create-transit-gateway-vpc-attachment**

The following code example shows how to use `create-transit-gateway-vpc-attachment`.

**AWS CLI**

**Example 1: To associate a transit gateway with a VPC**
The following `create-transit-gateway-vpc-attachment` example creates a transit gateway attachment to the specified VPC.

```bash
aws ec2 create-transit-gateway-vpc-attachment \
  --transit-gateway-id tgw-0262a0e521EXAMPLE \
  --vpc-id vpc-07e8ffd50f49335df \
  --subnet-id subnet-0752213d59EXAMPLE
```

Output:

```json
{
  "TransitGatewayVpcAttachment": {
    "TransitGatewayAttachmentId": "tgw-attach-0a34fe6b4fEXAMPLE",
    "TransitGatewayId": "tgw-0262a0e521EXAMPLE",
    "VpcId": "vpc-07e8ffd50fEXAMPLE",
    "VpcOwnerId": "111122223333",
    "State": "pending",
    "SubnetIds": [
      "subnet-0752213d59EXAMPLE"
    ],
    "CreationTime": "2019-07-10T17:33:46.000Z",
    "Options": {
      "DnsSupport": "enable",
      "Ipv6Support": "disable"
    }
  }
}
```

For more information, see [Create a transit gateway attachment to a VPC](https://docs.aws.amazon.com/transit-gateways/latest/userguide/create-transit-gateway-vpc-attachment.html) in the *Transit Gateways Guide*.

**Example 2: To associate a transit gateway with multiple subnets in a VPC**

The following `create-transit-gateway-vpc-attachment` example creates a transit gateway attachment to the specified VPC and subnets.

```bash
aws ec2 create-transit-gateway-vpc-attachment \
  --transit-gateway-id tgw-02f776b1a7EXAMPLE \
  --vpc-id vpc-3EXAMPLE \
  --subnet-ids "subnet-dEXAMPLE" "subnet-6EXAMPLE"
```

Output:
For more information, see Create a transit gateway attachment to a VPC in the Transit Gateways Guide.

- For API details, see CreateTransitGatewayVpcAttachment in AWS CLI Command Reference.

create-verified-access-endpoint

The following code example shows how to use create-verified-access-endpoint.

AWS CLI

To create a Verified Access endpoint

The following create-verified-access-endpoint example creates a Verified Access endpoint for the specified Verified Access group. The specified network interface and security group must belong to the same VPC.

```bash
aws ec2 create-verified-access-endpoint \
  --verified-access-group-id vagr-0dbe967baf14b7235 \
  --endpoint-type network-interface \
  --attachment-type vpc \
  --domain-certificate-arn arn:aws:acm:us-east-2:123456789012:certificate/eb065ea0-26f9-4e75-a6ce-0a1a7EXAMPLE \
```
--application-domain example.com \
--endpoint-domain-prefix my-ava-app \
--security-group-ids sg-004915970c4c8f13a \
--network-interface-options 
NetworkInterfaceId=eni-0aec70418c8d87a0f,Protocol=https,Port=443 \
--tag-specifications ResourceType=verified-access-endpoint,Tags=[{Key=Name,Value=my-va-endpoint}]

Output:

```
{
   "VerifiedAccessEndpoint": {
      "VerifiedAccessInstanceId": "vai-0ce000c0b7643abea",
      "VerifiedAccessGroupID": "vagr-0dbe967baf1b4f13a",
      "VerifiedAccessEndpointId": "vae-066fac616d4d546f2",
      "ApplicationDomain": "example.com",
      "EndpointType": "network-interface",
      "AttachmentType": "vpc",
      "DomainCertificateArn": "arn:aws:acm:us-east-2:123456789012:certificate/eb065ea0-26f9-4e75-a6ce-0a1a7EXAMPLE",
      "EndpointDomain": "my-ava-app.edge-00c3372d53b1540bb.vai-0ce000c0b7643abea.prod.verified-access.us-east-2.amazonaws.com",
      "SecurityGroupIds": [
         "sg-004915970c4c8f13a"
      ],
      "NetworkInterfaceOptions": {
         "NetworkInterfaceId": "eni-0aec70418c8d87a0f",
         "Protocol": "https",
         "Port": 443
      },
      "Status": {
         "Code": "pending"
      },
      "Description": ",",
      "CreationTime": "2023-08-25T20:54:43",
      "LastUpdatedTime": "2023-08-25T20:54:43",
      "Tags": [
         {
            "Key": "Name",
            "Value": "my-va-endpoint"
         }
      ]
   }
}
```
For more information, see [Verified Access endpoints](#) in the *AWS Verified Access User Guide*.

- For API details, see [CreateVerifiedAccessEndpoint](#) in *AWS CLI Command Reference*.

### create-verified-access-group

The following code example shows how to use `create-verified-access-group`.

**AWS CLI**

**To create a Verified Access group**

The following `create-verified-access-group` example creates a Verified Access group for the specified Verified Access instance.

```
aws ec2 create-verified-access-group \
  --verified-access-instance-id vai-0ce000c0b7643abea \
  --tag-specifications ResourceType=verified-access-group,Tags=[[{Key=Name,Value=my-va-group}]]
```

Output:

```
{
    "VerifiedAccessGroup": {
        "VerifiedAccessGroupId": "vagr-0dbe967baf14b7235",
        "VerifiedAccessInstanceId": "vai-0ce000c0b7643abea",
        "Description": "",
        "Owner": "123456789012",
        "VerifiedAccessGroupArn": "arn:aws:ec2:us-east-2:123456789012:verified-access-group/vagr-0dbe967baf14b7235",
        "CreationTime": "2023-08-25T19:55:19",
        "LastUpdatedTime": "2023-08-25T19:55:19",
        "Tags": [
            {
                "Key": "Name",
                "Value": "my-va-group"
            }
        ]
    }
}
```
For more information, see [Verified Access groups](#) in the AWS Verified Access User Guide.

- For API details, see [CreateVerifiedAccessGroup](#) in AWS CLI Command Reference.

create-verified-access-instance

The following code example shows how to use create-verified-access-instance.

**AWS CLI**

**To create a Verified Access instance**

The following `create-verified-access-instance` example creates a Verified Access instance with a Name tag.

```bash
aws ec2 create-verified-access-instance \
   --tag-specifications ResourceType=verified-access-instance,Tags=[{Key=Name,Value=my-va-instance}]
```

**Output:**

```
{
   "VerifiedAccessInstance": {
      "VerifiedAccessInstanceId": "vai-0ce000c0b7643abea",
      "Description": "",
      "VerifiedAccessTrustProviders": [],
      "CreationTime": "2023-08-25T18:27:56",
      "LastUpdatedTime": "2023-08-25T18:27:56",
      "Tags": [
         {
            "Key": "Name",
            "Value": "my-va-instance"
         }
      ]
   }
}
```

For more information, see [Verified Access instances](#) in the AWS Verified Access User Guide.

- For API details, see [CreateVerifiedAccessInstance](#) in AWS CLI Command Reference.
create-verified-access-trust-provider

The following code example shows how to use create-verified-access-trust-provider.

AWS CLI

To create a Verified Access trust provider

The following create-verified-access-trust-provider example sets up a Verified Access trust provider using AWS Identity Center.

```
aws ec2 create-verified-access-trust-provider \
    --trust-provider-type user \
    --user-trust-provider-type iam-identity-center \
    --policy-reference-name idc \
    --tag-specifications ResourceType=verified-access-trust-provider,Tags=[{Key=Name,Value=my-va-trust-provider}]
```

Output:

```
{
    "VerifiedAccessTrustProvider": {
        "VerifiedAccessTrustProviderId": "vatp-0bb32de759a3e19e7",
        "Description": "",
        "TrustProviderType": "user",
        "UserTrustProviderType": "iam-identity-center",
        "PolicyReferenceName": "idc",
        "CreationTime": "2023-08-25T18:40:36",
        "LastUpdatedTime": "2023-08-25T18:40:36",
        "Tags": [
            { "Key": "Name",
              "Value": "my-va-trust-provider"
            }
        ]
    }
}
```

For more information, see Trust providers for Verified Access in the AWS Verified Access User Guide.

- For API details, see CreateVerifiedAccessTrustProvider in AWS CLI Command Reference.
create-volume

The following code example shows how to use create-volume.

AWS CLI

To create an empty General Purpose SSD (gp2) volume

The following `create-volume` example creates an 80 GiB General Purpose SSD (gp2) volume in the specified Availability Zone. Note that the current Region must be `us-east-1`, or you can add the `--region` parameter to specify the Region for the command.

```bash
aws ec2 create-volume \\
  --volume-type gp2 \\
  --size 80 \\
  --availability-zone us-east-1a
```

Output:

```json
{
    "AvailabilityZone": "us-east-1a",
    "Tags": [],
    "Encrypted": false,
    "VolumeType": "gp2",
    "VolumeId": "vol-1234567890abcdef0",
    "State": "creating",
    "Iops": 240,
    "SnapshotId": "",
    "CreateTime": "YYYY-MM-DDTHH:MM:SS.000Z",
    "Size": 80
}
```

If you do not specify a volume type, the default volume type is gp2.

```bash
aws ec2 create-volume \\
  --size 80 \\
  --availability-zone us-east-1a
```

Example 2: To create a Provisioned IOPS SSD (io1) volume from a snapshot

The following `create-volume` example creates a Provisioned IOPS SSD (io1) volume with 1000 provisioned IOPS in the specified Availability Zone using the specified snapshot.
aws ec2 create-volume \
    --volume-type io1 \
    --iops 1000 \ 
    --snapshot-id snap-066877671789bd71b \ 
    --availability-zone us-east-1a

Output:

{
    "AvailabilityZone": "us-east-1a",
    "Tags": [],
    "Encrypted": false,
    "VolumeType": "io1",
    "VolumeId": "vol-1234567890abcdef0",
    "State": "creating",
    "Iops": 1000,
    "SnapshotId": "snap-066877671789bd71b",
    "CreateTime": "YYYY-MM-DDTHH:MM:SS.000Z",
    "Size": 500
}

Example 3: To create an encrypted volume

The following create-volume example creates an encrypted volume using the default CMK for EBS encryption. If encryption by default is disabled, you must specify the --encrypted parameter as follows.

aws ec2 create-volume \
    --size 80 \ 
    --encrypted \ 
    --availability-zone us-east-1a

Output:

{
    "AvailabilityZone": "us-east-1a",
    "Tags": [],
    "Encrypted": true,
    "VolumeType": "gp2",
    "VolumeId": "vol-1234567890abcdef0",
    "State": "creating",

If encryption by default is enabled, the following example command creates an encrypted volume, even without the `--encrypted` parameter.

```bash
aws ec2 create-volume \\
   --size 80 \\
   --availability-zone us-east-1a
```

If you use the `--kms-key-id` parameter to specify a customer managed CMK, you must specify the `--encrypted` parameter even if encryption by default is enabled.

```bash
aws ec2 create-volume \\
   --volume-type gp2 \\
   --size 80 \\
   --encrypted \\
   --kms-key-id 0ea3fef3-80a7-4778-9d8c-1c0c6EXAMPLE \\
   --availability-zone us-east-1a
```

**Example 4: To create a volume with tags**

The following `create-volume` example creates a volume and adds two tags.

```bash
aws ec2 create-volume \\
   --availability-zone us-east-1a \\
   --volume-type gp2 \\
   --size 80 \\
   --tag-specifications 'ResourceType=volume,Tags=[{Key=purpose,Value=production},
   {Key=cost-center,Value=cc123}]'
```

- For API details, see [CreateVolume](#) in *AWS CLI Command Reference*.

**create-vpc-endpoint**

The following code example shows how to use `create-vpc-endpoint`.

```
AWS CLI

Example 1: To create a gateway endpoint

The following create-vpc-endpoint example creates a gateway VPC endpoint between VPC vpc-1a2b3c4d and Amazon S3 in the us-east-1 region, and associates route table rtb-11aa22bb with the endpoint.

```
aws ec2 create-vpc-endpoint \
  --vpc-id vpc-1a2b3c4d \
  --service-name com.amazonaws.us-east-1.s3 \
  --route-table-ids rtb-11aa22bb
```

Output:

```
{
  "VpcEndpoint": {
    "PolicyDocument": "{"Version":"2008-10-17","Statement":[{"Sid":"","Effect":"Allow","Principal":"*","Action":"*","Resource":"*"}],
    "VpcId": "vpc-1a2b3c4d",
    "State": "available",
    "ServiceName": "com.amazonaws.us-east-1.s3",
    "RouteTableIds": [
      "rtb-11aa22bb"
    ],
    "VpcEndpointId": "vpc-1a2b3c4d",
    "CreationTimestamp": "2015-05-15T09:40:50Z"
  }
}
```

For more information, see Creating a gateway endpoint in the AWSPrivateLink Guide.

Example 2: To create an interface endpoint

The following create-vpc-endpoint example creates an interface VPC endpoint between VPC vpc-1a2b3c4d and Amazon S3 in the us-east-1 region. The command creates the endpoint in subnet subnet-1a2b3c4d, associates it with security group sg-1a2b3c4d, and adds a tag with a key of "Service" and a Value of "S3".

```
aws ec2 create-vpc-endpoint \
  --vpc-id vpc-1a2b3c4d \
```
Output:

```json
{
   "VpcEndpoint": {
      "VpcEndpointId": "vpce-1a2b3c4d5e6f1a2b3",
      "VpcEndpointType": "Interface",
      "VpcId": "vpc-1a2b3c4d",
      "ServiceName": "com.amazonaws.us-east-1.s3",
      "State": "pending",
      "RouteTableIds": [],
      "SubnetIds": [
         "subnet-1a2b3c4d"
      ],
      "Groups": [
         {
            "GroupId": "sg-1a2b3c4d",
            "GroupName": "default"
         }
      ],
      "PrivateDnsEnabled": false,
      "RequesterManaged": false,
      "NetworkInterfaceIds": [
         "eni-0b16f0581c8ac6877"
      ],
      "DnsEntries": [
         {
            "DnsName": "*.vpce-1a2b3c4d5e6f1a2b3-9hnenorg.s3.us-east-1.vpce.amazonaws.com",
            "HostedZoneId": "Z7HUB22UULQXV"
         },
         {
            "DnsName": "*.vpce-1a2b3c4d5e6f1a2b3-9hnenorg-us-east-1c.s3.us-east-1.vpce.amazonaws.com",
            "HostedZoneId": "Z7HUB22UULQXV"
         }
      ],
      "CreationTimestamp": "2021-03-05T14:46:16.030000+00:00",
   }
}
```
"Tags": [  
  {  
    "Key": "service",  
    "Value": "S3"  
  },  
  "OwnerId": "123456789012"  
]}

For more information, see Creating an interface endpoint in the User Guide for AWSPrivateLink.

**Example 3: To create a Gateway Load Balancer endpoint**

The following `create-vpc-endpoint` example creates a Gateway Load Balancer endpoint between VPC `vpc-111122223333aabbc` and a service that is configured using a Gateway Load Balancer.

```bash
aws ec2 create-vpc-endpoint \
  --service-name com.amazonaws.vpce.us-east-1.vpce-svc-123123a1c43abc123 \
  --vpc-endpoint-type GatewayLoadBalancer \
  --vpc-id vpc-111122223333aabbc \
  --subnet-ids subnet-0011aabbcc2233445
```

Output:

```json
{
  "VpcEndpoint": {
    "VpcEndpointId": "vpce-aabbaabbaabbaabba",  
    "VpcEndpointType": "GatewayLoadBalancer",  
    "VpcId": "vpc-111122223333aabbc",  
    "ServiceName": "com.amazonaws.vpce.us-east-1.vpce-svc-123123a1c43abc123",  
    "State": "pending",  
    "SubnetIds": [  
      "subnet-0011aabbcc2233445"
    ],  
    "RequesterManaged": false,  
    "NetworkInterfaceIds": [  
      "eni-01010120203030405"
    ],  
    "CreationTimestamp": "2020-11-11T08:06:03.522Z",  
    "OwnerId": "123456789012"
  }
}
```
To create an endpoint connection notification

This example creates a notification for a specific endpoint service that alerts you when interface endpoints have connected to your service and when endpoints have been accepted for your service.

Command:

```bash
```

Output:

```json
{
   "ConnectionNotification": {
      "ConnectionNotificationState": "Enabled",
      "ConnectionNotificationType": "Topic",
      "ServiceId": "vpce-svc-1237881c0d25a3abc",
      "ConnectionEvents": [
         "Accept",
         "Connect"
      ],
      "ConnectionNotificationId": "vpce-nfn-008776de7e03f5abc",
   }
}
```
For API details, see `CreateVpcEndpointConnectionNotification` in *AWS CLI Command Reference*.

**create-vpc-endpoint-service-configuration**

The following code example shows how to use `create-vpc-endpoint-service-configuration`.

**AWS CLI**

**Example 1: To create an endpoint service configuration for an interface endpoint**

The following `create-vpc-endpoint-service-configuration` example creates a VPC endpoint service configuration using the Network Load Balancer `nlb-vpce`. This example also specifies that requests to connect to the service through an interface endpoint must be accepted.

```
aws ec2 create-vpc-endpoint-service-configuration \
    --network-load-balancer-arns arn:aws:elasticloadbalancing:us-east-1:123456789012:loadbalancer/net/nlb-vpce/e94221227f1ba532 \
    --acceptance-required
```

Output:

```json
{
    "ServiceConfiguration": {
        "ServiceType": [
            {
                "ServiceType": "Interface"
            }
        ],
        "NetworkLoadBalancerArns": [
            "arn:aws:elasticloadbalancing:us-east-1:123456789012:loadbalancer/net/nlb-vpce/e94221227f1ba532"
        ],
        "ServiceName": "com.amazonaws.vpce.us-east-1.vpce-svc-03d5ebb7d9579a2b3",
        "ServiceState": "Available",
        "ServiceId": "vpce-svc-03d5ebb7d9579a2b3",
```
Example 2: To create an endpoint service configuration for a Gateway Load Balancer endpoint

The following `create-vpc-endpoint-service-configuration` example creates a VPC endpoint service configuration using the Gateway Load Balancer GWLBService. Requests to connect to the service through a Gateway Load Balancer endpoint are automatically accepted.

```bash
aws ec2 create-vpc-endpoint-service-configuration \
    --gateway-load-balancer-arns arn:aws:elasticloadbalancing:us-east-1:123456789012:loadbalancer/gwy/GWLBService/123123123123abcc \
    --no-acceptance-required
```

Output:

```
{
    "ServiceConfiguration": {
        "ServiceType": [
            {
                "ServiceType": "GatewayLoadBalancer"
            }
        ],
        "ServiceId": "vpce-svc-123123a1c43abc123",
        "ServiceName": "com.amazonaws.vpce.us-east-1.vpce-svc-123123a1c43abc123",
        "ServiceState": "Available",
        "AvailabilityZones": [
            "us-east-1d"
        ],
        "AcceptanceRequired": false,
        "ManagesVpcEndpoints": false,
        "GatewayLoadBalancerArns": [
            "arn:aws:elasticloadbalancing:us-east-1:123456789012:loadbalancer/gwy/GWLBService/123123123123abcc"
        ]
    }
}
```
create-vpc-peering-connection

The following code example shows how to use `create-vpc-peering-connection`.

**AWS CLI**

**To create a VPC peering connection between your VPCs**

This example requests a peering connection between your VPCs vpc-1a2b3c4d and vpc-11122233.

**Command:**

```bash
aws ec2 create-vpc-peering-connection --vpc-id vpc-1a2b3c4d --peer-vpc-id vpc-11122233
```

**Output:**

```json
{
  "VpcPeeringConnection": {
    "Status": {
      "Message": "Initiating Request to 444455556666",
      "Code": "initiating-request"
    },
    "Tags": [],
    "RequesterVpcInfo": {
      "OwnerId": "444455556666",
      "VpcId": "vpc-1a2b3c4d",
      "CidrBlock": "10.0.0.0/28"
    },
    "VpcPeeringConnectionId": "pcx-111aaa111",
    "ExpirationTime": "2014-04-02T16:13:36.000Z",
    "AccepterVpcInfo": {
      "OwnerId": "444455556666",
      "VpcId": "vpc-1b2c3d4e"
    }
  }
}
```
To create a VPC peering connection with a VPC in another account

This example requests a peering connection between your VPC (vpc-1a2b3c4d), and a VPC (vpc-11122233) that belongs AWS account 123456789012.

Command:

```bash
aws ec2 create-vpc-peering-connection --vpc-id vpc-1a2b3c4d --peer-vpc-id vpc-11122233 --peer-owner-id 123456789012
```

To create a VPC peering connection with a VPC in a different region

This example requests a peering connection between your VPC in the current region (vpc-1a2b3c4d), and a VPC (vpc-11122233) in your account in the us-west-2 region.

Command:

```bash
aws ec2 create-vpc-peering-connection --vpc-id vpc-1a2b3c4d --peer-vpc-id vpc-11122233 --peer-region us-west-2
```

This example requests a peering connection between your VPC in the current region (vpc-1a2b3c4d), and a VPC (vpc-11122233) that belongs AWS account 123456789012 that's in the us-west-2 region.

Command:

```bash
aws ec2 create-vpc-peering-connection --vpc-id vpc-1a2b3c4d --peer-vpc-id vpc-11122233 --peer-owner-id 123456789012 --peer-region us-west-2
```

- For API details, see [CreateVpcPeeringConnection](https://docs.aws.amazon.com/cli/latest/reference/ec2/create-vpc-peering-connection.html) in *AWS CLI Command Reference*.

create-vpn-connection

The following code example shows how to use create-vpn-connection.
Example 1: To create a VPN connection with dynamic routing

The following create-vpn-connection example creates a VPN connection between the specified virtual private gateway and the specified customer gateway, and applies tags to the VPN connection. The output includes the configuration information for your customer gateway device, in XML format.

```
aws ec2 create-vpn-connection \
    --type ipsec.1 \
    --customer-gateway-id cgw-001122334455aabbcc \
    --vpn-gateway-id vgw-1a1a1a1a1a2b2b2 \
    --tag-specification 'ResourceType=vpn-connection,Tags=[{Key=Name,Value=BGP-VPN}]'
```

Output:

```
{
    "VpnConnection": {
        "CustomerGatewayConfiguration": "...configuration information...",
        "CustomerGatewayId": "cgw-001122334455aabbcc",
        "Category": "VPN",
        "State": "pending",
        "VpnConnectionId": "vpn-123123123123abcab",
        "VpnGatewayId": "vgw-1a1a1a1a1a2b2b2",
        "Options": {
            "EnableAcceleration": false,
            "StaticRoutesOnly": false,
            "LocalIpv4NetworkCidr": "0.0.0.0/0",
            "RemoteIpv4NetworkCidr": "0.0.0.0/0",
            "TunnelInsideIpVersion": "ipv4",
            "TunnelOptions": [
                {},
                {}
            ]
        },
        "Routes": [],
        "Tags": [
            {
                "Key": "Name",
                "Value": "BGP-VPN"
            }
        ]
    }
}
```
For more information, see [How AWS Site-to-Site VPN works](https://aws.amazon.com/vpn/) in the *AWS Site-to-Site VPN User Guide*.

**Example 2: To create a VPN connection with static routing**

The following `create-vpn-connection` example creates a VPN connection between the specified virtual private gateway and the specified customer gateway. The options specify static routing. The output includes the configuration information for your customer gateway device, in XML format.

```bash
aws ec2 create-vpn-connection \
    --type ipsec.1 \
    --customer-gateway-id cgw-001122334455aabbc \
    --vpn-gateway-id vgw-1a1a1a1a1a1a2b2b2 \
    --options "{"StaticRoutesOnly":true}"
```

**Output:**

```json
{
    "VpnConnection": {
        "CustomerGatewayConfiguration": "..configuration information...",
        "CustomerGatewayId": "cgw-001122334455aabbc",
        "Category": "VPN",
        "State": "pending",
        "VpnConnectionId": "vpn-123123123123abcab",
        "VpnGatewayId": "vgw-1a1a1a1a1a2b2b2",
        "Options": {
            "EnableAcceleration": false,
            "StaticRoutesOnly": true,
            "LocalIpv4NetworkCidr": "0.0.0.0/0",
            "RemoteIpv4NetworkCidr": "0.0.0.0/0",
            "TunnelInsideIpVersion": "ipv4",
            "TunnelOptions": [
                {},
                {}]
        }
    }
}
```
For more information, see [How AWS Site-to-Site VPN works](#) in the [AWS Site-to-Site VPN User Guide](#).

**Example 3: To create a VPN connection and specify your own inside CIDR and pre-shared key**

The following `create-vpn-connection` example creates a VPN connection and specifies the inside IP address CIDR block and a custom pre-shared key for each tunnel. The specified values are returned in the `CustomerGatewayConfiguration` information.

```bash
aws ec2 create-vpn-connection 
--type ipsec.1 
--customer-gateway-id cgw-001122334455aabb 
--vpn-gateway-id vgw-1a1a1a1a1a2b2b2 
--options
TunnelOptions='[[TunnelInsideCidr=169.254.12.0/30,PreSharedKey=ExamplePreSharedKey1],
{TunnelInsideCidr=169.254.13.0/30,PreSharedKey=ExamplePreSharedKey2}]'
```

**Output:**

```json
{
   "VpnConnection": {
      "CustomerGatewayConfiguration": "..configuration information...",
      "CustomerGatewayId": "cgw-001122334455aabb",
      "Category": "VPN",
      "State": "pending",
      "VpnConnectionId": "vpn-123123123123abcab",
      "VpnGatewayId": "vgw-1a1a1a1a1a2b2b2",
      "Options": {
         "EnableAcceleration": false,
         "StaticRoutesOnly": false,
         "LocalIpv4NetworkCidr": "0.0.0.0/0",
         "RemoteIpv4NetworkCidr": "0.0.0.0/0",
         "TunnelInsideIpVersion": "ipv4",
         "TunnelOptions": [          {
            "OutsideIpAddress": "203.0.113.3",
            "TunnelInsideCidr": "169.254.12.0/30",
            "TunnelInsideCidr": "169.254.13.0/30",
         }          ]
      }
   }
}
```
"PreSharedKey": "ExamplePreSharedKey1",
{ "OutsideIpAddress": "203.0.113.5",
"TunnelInsideCidr": "169.254.13.0/30",
"PreSharedKey": "ExamplePreSharedKey2"
}
],
"Routes": [],
"Tags": []
}
}

For more information, see [How AWS Site-to-Site VPN works](https://aws.amazon.com/about-aws/whats-new/docs/aws-site-to-site-vpn-user-guide/) in the *AWS Site-to-Site VPN User Guide*.

### Example 4: To create a VPN connection that supports IPv6 traffic

The following `create-vpn-connection` example creates a VPN connection that supports IPv6 traffic between the specified transit gateway and specified customer gateway. The tunnel options for both tunnels specify that AWS must initiate the IKE negotiation.

```bash
aws ec2 create-vpn-connection \
    --type ipsec.1 \
    --transit-gateway-id tgw-12312312312312312 \
    --customer-gateway-id cgw-001122334455aabb\n    --options TunnelInsideIpVersion=ipv6,TunnelOptions=[{StartupAction=start}, {StartupAction=start}]
```

Output:

```json
{
    "VpnConnection": {
        "CustomerGatewayConfiguration": "..configuration information...",
        "CustomerGatewayId": "cgw-001122334455aabb",
        "Category": "VPN",
        "State": "pending",
        "VpnConnectionId": "vpn-11111111222222222",
        "TransitGatewayId": "tgw-12312312312312312",
        "Options": {
            "EnableAcceleration": false,
            "TunnelInsideIpVersion": "ipv6",
            "TunnelOptions": [{"StartupAction": "start"}, {"StartupAction": "start"}]
        }
    }
}
```
"StaticRoutesOnly": false,
"LocalIpv6NetworkCidr": "::/0",
"RemoteIpv6NetworkCidr": "::/0",
"TunnelInsideIpVersion": "ipv6",
"TunnelOptions": [
  {
    "OutsideIpAddress": "203.0.113.3",
    "StartupAction": "start"
  },
  {
    "OutsideIpAddress": "203.0.113.5",
    "StartupAction": "start"
  }
],
"Routes": [],
"Tags": []}

For more information, see How AWS Site-to-Site VPN works in the AWS Site-to-Site VPN User Guide.

- For API details, see CreateVpnConnectionRoute in AWS CLI Command Reference.

create-vpn-connection-route

The following code example shows how to use create-vpn-connection-route.

AWS CLI

To create a static route for a VPN connection

This example creates a static route for the specified VPN connection. If the command succeeds, no output is returned.

Command:

```
aws ec2 create-vpn-connection-route --vpn-connection-id vpn-40f41529 --destination-cidr-block 11.12.0.0/16
```

- For API details, see CreateVpnConnectionRoute in AWS CLI Command Reference.
**create-vpn-gateway**

The following code example shows how to use `create-vpn-gateway`.

**AWS CLI**

**To create a virtual private gateway**

This example creates a virtual private gateway.

Command:

```bash
aws ec2 create-vpn-gateway --type ipsec.1
```

Output:

```json
{
   "VpnGateway": {
      "AmazonSideAsn": 64512,
      "State": "available",
      "Type": "ipsec.1",
      "VpnGatewayId": "vgw-9a4cacf3",
      "VpcAttachments": []
   }
}
```

**To create a virtual private gateway with a specific Amazon-side ASN**

This example creates a virtual private gateway and specifies the Autonomous System Number (ASN) for the Amazon side of the BGP session.

Command:

```bash
aws ec2 create-vpn-gateway --type ipsec.1 --amazon-side-asn 65001
```

Output:

```json
{
   "VpnGateway": {
      "AmazonSideAsn": 65001,
      "State": "available",
      "Type": "ipsec.1",
   }
}
```
"VpnGatewayId": "vgw-9a4cacf3",
"VpcAttachments": []
}
}

- For API details, see `CreateVpnGateway` in *AWS CLI Command Reference*.

delete-carrier-gateway

The following code example shows how to use delete-carrier-gateway.

**AWS CLI**

To delete your carrier gateway

The following delete-carrier-gateway example deletes the specified carrier gateway.

```bash
aws ec2 delete-carrier-gateway \
   --carrier-gateway-id cagw-0465cdEXAMPLE1111
```

Output:

```json
{
   "CarrierGateway": {
      "CarrierGatewayId": "cagw-0465cdEXAMPLE1111",
      "VpcId": "vpc-0c529aEXAMPLE1111",
      "State": "deleting",
      "OwnerId": "123456789012"
   }
}
```

For more information, see `Carrier gateways` in the *Amazon Virtual Private Cloud User Guide*.

- For API details, see `DeleteCarrierGateway` in *AWS CLI Command Reference*.

delete-client-vpn-endpoint

The following code example shows how to use delete-client-vpn-endpoint.

**AWS CLI**

To delete a Client VPN endpoint
The following `delete-client-vpn-endpoint` example deletes the specified Client VPN endpoint.

```
aws ec2 delete-client-vpn-endpoint \
   --client-vpn-endpoint-id cvpn-endpoint-123456789123abcde
```

Output:

```
{
   "Status": {
      "Code": "deleting"
   }
}
```

For more information, see [Client VPN Endpoints](https://docs.aws.amazon.com/clientvpn/latest/adminguide/index.html) in the *AWS Client VPN Administrator Guide*.

- For API details, see [DeleteClientVpnEndpoint](https://docs.aws.amazon.com/cli/latest/reference/ec2/delete-client-vpn-endpoint.html) in *AWS CLI Command Reference*.

**delete-client-vpn-route**

The following code example shows how to use `delete-client-vpn-route`.

**AWS CLI**

**To delete a route for a Client VPN endpoint**

The following `delete-client-vpn-route` example deletes the `0.0.0.0/0` route for the specified subnet of a Client VPN endpoint.

```
aws ec2 delete-client-vpn-route \
   --client-vpn-endpoint-id cvpn-endpoint-123456789123abcde \
   --destination-cidr-block 0.0.0.0/0 \
   --target-vpc-subnet-id subnet-0123456789abcabca
```

Output:

```
{
   "Status": {
      "Code": "deleting"
   }
}
```
delete-coip-cidr

The following code example shows how to use delete-coip-cidr.

AWS CLI

**To delete a range of customer-owned IP (CoIP) addresses**

The following delete-coip-cidr example deletes the specified range of CoIP addresses in the specified CoIP pool.

```
aws ec2 delete-coip-cidr \
   --cidr 14.0.0.0/24 \
   --coip-pool-id ipv4pool-coip-1234567890abcdefg
```

Output:

```
{
   "CoipCidr": {
      "Cidr": "14.0.0.0/24",
      "CoipPoolId": "ipv4pool-coip-1234567890abcdefg",
      "LocalGatewayRouteTableId": "lgw-rtb-abcdefg1234567890"
   }
}
```

For more information, see [Customer-owned IP addresses](https://docs.aws.amazon.com/outsposts/latest/userguide/cidr-support.html) in the AWS Outposts User Guide.

- For API details, see [DeleteCoipCidr](https://docs.aws.amazon.com/cli/latest/reference/ec2/delete-coip-cidr.html) in AWS CLI Command Reference.

delete-coip-pool

The following code example shows how to use delete-coip-pool.

AWS CLI

**To delete a pool of customer-owned IP (CoIP) addresses**
The following delete-coip-pool example deletes a CoIP pool of CoIP addresses.

```bash
aws ec2 delete-coip-pool \
   --coip-pool-id ipv4pool-coip-1234567890abcdefg
```

Output:

```
{
   "CoipPool": {
      "PoolId": "ipv4pool-coip-1234567890abcdefg",
      "LocalGatewayRouteTableId": "tgw-rtb-abcdefg1234567890",
   }
}
```

For more information, see Customer-owned IP addresses in the AWS Outposts User Guide.

- For API details, see DeleteCoipPool in AWS CLI Command Reference.

**delete-customer-gateway**

The following code example shows how to use delete-customer-gateway.

**AWS CLI**

**To delete a customer gateway**

This example deletes the specified customer gateway. If the command succeeds, no output is returned.

Command:

```bash
aws ec2 delete-customer-gateway --customer-gateway-id cgw-0e11f167
```

- For API details, see DeleteCustomerGateway in AWS CLI Command Reference.

**delete-dhcp-options**

The following code example shows how to use delete-dhcp-options.
AWS CLI

To delete a DHCP options set

This example deletes the specified DHCP options set. If the command succeeds, no output is returned.

Command:

```bash
aws ec2 delete-dhcp-options --dhcp-options-id dopt-d9070ebb
```

- For API details, see [DeleteDhcpOptions](https://aws.amazon.com/cli) in *AWS CLI Command Reference*.

delete-egress-only-internet-gateway

The following code example shows how to use `delete-egress-only-internet-gateway`.

AWS CLI

To delete an egress-only Internet gateway

This example deletes the specified egress-only Internet gateway.

Command:

```bash
aws ec2 delete-egress-only-internet-gateway --egress-only-internet-gateway-id eigw-01eadbd45ecd7943f
```

Output:

```json
{
    "ReturnCode": true
}
```

- For API details, see [DeleteEgressOnlyInternetGateway](https://aws.amazon.com/cli) in *AWS CLI Command Reference*.

delete-fleets

The following code example shows how to use `delete-fleets`.
AWS CLI

Example 1: To delete an EC2 Fleet and terminate the associated instances

The following delete-fleets example deletes the specified EC2 Fleet and terminates the associated On-Demand Instances and Spot Instances.

```bash
aws ec2 delete-fleets \
  --fleet-ids fleet-12a34b55-67cd-8ef9-ba9b-9208dEXAMPLE \
  --terminate-instances
```

Output:

```json
{
  "SuccessfulFleetDeletions": [
    {
      "CurrentFleetState": "deleted_terminating",
      "PreviousFleetState": "active",
      "FleetId": "fleet-12a34b55-67cd-8ef9-ba9b-9208dEXAMPLE"
    }
  ],
  "UnsuccessfulFleetDeletions": []
}
```


Example 2: To delete an EC2 Fleet without terminating the associated instances

The following delete-fleets example deletes the specified EC2 Fleet without terminating the associated On-Demand Instances and Spot Instances.

```bash
aws ec2 delete-fleets \
  --fleet-ids fleet-12a34b55-67cd-8ef9-ba9b-9208dEXAMPLE \
  --no-terminate-instances
```

Output:

```json
{
  "SuccessfulFleetDeletions": [
    {
      "CurrentFleetState": "deleted",
      "PreviousFleetState": "active",
      "FleetId": "fleet-12a34b55-67cd-8ef9-ba9b-9208dEXAMPLE"
    }
  ],
  "UnsuccessfulFleetDeletions": []
}
```
"CurrentFleetState": "deleted_running",
"PreviousFleetState": "active",
"FleetId": "fleet-12a34b55-67cd-8ef9-ba9b-9208dEXAMPLE"
}
],
"UnsuccessfulFleetDeletions": []
}

For more information, see [Delete an EC2 Fleet](#) in the *Amazon Elastic Compute Cloud User Guide for Linux Instances*.

- For API details, see [DeleteFleets](#) in *AWS CLI Command Reference*.

### delete-flow-logs

The following code example shows how to use `delete-flow-logs`.

**AWS CLI**

**To delete a flow log**

The following `delete-flow-logs` example deletes the specified flow log.

```bash
aws ec2 delete-flow-logs --flow-log-id fl-11223456677889
```

**Output:**

```json
{
  "Unsuccessful": []
}
```

- For API details, see [DeleteFlowLogs](#) in *AWS CLI Command Reference*.

### delete-fpga-image

The following code example shows how to use `delete-fpga-image`.

**AWS CLI**

**To delete an Amazon FPGA image**

This example deletes the specified AFI.
Command:

aws ec2 delete-fpga-image --fpga-image-id afi-06b12350a123fbabc

Output:

```
{
   "Return": true
}
```

- For API details, see [DeleteFpgaImage](https://docs.aws.amazon.com/cli/latest/reference/ec2/delete-fpga-image.html) in *AWS CLI Command Reference*.

**delete-instance-connect-endpoint**

The following code example shows how to use `delete-instance-connect-endpoint`.

**AWS CLI**

**To delete an EC2 Instance Connect Endpoint**

The following `delete-instance-connect-endpoint` example deletes the specified EC2 Instance Connect Endpoint.

```
aws ec2 delete-instance-connect-endpoint \
   --instance-connect-endpoint-id eice-03f5e49b83924bbc7
```

Output:

```
{
   "InstanceConnectEndpoint": {
      "OwnerIds": "111111111111",
      "InstanceConnectEndpointId": "eice-0123456789example",
      "InstanceConnectEndpointArn": "arn:aws:ec2:us-east-1:111111111111:instance-connect-endpoint/eice-0123456789example",
      "State": "delete-in-progress",
      "StateMessage": "",
      "NetworkInterfaceIds": [],
      "VpcId": "vpc-0123abcd",
      "AvailabilityZone": "us-east-1d",
      "CreatedAt": "2023-02-07T12:05:37+00:00",
      "SubnetId": "subnet-0123abcd"
   }
}
```
For more information, see [Remove EC2 Instance Connect Endpoint](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/scheduled-events.html) in the *Amazon EC2 User Guide*.

- For API details, see [DeleteInstanceConnectEndpoint](https://docs.aws.amazon.com/cli/latest/reference/ec2/delete-instance-connect-endpoint.html) in *AWS CLI Command Reference*.

### delete-instance-event-window

The following code example shows how to use `delete-instance-event-window`.

#### AWS CLI

**Example 1: To delete an event window**

The following `delete-instance-event-window` example deletes an event window.

```bash
aws ec2 delete-instance-event-window \
  --region us-east-1 \
  --instance-event-window-id iew-0abcdef1234567890
```

Output:

```json
{
  "InstanceEventWindowState": {
    "InstanceEventWindowId": "iew-0abcdef1234567890",
    "State": "deleting"
  }
}
```

For event window constraints, see [Considerations](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/scheduled-events.html) in the Scheduled Events section of the *Amazon EC2 User Guide*.

**Example 2: To force delete an event window**

The following `delete-instance-event-window` example force deletes an event window if the event window is currently associated with targets.

```bash
aws ec2 delete-instance-event-window \
  --region us-east-1 \
  --instance-event-window-id iew-0abcdef1234567890 \
```
--force-delete

Output:

```
{
    "InstanceEventWindowState": {
        "InstanceEventWindowId": "iew-0abcdef1234567890",
        "State": "deleting"
    }
}
```

For event window constraints, see [Considerations](#) in the Scheduled Events section of the *Amazon EC2 User Guide*.

- For API details, see [DeleteInstanceEventWindow](#) in *AWS CLI Command Reference*.

### delete-internet-gateway

The following code example shows how to use `delete-internet-gateway`.

**AWS CLI**

**To delete an internet gateway**

The following `delete-internet-gateway` example deletes the specified internet gateway.

```
aws ec2 delete-internet-gateway \
    --internet-gateway-id igw-0d0fb496b3EXAMPLE
```

This command produces no output.

For more information, see [Internet gateways](#) in the *Amazon VPC User Guide*.

- For API details, see [DeleteInternetGateway](#) in *AWS CLI Command Reference*.

### delete-ipam

The following code example shows how to use `delete-ipam`.

**AWS CLI**

**To delete an IPAM**
The following delete-ipam example deletes an IPAM.

```
aws ec2 delete-ipam \
  --ipam-id ipam-036486dfa6af58ee0
```

Output:

```
{
  "Ipam": {
    "OwnerId": "123456789012",
    "IpamId": "ipam-036486dfa6af58ee0",
    "IpamArn": "arn:aws:ec2::123456789012:ipam/ipam-036486dfa6af58ee0",
    "IpamRegion": "us-east-1",
    "PublicDefaultScopeId": "ipam-scope-071b8042b0195c183",
    "PrivateDefaultScopeId": "ipam-scope-0807405dece705a30",
    "ScopeCount": 2,
    "OperatingRegions": [
      {
        "RegionName": "us-east-1"
      },
      {
        "RegionName": "us-east-2"
      },
      {
        "RegionName": "us-west-1"
      }
    ],
    "State": "delete-in-progress"
  }
}
```

For more information, see Delete an IPAM in the Amazon VPC IPAM User Guide.

- For API details, see DeleteIpam in AWS CLI Command Reference.

### delete-ipam-scope

The following code example shows how to use delete-ipam-scope.

### AWS CLI

To delete an IPAM scope
The following delete-ipam-scope example deletes an IPAM.

```bash
aws ec2 delete-ipam-scope \
   --ipam-scope-id ipam-scope-01c1ebab2b63bd7e4
```

Output:

```
{
   "IpamScope": {
      "OwnerId": "123456789012",
      "IpamScopeId": "ipam-scope-01c1ebab2b63bd7e4",
      "IpamScopeArn": "arn:aws:ec2::123456789012:ipam-scope/ipam-scope-01c1ebab2b63bd7e4",
      "IpamArn": "arn:aws:ec2::123456789012:ipam/ipam-08440e7a3acde3908",
      "IpamRegion": "us-east-1",
      "IpamScopeType": "private",
      "IsDefault": false,
      "Description": "Example description",
      "PoolCount": 0,
      "State": "delete-in-progress"
   }
}
```

For more information, see Delete a scope in the Amazon VPC IPAM User Guide.

- For API details, see DeleteIpamScope in AWS CLI Command Reference.

**delete-launch-template-versions**

The following code example shows how to use delete-launch-template-versions.

**AWS CLI**

To delete a launch template version

This example deletes the specified launch template version.

Command:

```bash
aws ec2 delete-launch-template-versions --launch-template-id lt-0abcd290751193123 --versions 1
```
Output:

```json
{
  "UnsuccessfullyDeletedLaunchTemplateVersions": [],
  "SuccessfullyDeletedLaunchTemplateVersions": [
    {
      "LaunchTemplateName": "TestVersion",
      "VersionNumber": 1,
      "LaunchTemplateId": "lt-0abcd290751193123"
    }
  ]
}
```

- For API details, see [DeleteLaunchTemplateVersions](https://docs.aws.amazon.com/cli/latest/reference/ec2/delete-launch-template-versions.html) in *AWS CLI Command Reference*.

**delete-local-gateway-route**

The following code example shows how to use `delete-local-gateway-route`.

**AWS CLI**

To delete a route from a local gateway route table

The following `delete-local-gateway-route` example deletes the specified route from the specified local gateway route table.

```
aws ec2 delete-local-gateway-route \
  --destination-cidr-block 0.0.0.0/0 \
  --local-gateway-route-table-id lgw-rtb-059615ef7dEXAMPLE
```

Output:

```json
{
  "Route": {
    "DestinationCidrBlock": "0.0.0.0/0",
    "LocalGatewayVirtualInterfaceGroupId": "lgw-vif-grp-07145b276bEXAMPLE",
    "Type": "static",
    "State": "deleted",
    "LocalGatewayRouteTableId": "lgw-rtb-059615ef7dEXAMPLE"
  }
}
```
For API details, see `DeleteLocalGatewayRoute` in *AWS CLI Command Reference*.

**delete-local-gateway-route-table**

The following code example shows how to use `delete-local-gateway-route-table`.

**AWS CLI**

To delete a local gateway route table

The following `delete-local-gateway-route-table` example creates a local gateway route table with the direct VPC routing mode.

```bash
aws ec2 delete-local-gateway-route-table \\
--local-gateway-route-table-id lgw-rtb-abcdefg1234567890
```

Output:

```
{
   "LocalGatewayRouteTable": {
      "LocalGatewayRouteTableId": "lgw-rtb-abcdefg1234567890",
      "LocalGatewayId": "lgw-1a2b3c4d5e6f7g8h9",
      "OwnerId": "111122223333",
      "State": "deleting",
      "Tags": [],
      "Mode": "direct-vpc-routing"
   }
}
```

For more information, see *Local gateway route tables* in the *AWS Outposts User Guide*.

For API details, see `DeleteLocalGatewayRouteTable` in *AWS CLI Command Reference*.

**delete-local-gateway-route-table-virtual-interface-group-association**

The following code example shows how to use `delete-local-gateway-route-table-virtual-interface-group-association`.
To disassociate a local gateway route table from a virtual interfaces (VIFs) group

The following delete-local-gateway-route-table-virtual-interface-group-association example deletes the association between the specified local gateway route table and VIF group.

```
aws ec2 delete-local-gateway-route-table-virtual-interface-group-association \
   --local-gateway-route-table-virtual-interface-group-association-id lgw-vif-grp-assoc-exampleid12345678
```

Output:

```
{
   "LocalGatewayRouteTableVirtualInterfaceGroupAssociation": {
      "LocalGatewayRouteTableVirtualInterfaceGroupAssociationId": "lgw-vif-grp-assoc-exampleid12345678",
      "LocalGatewayVirtualInterfaceGroupId": "lgw-vif-grp-exampleid0123abcd",
      "LocalGatewayId": "lgw-exampleid11223344",
      "LocalGatewayRouteTableId": "lgw-rtb-exampleidabcd1234",
      "OwnerId": "111122223333",
      "State": "disassociating",
      "Tags": []
   }
}
```

For more information, see [VIF group associations](https://docs.aws.amazon.com/outsposts/latest/userguide/vif-group-association.html) in the *AWS Outposts User Guide*.

- For API details, see [DeleteLocalGatewayRouteTableVirtualInterfaceGroupAssociation](https://docs.aws.amazon.com/cli/latest/reference/ec2/delete-local-gateway-route-table-virtual-interface-group-association.html) in *AWS CLI Command Reference*.

**delete-local-gateway-route-table-vpc-association**

The following code example shows how to use delete-local-gateway-route-table-vpc-association.

**AWS CLI**

To disassociate a local gateway route table from a VPC
The following `delete-local-gateway-route-table-vpc-association` example deletes the association between the specified local gateway route table and VPC.

```
aws ec2 delete-local-gateway-route-table-vpc-association \
    --local-gateway-route-table-vpc-association-id vpc-example0123456789
```

Output:

```
{
    "LocalGatewayRouteTableVpcAssociation": {
        "LocalGatewayRouteTableVpcAssociationId": "lgw-vpc-assoc-abcd1234wxyz56789",
        "LocalGatewayRouteTableId": "lgw-rtb-abcdefg1234567890",
        "LocalGatewayRouteTableArn": "arn:aws:ec2:us-west-2:555555555555:local-gateway-route-table/lgw-rtb-abcdefg1234567890",
        "LocalGatewayId": "lgw-exampleid01234567",
        "VpcId": "vpc-example0123456789",
        "OwnerId": "555555555555",
        "State": "disassociating"
    }
}
```

For more information, see [VPC associations](#) in the [AWS Outposts User Guide](#).

- For API details, see [DeleteLocalGatewayRouteTableVpcAssociation](#) in [AWS CLI Command Reference](#).

---

**delete-managed-prefix-list**

The following code example shows how to use `delete-managed-prefix-list`.

**AWS CLI**

To delete a prefix list

The following `delete-managed-prefix-list` example deletes the specified prefix list.

```
aws ec2 delete-managed-prefix-list \
    --prefix-list-id pl-0123456abcabcb1
```

Output:

```
{
```
"PrefixList": {
   "PrefixListId": "pl-0123456abcabcabc1",
   "AddressFamily": "IPv4",
   "State": "delete-in-progress",
   "PrefixListName": "test",
   "MaxEntries": 10,
   "Version": 1,
   "OwnerId": "123456789012"
}
}

For more information, see Managed prefix lists in the Amazon VPC User Guide.

- For API details, see DeleteManagedPrefixList in AWS CLI Command Reference.

delete-nat-gateway

The following code example shows how to use delete-nat-gateway.

AWS CLI

To delete a NAT gateway

This example deletes NAT gateway nat-04ae55e711cec5680.

Command:

```
aws ec2 delete-nat-gateway --nat-gateway-id nat-04ae55e711cec5680
```

Output:

```
{
   "NatGatewayId": "nat-04ae55e711cec5680"
}
```

- For API details, see DeleteNatGateway in AWS CLI Command Reference.

delete-network-acl

The following code example shows how to use delete-network-acl.
AWS CLI

To delete a network ACL

This example deletes the specified network ACL. If the command succeeds, no output is returned.

Command:

```
aws ec2 delete-network-acl --network-acl-id acl-5fb85d36
```

- For API details, see [DeleteNetworkAcl](#) in *AWS CLI Command Reference*.

delete-network-acl-entry

The following code example shows how to use `delete-network-acl-entry`.

AWS CLI

To delete a network ACL entry

This example deletes ingress rule number 100 from the specified network ACL. If the command succeeds, no output is returned.

Command:

```
aws ec2 delete-network-acl-entry --network-acl-id acl-5fb85d36 --ingress --rule-number 100
```

- For API details, see [DeleteNetworkAclEntry](#) in *AWS CLI Command Reference*.

delete-network-insights-access-scope

The following code example shows how to use `delete-network-insights-access-scope`.

AWS CLI

To delete a Network Access Scope

The following `delete-network-insights-access-scope` example deletes the specified Network Access Scope.
aws ec2 delete-network-insights-access-scope \
   --network-insights-access-scope-id nis-123456789abc01234

Output:

```json
{
   "NetworkInsightsAccessScopeId": "nis-123456789abc01234"
}
```

For more information, see [Getting started with Network Access Analyzer using the AWS CLI](#) in the Network Access Analyzer Guide.

- For API details, see [DeleteNetworkInsightsAccessScope](#) in AWS CLI Command Reference.

---

delete-network-insights-access-scope-analysis

The following code example shows how to use `delete-network-insights-access-scope-analysis`.

**AWS CLI**

**To delete a Network Access Scope analysis**

The following `delete-network-insights-access-scope-analysis` example deletes the specified Network Access Scope analysis.

```bash
aws ec2 delete-network-insights-access-scope-analysis \
   --network-insights-access-scope-analysis-id nisa-01234567891abcdef
```

Output:

```json
{
   "NetworkInsightsAccessScopeAnalysisId": "nisa-01234567891abcdef"
}
```

For more information, see [Getting started with Network Access Analyzer using the AWS CLI](#) in the Network Access Analyzer Guide.

- For API details, see [DeleteNetworkInsightsAccessScopeAnalysis](#) in AWS CLI Command Reference.

---

Actions and scenarios
delete-network-insights-analysis

The following code example shows how to use `delete-network-insights-analysis`.

**AWS CLI**

**To delete a path analysis**

The following `delete-network-insights-analysis` example deletes the specified analysis.

```bash
aws ec2 delete-network-insights-analysis \
   --network-insights-analysis-id nia-02207aa13eb480c7a
```

Output:

```json
{
   "NetworkInsightsAnalysisId": "nia-02207aa13eb480c7a"
}
```

For more information, see [Getting started using the AWS CLI](#) in the *Reachability Analyzer Guide*.

- For API details, see [DeleteNetworkInsightsAnalysis](#) in *AWS CLI Command Reference*.

delete-network-insights-path

The following code example shows how to use `delete-network-insights-path`.

**AWS CLI**

**To delete a path**

The following `delete-network-insights-path` example deletes the specified path. Before you can delete a path, you must delete all its analyses using the `delete-network-insights-analysis` command.

```bash
aws ec2 delete-network-insights-path \
   --network-insights-path-id nip-0b26f224f1d131fa8
```

Output:

```json
{
}
```
"NetworkInsightsPathId": "nip-0b26f224f1d131fa8"
}

For more information, see Getting started using the AWS CLI in the Reachability Analyzer Guide.

- For API details, see DeleteNetworkInsightsPath in AWS CLI Command Reference.

delete-network-interface

The following code example shows how to use delete-network-interface.

AWS CLI

To delete a network interface

This example deletes the specified network interface. If the command succeeds, no output is returned.

Command:

```
aws ec2 delete-network-interface --network-interface-id eni-e5aa89a3
```

- For API details, see DeleteNetworkInterface in AWS CLI Command Reference.

delete-network-interface-permission

The following code example shows how to use delete-network-interface-permission.

AWS CLI

To delete a network interface permission

This example deletes the specified network interface permission.

Command:

```
aws ec2 delete-network-interface-permission --network-interface-permission-id eni-perm-06fd19020ede149ea
```

Output:

```json
{
```
delete-placement-group

The following code example shows how to use delete-placement-group.

**AWS CLI**

To delete a placement group

This example command deletes the specified placement group.

Command:

```bash
aws ec2 delete-placement-group --group-name my-cluster
```

For API details, see [DeletePlacementGroup](https://docs.aws.amazon.com/cli/latest/reference/ec2/delete-placement-group.html) in *AWS CLI Command Reference*.

delete-queued-reserved-instances

The following code example shows how to use delete-queued-reserved-instances.

**AWS CLI**

To delete a queued purchase

The following delete-queued-reserved-instances example deletes the specified Reserved Instance, which was queued for purchase.

```bash
aws ec2 delete-queued-reserved-instances \
    --reserved-instances-ids af9f760e-6f91-4559-85f7-4980eexample
```

Output:

```json
{
    "SuccessfulQueuedPurchaseDeletions": [
    
```
"ReservedInstancesId": "af9f760e-6f91-4559-85f7-4980eexample"
]
,"FailedQueuedPurchaseDeletions": []
}

• For API details, see DeleteQueuedReservedInstances in AWS CLI Command Reference.

deleteroute

The following code example shows how to use deleteroute.

AWS CLI

To delete a route

This example deletes the specified route from the specified route table. If the command succeeds, no output is returned.

Command:

aws ec2 delete-route --route-table-id rtb-22574640 --destination-cidr-block 0.0.0.0/0

• For API details, see DeleteRoute in AWS CLI Command Reference.

delete-route-table

The following code example shows how to use delete-route-table.

AWS CLI

To delete a route table

This example deletes the specified route table. If the command succeeds, no output is returned.

Command:

aws ec2 delete-route-table --route-table-id rtb-22574640

• For API details, see DeleteRouteTable in AWS CLI Command Reference.
delete-spot-datafeed-subscription

The following code example shows how to use delete-spot-datafeed-subscription.

AWS CLI

To cancel a Spot Instance data feed subscription

This example command deletes a Spot data feed subscription for the account. If the command succeeds, no output is returned.

Command:

```bash
aws ec2 delete-spot-datafeed-subscription
```

- For API details, see `DeleteSpotDatafeedSubscription` in `AWS CLI Command Reference`.

delete-subnet

The following code example shows how to use delete-subnet.

AWS CLI

To delete a subnet

This example deletes the specified subnet. If the command succeeds, no output is returned.

Command:

```bash
aws ec2 delete-subnet --subnet-id subnet-9d4a7b6c
```

- For API details, see `DeleteSubnet` in `AWS CLI Command Reference`.

delete-subnet-cidr-reservation

The following code example shows how to use delete-subnet-cidr-reservation.

AWS CLI

To delete a subnet CIDR reservation

The following delete-subnet-cidr-reservation example deletes the specified subnet CIDR reservation.
aws ec2 delete-subnet-cidr-reservation \
  --subnet-cidr-reservation-id scr-044f977c4eEXAMPLE

Output:

```
{
  "DeletedSubnetCidrReservation": {
    "SubnetCidrReservationId": "scr-044f977c4eEXAMPLE",
    "SubnetId": "subnet-03c51e2e6cEXAMPLE",
    "Cidr": "10.1.0.16/28",
    "ReservationType": "prefix",
    "OwnerId": "123456789012"
  }
}
```

For more information, see [Subnet CIDR reservations](https://docs.aws.amazon.com/vpc/latest/userguide/subnet-cidr-reservations.html) in the *Amazon VPC User Guide*.

- For API details, see [DeleteSubnetCidrReservation](https://docs.aws.amazon.com/cli/latest/reference/ec2/delete-subnet-cidr-reservation.html) in *AWS CLI Command Reference*.

---

**delete-tags**

The following code example shows how to use **delete-tags**.

**AWS CLI**

**Example 1: To delete a tag from a resource**

The following delete-tags example deletes the tag `Stack=Test` from the specified image. When you specify both a value and a key name, the tag is deleted only if the tag's value matches the specified value.

```
aws ec2 delete-tags \
  --resources ami-1234567890abcdef0 \
  --tags Key=Stack,Value=Test
```

It's optional to specify the value for a tag. The following delete-tags example deletes the tag with the key name `purpose` from the specified instance, regardless of the tag value for the tag.

```
aws ec2 delete-tags \
  --resources i-1234567890abcdef0 \
  --tags Key=purpose
```
If you specify the empty string as the tag value, the tag is deleted only if the tag’s value is the empty string. The following delete-tags example specifies the empty string as the tag value for the tag to delete.

```
aws ec2 delete-tags \
    --resources i-1234567890abcdef0 \
    --tags Key=Name,Value=
```

**Example 2: To delete a tag from multiple resources**

The following delete-tags example deletes the tag `Purpose=Test` from both an instance and an AMI. As shown in the previous example, you can omit the tag value from the command.

```
aws ec2 delete-tags \
    --resources i-1234567890abcdef0 ami-1234567890abcdef0 \
    --tags Key=Purpose
```

- For API details, see [DeleteTags](https://docs.aws.amazon.com/cli/latest/reference/ec2/delete-tags.html) in *AWS CLI Command Reference*.

### delete-traffic-mirror-filter

The following code example shows how to use delete-traffic-mirror-filter.

**AWS CLI**

**To delete a traffic mirror filter**

The following delete-traffic-mirror-filter example deletes the specified traffic mirror filter.

```
aws ec2 delete-traffic-mirror-filter \
    --traffic-mirror-filter-id tmf-0be0b25fcdEXAMPLE
```

Output:

```
{
    "TrafficMirrorFilterId": "tmf-0be0b25fcdEXAMPLE"
}
```

For more information, see [Delete a Traffic Mirror Filter](https://docs.aws.amazon.com/traffic-mirroring/latest/guides/traffic-mirror-filter-delete.html) in the *AWS Traffic Mirroring Guide*.
• For API details, see `DeleteTrafficMirrorFilter` in *AWS CLI Command Reference*.

delete-traffic-mirror-filter-rule

The following code example shows how to use `delete-traffic-mirror-filter-rule`.

AWS CLI

**To delete a traffic mirror filter rule**

The following `delete-traffic-mirror-filter-rule` example deletes the specified traffic mirror filter rule.

```
aws ec2 delete-traffic-mirror-filter-rule \
    --traffic-mirror-filter-rule-id tmfr-081f71283bEXAMPLE
```

Output:

```
{
    "TrafficMirrorFilterRuleId": "tmfr-081f71283bEXAMPLE"
}
```

For more information, see [Modify Your Traffic Mirror Filter Rules](https://docs.aws.amazon.com/traffic-mirroring/latest/userguide/modify-traffic-mirror-filter-rules.html) in the *AWS Traffic Mirroring Guide*.

• For API details, see `DeleteTrafficMirrorFilterRule` in *AWS CLI Command Reference*.

delete-traffic-mirror-session

The following code example shows how to use `delete-traffic-mirror-session`.

AWS CLI

**To delete a traffic mirror session**

The following `delete-traffic-mirror-session` example deletes the specified traffic mirror-session.

```
aws ec2 delete-traffic-mirror-session \
    --traffic-mirror-session-id tms-0af3141ce5EXAMPLE
```
Output:

```json
{
   "TrafficMirrorSessionId": "tms-0af3141ce5EXAMPLE"
}
```

For more information, see [Delete a Traffic Mirror Session](#) in the *AWS Traffic Mirroring Guide*.

- For API details, see [DeleteTrafficMirrorSession](#) in *AWS CLI Command Reference*.

**delete-traffic-mirror-target**

The following code example shows how to use `delete-traffic-mirror-target`.

**AWS CLI**

**To delete a traffic mirror target**

The following `delete-traffic-mirror-target` example deletes the specified traffic mirror target.

```bash
aws ec2 delete-traffic-mirror-target \\
--traffic-mirror-target-id tmt-060f48ce9EXAMPLE
```

Output:

```json
{
   "TrafficMirrorTargetId": "tmt-060f48ce9EXAMPLE"
}
```

For more information, see [Delete a Traffic Mirror Target](#) in the *AWS Traffic Mirroring Guide*.

- For API details, see [DeleteTrafficMirrorTarget](#) in *AWS CLI Command Reference*.

**delete-transit-gateway**

The following code example shows how to use `delete-transit-gateway`.

**AWS CLI**

**To delete a transit gateway**
The following delete-transit-gateway example deletes the specified transit gateway.

```bash
aws ec2 delete-transit-gateway \
--transit-gateway-id tgw-01f04542b2EXAMPLE
```

Output:

```
{
   "TransitGateway": {
      "TransitGatewayId": "tgw-01f04542b2EXAMPLE",
      "State": "deleting",
      "OwnerId": "123456789012",
      "Description": "Example Transit Gateway",
      "CreationTime": "2019-08-27T15:04:35.000Z",
      "Options": {
         "AmazonSideAsn": 64515,
         "AutoAcceptSharedAttachments": "disable",
         "DefaultRouteTableAssociation": "enable",
         "AssociationDefaultRouteTableId": "tgw-rtb-0ce7a6948fEXAMPLE",
         "DefaultRouteTablePropagation": "enable",
         "PropagationDefaultRouteTableId": "tgw-rtb-0ce7a6948fEXAMPLE",
         "VpnEcmpSupport": "enable",
         "DnsSupport": "enable"
      }
   }
}
```

For more information, see [Delete a transit gateway](#) in the Transit Gateways Guide.

- For API details, see [DeleteTransitGateway](#) in AWS CLI Command Reference.

**delete-transit-gateway-connect**

The following code example shows how to use delete-transit-gateway-connect.

**AWS CLI**

**To delete a transit gateway Connect attachment**

The following delete-transit-gateway-connect example deletes the specified Connect attachment.
aws ec2 delete-transit-gateway-connect \ 
--transit-gateway-attachment-id tgw-attach-037012e5dcEXAMPLE

Output:

```json
{
   "TransitGatewayConnect": {
      "TransitGatewayAttachmentId": "tgw-attach-037012e5dcEXAMPLE",
      "TransportTransitGatewayAttachmentId": "tgw-attach-0a89069f57EXAMPLE",
      "TransitGatewayId": "tgw-02f776b1a7EXAMPLE",
      "State": "deleting",
      "CreationTime": "2021-03-09T19:59:17+00:00",
      "Options": {
         "Protocol": "gre"
      }
   }
}
```

For more information, see [Transit gateway Connect attachments and Transit Gateway Connect peers](Transit Gateway Connect peers) in the [Transit Gateways Guide](Transit Gateways Guide).

- For API details, see [DeleteTransitGatewayConnect](DeleteTransitGatewayConnect) in [AWS CLI Command Reference](AWS CLI Command Reference).

**delete-transit-gateway-connect-peer**

The following code example shows how to use `delete-transit-gateway-connect-peer`.

**AWS CLI**

**To delete a Transit Gateway Connect peer**

The following `delete-transit-gateway-connect-peer` example deletes the specified Connect peer.

```bash
aws ec2 delete-transit-gateway-connect-peer \ 
--transit-gateway-connect-peer-id tgw-connect-peer-0666adbac4EXAMPLE
```

Output:

```json
{
   "TransitGatewayConnectPeer": {
```

Actions and scenarios 2186
"TransitGatewayAttachmentId": "tgw-attach-0f0927767cEXAMPLE",
"TransitGatewayConnectPeerId": "tgw-connect-peer-0666adbac4EXAMPLE",
"State": "deleting",
"CreationTime": "2021-10-13T03:35:17.000Z",
"ConnectPeerConfiguration": {
  "TransitGatewayAddress": "10.0.0.234",
  "PeerAddress": "172.31.1.11",
  "InsideCidrBlocks": [
    "169.254.6.0/29"
  ],
  "Protocol": "gre",
  "BgpConfigurations": [
    {
      "TransitGatewayAsn": 64512,
      "PeerAsn": 64512,
      "TransitGatewayAddress": "169.254.6.2",
      "PeerAddress": "169.254.6.1",
      "BgpStatus": "down"
    },
    {
      "TransitGatewayAsn": 64512,
      "PeerAsn": 64512,
      "TransitGatewayAddress": "169.254.6.3",
      "PeerAddress": "169.254.6.1",
      "BgpStatus": "down"
    }
  ]
}

For more information, see Transit gateway Connect attachments and Transit Gateway Connect peers in the Transit Gateways Guide.

- For API details, see DeleteTransitGatewayConnectPeer in AWS CLI Command Reference.

delete-transit-gateway-multicast-domain

The following code example shows how to use delete-transit-gateway-multicast-domain.

AWS CLI

To delete a transit gateway multicast domain
The following `delete-transit-gateway-multicast-domain` example deletes the specified multicast domain.

```bash
aws ec2 delete-transit-gateway-multicast-domain \
   --transit-gateway-multicast-domain-id tgw-mcast-domain-0c4905cef7EXAMPLE
```

Output:

```
{
   "TransitGatewayMulticastDomain": {
      "TransitGatewayMulticastDomainId": "tgw-mcast-domain-02bb79002bEXAMPLE",
      "TransitGatewayId": "tgw-0d88d2d0d5EXAMPLE",
      "State": "deleting",
      "CreationTime": "2019-11-20T22:03:00Z"
   }
}
```

For more information, see Managing multicast domains in the Transit Gateways Guide.

- For API details, see `DeleteTransitGatewayMulticastDomain` in AWS CLI Command Reference.

`delete-transit-gateway-peering-attachment`

The following code example shows how to use `delete-transit-gateway-peering-attachment`.

**AWS CLI**

**To delete a transit gateway peering attachment**

The following `delete-transit-gateway-peering-attachment` example deletes the specified transit gateway peering attachment.

```bash
aws ec2 delete-transit-gateway-peering-attachment \
   --transit-gateway-attachment-id tgw-attach-4455667788aabbccd
```

Output:

```
{
   "TransitGatewayPeeringAttachment": {
      "TransitGatewayPeeringAttachmentId": "tgw-attach-4455667788aabbccd",
```

Actions and scenarios 2188
"RequesterTgwInfo": {
    "TransitGatewayId": "tgw-123abc05e04123abc",
    "OwnerId": "123456789012",
    "Region": "us-west-2"
},
"AccepterTgwInfo": {
    "TransitGatewayId": "tgw-11223344aabbcc112",
    "OwnerId": "123456789012",
    "Region": "us-east-2"
},
"State": "deleting",
"CreationTime": "2019-12-09T11:38:31.000Z"
}

For more information, see [Transit Gateway Peering Attachments](https://docs.aws.amazon.com/AmazonVPC/latest/userguide/transit-gateway-peering-attachments.html) in the *Transit Gateways Guide*.

- For API details, see [DeleteTransitGatewayPeeringAttachment](https://docs.aws.amazon.com/cli/latest/reference/ec2/delete-transit-gateway-peering-attachment.html) in *AWS CLI Command Reference*.

### delete-transit-gateway-policy-table

The following code example shows how to use `delete-transit-gateway-policy-table`.

**AWS CLI**

**To delete a transit gateway policy table**

The following `delete-transit-gateway-policy-table` example deletes the specified transit gateway policy table.

```bash
aws ec2 delete-transit-gateway-policy-table \
    --transit-gateway-policy-table-id tgw-ptb-0a16f134b78668a81
```

**Output:**

```json
{
    "TransitGatewayPolicyTables": [
        {
            "TransitGatewayPolicyTableId": "tgw-ptb-0a16f134b78668a81",
            "TransitGatewayId": "tgw-067f8505c18f0bd6e",
            "State": "deleting",
            "CreationTime": "2023-11-28T16:36:43+00:00",
            "Tags": []
        }
    ]
}
```
For more information, see Transit gateway policy tables in the Transit Gateway User Guide.

- For API details, see DeleteTransitGatewayPolicyTable in AWS CLI Command Reference.

**delete-transit-gateway-prefix-list-reference**

The following code example shows how to use delete-transit-gateway-prefix-list-reference.

**AWS CLI**

**To delete a prefix list reference**

The following delete-transit-gateway-prefix-list-reference example deletes the specified prefix list reference.

```bash
aws ec2 delete-transit-gateway-prefix-list-reference \ 
  --transit-gateway-route-table-id tgw-rtb-0123456789abcd123 \ 
  --prefix-list-id pl-111112222222333
```

Output:

```json
{
  "TransitGatewayPrefixListReference": {
    "TransitGatewayRouteTableId": "tgw-rtb-0123456789abcd123",
    "PrefixListId": "pl-1111122222222333",
    "PrefixListOwnerId": "123456789012",
    "State": "deleting",
    "Blackhole": false,
    "TransitGatewayAttachment": {
      "TransitGatewayAttachmentId": "tgw-attach-aabbcddabbbcaab",
      "ResourceType": "vpc",
      "ResourceId": "vpc-112233445566aabb"
    }
  }
}
```

For more information, see Prefix list references in the Transit Gateways Guide.
delete-transit-gateway-route

The following code example shows how to use `delete-transit-gateway-route`.

**AWS CLI**

**To delete a CIDR block from a route table**

The following `delete-transit-gateway-route` example deletes the CIDR block from the specified transit gateway route table.

```bash
aws ec2 delete-transit-gateway-route \
  --transit-gateway-route-table-id tgw-rtb-0b6f6aaa01EXAMPLE \
  --destination-cidr-block 10.0.2.0/24
```

**Output:**

```json
{
  "Route": {
    "DestinationCidrBlock": "10.0.2.0/24",
    "TransitGatewayAttachments": [
      {
        "ResourceId": "vpc-0065acced4EXAMPLE",
        "TransitGatewayAttachmentId": "tgw-attach-0b5968d3b6EXAMPLE",
        "ResourceType": "vpc"
      }
    ],
    "Type": "static",
    "State": "deleted"
  }
}
```

For more information, see [Delete a static route](https://docs.aws.amazon.com/it透t Gateway/latest/userguide/it透t Gateway-rout透in-deleted-DELET透-t透t Gateway-route.html) in the *Transit Gateways Guide*.

**delete-transit-gateway-route-table**

The following code example shows how to use `delete-transit-gateway-route-table`.

**For API details, see** [DeleteTransitGatewayPrefixListReference](https://docs.aws.amazon.com/cli/latest/reference/ec2/delete-transit-gateway-prefix-list-reference.html) in *AWS CLI Command Reference*.
To delete a transit gateway route table

The following `delete-transit-gateway-route-table` example deletes the specified transit gateway route table.

```bash
aws ec2 delete-transit-gateway-route-table 
  --transit-gateway-route-table-id tgw-rtb-0b6f6aaa01EXAMPLE
```

Output:

```json
{
  "TransitGatewayRouteTable": {
    "TransitGatewayRouteTableId": "tgw-rtb-0b6f6aaa01EXAMPLE",
    "TransitGatewayId": "tgw-02f776b1a7EXAMPLE",
    "State": "deleting",
    "DefaultAssociationRouteTable": false,
    "DefaultPropagationRouteTable": false,
    "CreationTime": "2019-07-17T20:27:26.000Z"
  }
}
```

For more information, see [Delete a transit gateway route table](https://docs.aws.amazon.com/TransitGateways/latest/APIReference/API_DeleteTransitGatewayRouteTable.html) in the Transit Gateways Guide.

- For API details, see [DeleteTransitGatewayRouteTable](https://docs.aws.amazon.com/AWSEC2/latest/APIReference/API_DeleteTransitGatewayRouteTable.html) in AWS CLI Command Reference.

**delete-transit-gateway-vpc-attachment**

The following code example shows how to use `delete-transit-gateway-vpc-attachment`.

AWS CLI

To delete a transit gateway VPC attachment

The following `delete-transit-gateway-vpc-attachment` example deletes the specified VPC attachment.

```bash
aws ec2 delete-transit-gateway-vpc-attachment 
  --transit-gateway-attachment-id tgw-attach-0d2c54bdbEXAMPLE
```

Output:
For more information, see Delete a VPC attachment in the Transit Gateways Guide.

- For API details, see DeleteTransitGatewayVpcAttachment in AWS CLI Command Reference.

delete-verified-access-endpoint

The following code example shows how to use delete-verified-access-endpoint.

AWS CLI

To delete a Verified Access endpoint

The following delete-verified-access-endpoint example deletes the specified Verified Access endpoint.

```
aws ec2 delete-verified-access-endpoint \ 
    --verified-access-endpoint-id vae-066fac616d4d546f2
```

Output:

```json
{
    "VerifiedAccessEndpoint": {
        "VerifiedAccessInstanceId": "vai-0ce000c0b7643abea",
        "VerifiedAccessGroupId": "vagr-0dbe967baf14b7235",
        "VerifiedAccessEndpointId": "vae-066fac616d4d546f2",
        "ApplicationDomain": "example.com",
        "EndpointType": "network-interface",
        "AttachmentType": "vpc",
        "DomainCertificateArn": "arn:aws:acm:us-east-2:123456789012:certificate/eb065ea0-26f9-4e75-a6ce-0a1a7EXAMPLE",
    }
}
```
For more information, see [Verified Access endpoints](https://docs.aws.amazon.com/verified-access/latest/userguide/verified-access-endpoints.html) in the *AWS Verified Access User Guide*.

- For API details, see [DeleteVerifiedAccessEndpoint](https://docs.aws.amazon.com/cli/latest/reference/ec2/delete-verified-access-group.html) in *AWS CLI Command Reference*.

### delete-verified-access-group

The following code example shows how to use `delete-verified-access-group`.

**AWS CLI**

#### To delete a Verified Access group

The following `delete-verified-access-group` example deletes the specified Verified Access group.

```bash
aws ec2 delete-verified-access-group \
  --verified-access-group-id vagr-0dbe967baf14b7235
```

Output:

```json
{
  "VerifiedAccessGroup": {
    "VerifiedAccessGroupId": "vagr-0dbe967baf14b7235",
```

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For more information, see [Verified Access groups](https://docs.aws.amazon.com/awsverifiedaccess/latest/userguide/verified-access-groups.html) in the AWS Verified Access User Guide.

- For API details, see [DeleteVerifiedAccessGroup](https://docs.aws.amazon.com/cli/latest/reference/ec2/delete-verified-access-instance.html) in *AWS CLI Command Reference*.

### delete-verified-access-instance

The following code example shows how to use `delete-verified-access-instance`.

**AWS CLI**

**To delete a Verified Access instance**

The following `delete-verified-access-instance` example deletes the specified Verified Access instance.

```bash
aws ec2 delete-verified-access-instance \
    --verified-access-instance-id vai-0ce000c0b7643abea
```

**Output:**

```
{
    "VerifiedAccessInstance": {
        "VerifiedAccessInstanceId": "vai-0ce000c0b7643abea",
        "Description": "Testing Verified Access",
        "VerifiedAccessGroupArn": "arn:aws:ec2:us-east-2:123456789012:verified-access-group/vagr-0dbe967ba14b7235",
        "CreationTime": "2023-08-25T19:55:19",
        "LastUpdatedTime": "2023-08-25T22:49:03",
        "DeletionTime": "2023-08-26T00:58:31"
    }
}
```

For more information, see [Verified Access instances](https://docs.aws.amazon.com/awsverifiedaccess/latest/userguide/verified-access-instances.html) in the AWS Verified Access User Guide.
delete-verified-access-trust-provider

The following code example shows how to use delete-verified-access-trust-provider.

**AWS CLI**

**To delete a Verified Access trust provider**

The following delete-verified-access-trust-provider example deletes the specified Verified Access trust provider.

```bash
aws ec2 delete-verified-access-trust-provider \
    --verified-access-trust-provider-id vatp-0bb32de759a3e19e7
```

Output:

```json
{
    "VerifiedAccessTrustProvider": {
        "VerifiedAccessTrustProviderId": "vatp-0bb32de759a3e19e7",
        "Description": "Testing Verified Access",
        "TrustProviderType": "user",
        "UserTrustProviderType": "iam-identity-center",
        "PolicyReferenceName": "idc",
        "CreationTime": "2023-08-25T18:40:36",
        "LastUpdatedTime": "2023-08-25T18:40:36"
    }
}
```

For more information, see [Trust providers for Verified Access](https://docs.aws.amazon.com/verified-access/latest/userguide/trust-providers.html) in the *AWS Verified Access User Guide*.

- For API details, see [DeleteVerifiedAccessTrustProvider](https://docs.aws.amazon.com/cli/latest/reference/ec2/delete-verified-access-trust-provider.html) in *AWS CLI Command Reference*.

**delete-volume**

The following code example shows how to use delete-volume.

**AWS CLI**

**To delete a volume**
This example command deletes an available volume with the volume ID of vol-049df61146c4d7901. If the command succeeds, no output is returned.

Command:

```
aws ec2 delete-volume --volume-id vol-049df61146c4d7901
```

- For API details, see `DeleteVolume` in *AWS CLI Command Reference*.

### delete-vpc

The following code example shows how to use `delete-vpc`.

**AWS CLI**

**To delete a VPC**

This example deletes the specified VPC. If the command succeeds, no output is returned.

Command:

```
aws ec2 delete-vpc --vpc-id vpc-a01106c2
```

- For API details, see `DeleteVpc` in *AWS CLI Command Reference*.

### delete-vpc-endpoint-connection-notifications

The following code example shows how to use `delete-vpc-endpoint-connection-notifications`.

**AWS CLI**

**To delete an endpoint connection notification**

This example deletes the specified endpoint connection notification.

Command:

```
aws ec2 delete-vpc-endpoint-connection-notifications --connection-notification-ids vpce-nfn-008776de7e03f5abc
```
For API details, see [DeleteVpcEndpointConnectionNotifications](#) in [AWS CLI Command Reference](#).

### delete-vpc-endpoint-service-configurations

The following code example shows how to use `delete-vpc-endpoint-service-configurations`.

**AWS CLI**

**To delete an endpoint service configuration**

This example deletes the specified endpoint service configuration.

**Command:**

```bash
aws ec2 delete-vpc-endpoint-service-configurations --service-ids vpce-svc-03d5ebb7d9579a2b3
```

**Output:**

```javascript
{
   "Unsuccessful": []
}
```

For API details, see [DeleteVpcEndpointServiceConfigurations](#) in [AWS CLI Command Reference](#).

### delete-vpc-endpoints

The following code example shows how to use `delete-vpc-endpoints`.

**AWS CLI**

**To delete an endpoint**
This example deletes endpoints vpce-aa22bb33 and vpce-1a2b3c4d. If the command is partially successful or unsuccessful, a list of unsuccessful items is returned. If the command succeeds, the returned list is empty.

Command:

```
aws ec2 delete-vpc-endpoints --vpc-endpoint-ids vpce-aa22bb33 vpce-1a2b3c4d
```

Output:

```
{
   "Unsuccessful": []
}
```

- For API details, see [DeleteVpcEndpoints](https://awscli.amazonaws.com/v2/documentation/api/reference/ec2/delete-vpc-endpoints.html) in *AWS CLI Command Reference*.

### delete-vpc-peering-connection

The following code example shows how to use `delete-vpc-peering-connection`.

**AWS CLI**

**To delete a VPC peering connection**

This example deletes the specified VPC peering connection.

Command:

```
aws ec2 delete-vpc-peering-connection --vpc-peering-connection-id pcx-1a2b3c4d
```

Output:

```
{
   "Return": true
}
```

- For API details, see [DeleteVpcPeeringConnection](https://awscli.amazonaws.com/v2/documentation/api/reference/ec2/delete-vpc-peering-connection.html) in *AWS CLI Command Reference*.

### delete-vpn-connection

The following code example shows how to use `delete-vpn-connection`.
**AWS CLI**

**To delete a VPN connection**

This example deletes the specified VPN connection. If the command succeeds, no output is returned.

Command:

```bash
aws ec2 delete-vpn-connection --vpn-connection-id vpn-40f41529
```

- For API details, see [DeleteVpnConnection](https://awscli.amazonaws.com/v2/documentation/api/current/reference/service/ec2.html#aws-cli:ec2.delete-vpn-connection) in *AWS CLI Command Reference*.

**delete-vpn-connection-route**

The following code example shows how to use `delete-vpn-connection-route`.

**AWS CLI**

**To delete a static route from a VPN connection**

This example deletes the specified static route from the specified VPN connection. If the command succeeds, no output is returned.

Command:

```bash
aws ec2 delete-vpn-connection-route --vpn-connection-id vpn-40f41529 --destination-cidr-block 11.12.0.0/16
```

- For API details, see [DeleteVpnConnectionRoute](https://awscli.amazonaws.com/v2/documentation/api/current/reference/service/ec2.html#aws-cli:ec2.delete-vpn-connection-route) in *AWS CLI Command Reference*.

**delete-vpn-gateway**

The following code example shows how to use `delete-vpn-gateway`.

**AWS CLI**

**To delete a virtual private gateway**

This example deletes the specified virtual private gateway. If the command succeeds, no output is returned.
Command:

```
aws ec2 delete-vpn-gateway --vpn-gateway-id vgw-9a4caef3
```

- For API details, see `DeleteVpnGateway` in *AWS CLI Command Reference*.

**deprovision-byoip-cidr**

The following code example shows how to use `deprovision-byoip-cidr`.

**AWS CLI**

**To remove an IP address range from use**

The following example removes the specified address range from use with AWS.

```
aws ec2 deprovision-byoip-cidr \
    --cidr 203.0.113.25/24
```

Output:

```
{
    "ByoipCidr": {
        "Cidr": "203.0.113.25/24",
        "State": "pending-deprovision"
    }
}
```

- For API details, see `DeprovisionByoipCidr` in *AWS CLI Command Reference*.

**deprovision-ipam-pool-cidr**

The following code example shows how to use `deprovision-ipam-pool-cidr`.

**AWS CLI**

**To deprovision an IPAM pool CIDR**

The following `deprovision-ipam-pool-cidr` example deprovisions a CIDR provisioned to an IPAM pool.
(Linux):

```
aws ec2 deprovision-ipam-pool-cidr \
   --ipam-pool-id ipam-pool-02ec043a19bbe5d08 \ 
   --cidr 11.0.0.0/16
```

(Windows):

```
aws ec2 deprovision-ipam-pool-cidr ^
   --ipam-pool-id ipam-pool-02ec043a19bbe5d08 ^
   --cidr 11.0.0.0/16
```

Output:

```
{
   "IpamPoolCidr": {
      "Cidr": "11.0.0.0/16",
      "State": "pending-deprovision"
   }
}
```

For more information, see Deprovision pool CIDRs in the Amazon VPC IPAM User Guide.

- For API details, see DeprovisionIpamPoolCidr in AWS CLI Command Reference.

**deregister-image**

The following code example shows how to use `deregister-image`.

**AWS CLI**

**To deregister an AMI**

This example deregisters the specified AMI. If the command succeeds, no output is returned.

Command:

```
aws ec2 deregister-image --image-id ami-4fa54026
```

- For API details, see DeregisterImage in AWS CLI Command Reference.
deregister-instance-event-notification-attributes

The following code example shows how to use deregister-instance-event-notification-attributes.

AWS CLI

Example 1: To remove all tags from event notifications

The following deregister-instance-event-notification-attributes example removes IncludeAllTagsOfInstance=true, which has the effect of setting IncludeAllTagsOfInstance to false.

```bash
aws ec2 deregister-instance-event-notification-attributes \
   --instance-tag-attribute IncludeAllTagsOfInstance=true
```

Output:

```
{
   "InstanceTagAttribute": {
      "InstanceTagKeys": [],
      "IncludeAllTagsOfInstance": true
   }
}
```

For more information, see Scheduled events for your instances in the Amazon Elastic Compute Cloud User Guide for Linux Instances.

Example 2: To remove specific tags from event notifications

The following deregister-instance-event-notification-attributes example removes the specified tag from the tags included in event notifications. To describe the remaining tags included in event notifications, use describe-instance-event-notification-attributes.

```bash
aws ec2 deregister-instance-event-notification-attributes \
   --instance-tag-attribute InstanceTagKeys="tag-key2"
```

Output:

```
{
}
```
For more information, see Scheduled events for your instances in the Amazon Elastic Compute Cloud User Guide for Linux Instances.

For API details, see DeregisterInstanceEventNotificationAttributes in AWS CLI Command Reference.

deregister-transit-gateway-multicast-group-members

The following code example shows how to use deregister-transit-gateway-multicast-group-members.

AWS CLI

To deregister group members from a multicast group

This example deregisters the specified network interface group member from the transit gateway multicast group.

```bash
aws ec2 deregister-transit-gateway-multicast-group-members \
   --transit-gateway-multicast-domain-id tgw-mcast-domain-0c4905cef7EXAMPLE \ 
   --group-ip-address 224.0.1.0 \ 
   --network-interface-ids eni-0e246d3269EXAMPLE
```

Output:

```json
{
   "DeregisteredMulticastGroupMembers": {
      "TransitGatewayMulticastDomainId": "tgw-mcast-domain-0c4905cef7EXAMPLE",
      "RegisteredNetworkInterfaceIds": [ "eni-0e246d3269EXAMPLE"
      ],
      "GroupIpAddress": "224.0.1.0"
   }
}
```
For more information, see **Deregister Members from a Multicast Group** in the *AWS Transit Gateways Users Guide*.

- For API details, see **DeregisterTransitGatewayMulticastGroupMembers** in *AWS CLI Command Reference*.

---

**deregister-transit-gateway-multicast-group-source**

The following code example shows how to use `deregister-transit-gateway-multicast-group-source`.

**AWS CLI**

**To deregister a source from the transit gateway multicast group**

This example deregisters the specified network interface group source from the multicast group.

```
aws ec2 register-transit-gateway-multicast-group-sources \\
   --transit-gateway-multicast-domain-id tgw-mcast-domain-0c4905cef79d6e597 \\
   --group-ip-address 224.0.1.0 \\
   --network-interface-ids eni-07f290fc3c090c9be
```

Output:

```
{
   "DeregisteredMulticastGroupSources": {
      "TransitGatewayMulticastDomainId": "tgw-mcast-domain-0c4905cef79d6e597",
      "DeregisteredNetworkInterfaceIds": [
         "eni-07f290fc3c090c9be"
      ],
      "GroupIpAddress": "224.0.1.0"
   }
}
```

For more information, see **Deregister Sources from a Multicast Group** in the *AWS Transit Gateways User Guide*.

- For API details, see **DeregisterTransitGatewayMulticastGroupSource** in *AWS CLI Command Reference*.
describe-account-attributes

The following code example shows how to use describe-account-attributes.

AWS CLI

To describe all the attributes for your AWS account

This example describes the attributes for your AWS account.

Command:

```bash
aws ec2 describe-account-attributes
```

Output:

```json
{
   "AccountAttributes": [
      {
         "AttributeName": "vpc-max-security-groups-per-interface",
         "AttributeValues": [
            {
               "AttributeValue": "5"
            }
         ]
      },
      {
         "AttributeName": "max-instances",
         "AttributeValues": [
            {
               "AttributeValue": "20"
            }
         ]
      },
      {
         "AttributeName": "supported-platforms",
         "AttributeValues": [
            {
               "AttributeValue": "EC2"
            },
            {
               "AttributeValue": "VPC"
            }
         ]
      }
   ]
}
```
To describe a single attribute for your AWS account

This example describes the supported-platforms attribute for your AWS account.

Command:

```bash
aws ec2 describe-account-attributes --attribute-names supported-platforms
```

Output:

```json
{
  "AccountAttributes": [
    {
      "AttributeName": "supported-platforms",
      "AttributeValues": [
        {
          "AttributeValue": "all"
        }
      ]
    }
  ]
}
```
describe-address-transfers

The following code example shows how to use describe-address-transfers.

AWS CLI

To describe an Elastic IP address transfer

The following describe-address-transfers example describes the Elastic IP address transfer for the specified Elastic IP address.

```bash
aws ec2 describe-address-transfers \
  --allocation-ids eipalloc-09ad461b0d03f6aaf
```

Output:

```
{
   "AddressTransfers": [
   {
      "PublicIp": "100.21.184.216",
      "AllocationId": "eipalloc-09ad461b0d03f6aaf",
      "TransferAccountId": "123456789012",
      "TransferOfferExpirationTimestamp": "2023-02-22T22:51:01.000Z",
      "AddressTransferStatus": "pending"
   }
   ]
}
```

For more information, see Transfer Elastic IP addresses in the Amazon VPC User Guide.
describe-addresses-attribute

The following code example shows how to use describe-addresses-attribute.

AWS CLI

To view the attributes of the domain name associated with an elastic IP address

The following describe-addresses-attribute examples return the attributes of the domain name associated with the elastic IP address.

Linux:

```bash
aws ec2 describe-addresses-attribute \
  --allocation-ids eipalloc-abcdef01234567890 \
  --attribute domain-name
```

Windows:

```bash
aws ec2 describe-addresses-attribute ^
  --allocation-ids eipalloc-abcdef01234567890 ^
  --attribute domain-name
```

Output:

```
{
  "Addresses": [
    {
      "PublicIp": "192.0.2.0",
      "AllocationId": "eipalloc-abcdef01234567890",
      "PtrRecord": "example.com."
    }
  ]
}
```

To view the attributes of an elastic IP address, you must have first associated a domain name with the elastic IP address. For more information, see Use reverse DNS for email applications in the Amazon EC2 User Guide or modify-address-attribute in the AWS CLI Command Reference.

• For API details, see DescribeAddressesAttribute in AWS CLI Command Reference.
**describe-aggregate-id-format**

The following code example shows how to use describe-aggregate-id-format.

**AWS CLI**

**To describe the longer ID format settings for all resource types in a Region**

The following describe-aggregate-id-format example describes the overall long ID format status for the current Region. The Deadline value indicates that the deadlines for these resources to permanently switch from the short ID format to the long ID format expired. The UseLongIdsAggregated value indicates that all IAM users and IAM roles are configured to use long ID format for all resource types.

```bash
aws ec2 describe-aggregate-id-format
```

Output:

```json
{
   "UseLongIdsAggregated": true,
   "Statuses": [
      {
         "Deadline": "2018-08-13T02:00:00.000Z",
         "Resource": "network-interface-attachment",
         "UseLongIds": true
      },
      {
         "Deadline": "2016-12-13T02:00:00.000Z",
         "Resource": "instance",
         "UseLongIds": true
      },
      {
         "Deadline": "2018-08-13T02:00:00.000Z",
         "Resource": "elastic-ip-association",
         "UseLongIds": true
      },
      ...
   ]
}
```

- For API details, see [DescribeAggregateIdFormat](#) in *AWS CLI Command Reference.*
describe-aws-network-performance-metric-subscription

The following code example shows how to use describe-aws-network-performance-metric-subscription.

AWS CLI

To describe your metric subscriptions

The following describe-aws-network-performance-metric-subscriptions example describes your metric subscriptions.

```
aws ec2 describe-aws-network-performance-metric-subscriptions
```

Output:

```
{
   "Subscriptions": [
   {
       "Source": "us-east-1",
       "Destination": "eu-west-1",
       "Metric": "aggregate-latency",
       "Statistic": "p50",
       "Period": "five-minutes"
    }
   ]
}
```

For more information, see Manage subscriptions in the Infrastructure Performance User Guide.

- For API details, see DescribeAwsNetworkPerformanceMetricSubscription in AWS CLI Command Reference.

describe-aws-network-performance-metric-subscriptions

The following code example shows how to use describe-aws-network-performance-metric-subscriptions.

AWS CLI

To describe your metric subscriptions
The following `describe-aws-network-performance-metric-subscriptions` example describes your metric subscriptions.

```bash
aws ec2 describe-aws-network-performance-metric-subscriptions
```

Output:

```json
{
   "Subscriptions": [
   {
      "Source": "us-east-1",
      "Destination": "eu-west-1",
      "Metric": "aggregate-latency",
      "Statistic": "p50",
      "Period": "five-minutes"
   }
   ]
}
```

For more information, see Manage subscriptions in the Infrastructure Performance User Guide.

- For API details, see `DescribeAwsNetworkPerformanceMetricSubscriptions` in AWS CLI Command Reference.

**describe-bundle-tasks**

The following code example shows how to use `describe-bundle-tasks`.

**AWS CLI**

**To describe your bundle tasks**

This example describes all of your bundle tasks.

Command:

```bash
aws ec2 describe-bundle-tasks
```

Output:

```json
{
}
For API details, see DescribeBundleTasks in AWS CLI Command Reference.

describe-byoip-cidrs

The following code example shows how to use describe-byoip-cidrs.

AWS CLI

To describe your provisioned address ranges

The following describe-byoip-cidrs example displays details about the public IPv4 address ranges that you provisioned for use by AWS.

```
aws ec2 describe-byoip-cidrs
```

Output:

```
{
   "ByoipCidrs": [
   {
      "Cidr": "203.0.113.25/24",
      "StatusMessage": "ipv4pool-ec2-1234567890abcdef0",
      "State": "provisioned"
   }
   ]
}
```
describe-capacity-reservation-fleets

The following code example shows how to use describe-capacity-reservation-fleets.

**AWS CLI**

**To view a Capacity Reservation Fleet**

The following describe-capacity-reservation-fleets example lists configuration and capacity information for the specified Capacity Reservation Fleet. It also lists details about the individual Capacity Reservations that are inside the Fleet:

```
aws ec2 describe-capacity-reservation-fleets \\--capacity-reservation-fleet-ids crf-abcdef01234567890
```

Output:

```
{
   "CapacityReservationFleets": [
   {
       "Status": "active",
       "EndDate": "2022-12-31T23:59:59.000Z",
       "InstanceMatchCriteria": "open",
       "Tags": [],
       "CapacityReservationFleetId": "crf-abcdef01234567890",
       "Tenancy": "default",
       "InstanceTypeSpecifications": [
       {
           "CapacityReservationId": "cr-1234567890abcdef0",
           "AvailabilityZone": "us-east-1a",
           "FulfilledCapacity": 5.0,
           "Weight": 1.0,
           "CreateDate": "2022-07-02T08:34:33.398Z",
           "InstancePlatform": "Linux/UNIX",
           "TotalInstanceCount": 5,
           "Priority": 1,
           "EbsOptimized": true,
       }
   ]
   }
```
For more information about Capacity Reservation Fleets, see [Capacity Reservation Fleets](#) in the Amazon EC2 User Guide.

- For API details, see [DescribeCapacityReservationFleets](#) in AWS CLI Command Reference.

describe-capacity-reservations

The following code example shows how to use describe-capacity-reservations.

**AWS CLI**

**Example 1: To describe one or more of your capacity reservations**

The following describe-capacity-reservations example displays details about all of your capacity reservations in the current AWS Region.

```bash
aws ec2 describe-capacity-reservations
```

Output:

```
{
   "CapacityReservations": [
       {
           "CapacityReservationId": "cr-1234abcd56EXAMPLE ",
           "EndDateType": "unlimited",
           "AvailabilityZone": "eu-west-1a",
           "InstanceMatchCriteria": "open",
           "Tags": [],
           "EphemeralStorage": false,
           "CreateDate": "2019-08-16T09:03:18.000Z",
           "AvailableInstanceCount": 1,
           ...
       }
   ]
}
```
Example 2: To describe one or more of your capacity reservations

The following describe-capacity-reservations example displays details about the specified capacity reservation.

```
aws ec2 describe-capacity-reservations \
   --capacity-reservation-ids cr-1234abcd56EXAMPLE
```

Output:

```
{
   "CapacityReservations": [
      {
         "CapacityReservationId": "cr-1234abcd56EXAMPLE",
         "EndDateType": "unlimited",
         "AvailabilityZone": "eu-west-1a",
         "InstanceMatchCriteria": "open",
         "Tags": [],
         "EphemeralStorage": false,
         "CreateDate": "2019-08-07T11:34:19.000Z",
         "AvailableInstanceCount": 3,
         "InstancePlatform": "Linux/UNIX",
         "TotalInstanceCount": 3,
         "State": "cancelled",
         "Tenancy": "default",
         "EbsOptimized": true,
         "InstanceType": "m5.large"
      }
   ]
}
```
For more information, see Viewing a Capacity Reservation in the Amazon Elastic Compute Cloud User Guide for Linux Instances.

- For API details, see DescribeCapacityReservations in AWS CLI Command Reference.

describe-carrier-gateways

The following code example shows how to use describe-carrier-gateways.

AWS CLI

To describe all carrier gateways

The following describe-carrier-gateways example lists all your carrier gateways.

aws ec2 describe-carrier-gateways

Output:

```json
{
  "CarrierGateways": [
    {
      "CarrierGatewayId": "cagw-0465cdEXAMPLE1111",
      "VpcId": "vpc-0c529aEXAMPLE",
      "State": "available",
      "OwnerId": "123456789012",
      "Tags": [
        {
          "Key": "Name",
          "Value": "default"
        }
      ]
    }
  ]
}
```
The following code example shows how to use describe-classic-link-instances.

**AWS CLI**

**To describe linked EC2-Classic instances**

This example lists all of your linked EC2-Classic instances.

**Command:**

```bash
aws ec2 describe-classic-link-instances
```

**Output:**

```json
{
   "Instances": [
      {
         "InstanceId": "i-1234567890abcdef0",
         "VpcId": "vpc-88888888",
         "Groups": [
            {
               "GroupId": "sg-11122233"
            }
         ],
         "Tags": [
            {
               "Value": "ClassicInstance",
               "Key": "Name"
            }
         ]
      }
   ]
}
```
This example lists all of your linked EC2-Classic instances, and filters the response to include only instances that are linked to VPC vpc-88888888.

Command:

```bash
aws ec2 describe-classic-link-instances --filter "Name=vpc-id,Values=vpc-88888888"
```

Output:

```
{
   "Instances": [
      {
         "InstanceId": "i-1234567890abcdef0",
         "VpcId": "vpc-88888888",
         "Groups": [
            {
               "GroupId": "sg-11122233"
            }
         ],
         "Tags": [
            {
               "Value": "ClassicInstance",
               "Key": "Name"
            }
         ]
      }
   ]
}
```
• For API details, see DescribeClassicLinkInstances in AWS CLI Command Reference.

describe-client-vpn-authorization-rules

The following code example shows how to use describe-client-vpn-authorization-rules.

AWS CLI

To describe the authorization rules for a Client VPN endpoint

The following describe-client-vpn-authorization-rules example displays details about the authorization rules for the specified Client VPN endpoint.

aws ec2 describe-client-vpn-authorization-rules \
   --client-vpn-endpoint-id cvpn-endpoint-123456789123abcde

Output:

```json
{
   "AuthorizationRules": [
      {
         "ClientVpnEndpointId": "cvpn-endpoint-123456789123abcde",
         "GroupId": "",
         "AccessAll": true,
         "DestinationCidr": "0.0.0.0/0",
         "Status": {
            "Code": "active"
         }
      }
   ]
}
```

For more information, see Authorization Rules in the AWS Client VPN Administrator Guide.

• For API details, see DescribeClientVpnAuthorizationRules in AWS CLI Command Reference.
describe-client-vpn-connections

The following code example shows how to use describe-client-vpn-connections.

AWS CLI

To describe the connections to a Client VPN endpoint

The following describe-client-vpn-connections example displays details about the client connections to the specified Client VPN endpoint.

```
aws ec2 describe-client-vpn-connections \
  --client-vpn-endpoint-id cvpn-endpoint-123456789123abcde
```

Output:

```
{
  "Connections": [
    {
      "ClientVpnEndpointId": "cvpn-endpoint-123456789123abcde",
      "Timestamp": "2019-08-12 07:58:34",
      "ConnectionId": "cvpn-connection-0e03eb24267165acd",
      "ConnectionEstablishedTime": "2019-08-12 07:57:14",
      "IngressBytes": "32302",
      "EgressBytes": "5696",
      "IngressPackets": "332",
      "EgressPackets": "67",
      "ClientIp": "172.31.0.225",
      "CommonName": "client1.domain.tld",
      "Status": {
        "Code": "terminated"
      },
      "ConnectionEndTime": "2019-08-12 07:58:34"
    },
    {
      "ClientVpnEndpointId": "cvpn-endpoint-123456789123abcde",
      "Timestamp": "2019-08-12 08:02:54",
      "ConnectionId": "cvpn-connection-00668867a40f18253",
      "ConnectionEstablishedTime": "2019-08-12 08:02:53",
      "IngressBytes": "2951",
      "EgressBytes": "2611",
      "IngressPackets": "9",
      "EgressPackets": "6",
    }
  ]
}
```
For more information, see [Client Connections](#) in the *AWS Client VPN Administrator Guide*.

- For API details, see [DescribeClientVpnConnections](#) in *AWS CLI Command Reference*.

### describe-client-vpn-endpoints

The following code example shows how to use `describe-client-vpn-endpoints`.

**AWS CLI**

**To describe your Client VPN endpoints**

The following `describe-client-vpn-endpoints` example displays details about all of your Client VPN endpoints.

```
aws ec2 describe-client-vpn-endpoints
```

**Output:**

```
{
  "ClientVpnEndpoints": [
    {
      "ClientVpnEndpointId": "cvpn-endpoint-123456789123abcde",
      "Description": "Endpoint for Admin access",
      "Status": {
        "Code": "available"
      },
      "CreationTime": "2020-11-13T11:37:27",
      "DnsName": "*.cvpn-endpoint-123456789123abcde.prod.clientvpn.ap-south-1.amazonaws.com",
      "ClientCidrBlock": "172.31.0.0/16",
      "DnsServers": [
        "8.8.8.8"
      ]
    }
  ]
}
```
For more information, see [Client VPN Endpoints](https://docs.aws.amazon.com/clientvpn/latest/adminguide/client-vpn-endpoints.html) in the AWS [Client VPN Administrator Guide](https://docs.aws.amazon.com/clientvpn/latest/admin-guide/).

- For API details, see [DescribeClientVpnEndpoints](https://docs.aws.amazon.com/cli/latest/reference/clientvpn/describe-client-vpn-endpoints.html) in AWS CLI Command Reference.
describe-client-vpn-routes

The following code example shows how to use describe-client-vpn-routes.

AWS CLI

To describe the routes for a Client VPN endpoint

The following describe-client-vpn-routes example displays details about the routes for the specified Client VPN endpoint.

```bash
aws ec2 describe-client-vpn-routes \
    --client-vpn-endpoint-id cvpn-endpoint-123456789123abcde
```

Output:

```json
{
    "Routes": [
        {
            "ClientVpnEndpointId": "cvpn-endpoint-123456789123abcde",
            "DestinationCidr": "10.0.0.0/16",
            "TargetSubnet": "subnet-0123456789abcdef",
            "Type": "Nat",
            "Origin": "associate",
            "Status": {
                "Code": "active"
            },
            "Description": "Default Route"
        },
        {
            "ClientVpnEndpointId": "cvpn-endpoint-123456789123abcde",
            "DestinationCidr": "0.0.0.0/0",
            "TargetSubnet": "subnet-0123456789abcdef",
            "Type": "Nat",
            "Origin": "add-route",
            "Status": {
                "Code": "active"
            }
        }
    ]
}
```

For more information, see Routes in the AWS Client VPN Administrator Guide.
describe-client-vpn-target-networks

The following code example shows how to use describe-client-vpn-target-networks.

AWS CLI

To describe the target networks for a Client VPN endpoint

The following describe-client-vpn-target-networks example displays details about the target networks for the specified Client VPN endpoint.

```
aws ec2 describe-client-vpn-target-networks \
--client-vpn-endpoint-id cvpn-endpoint-123456789123abcde
```

Output:

```
{
   "ClientVpnTargetNetworks": [
      {
         "AssociationId": "cvpn-assoc-012e837060753dc3d",
         "VpcId": "vpc-11111222222333333",
         "TargetNetworkId": "subnet-0123456789abcabca",
         "ClientVpnEndpointId": "cvpn-endpoint-123456789123abcde",
         "Status": {
            "Code": "associating"
         },
         "SecurityGroups": [ "sg-012345678910abcab"
         ]
      }
   ]
}
```

For more information, see Target Networks in the AWS Client VPN Administrator Guide.

For API details, see DescribeClientVpnTargetNetworks in AWS CLI Command Reference.

describe-coip-pools

The following code example shows how to use describe-coip-pools.
AWS CLI

To describe customer-owned IP address pools

The following `describe-coip-pools` example describes the customer-owned IP address pools in your AWS account.

```
aws ec2 describe-coip-pools
```

Output:

```
{
   "CoipPools": [
   {
       "PoolId": "ipv4pool-coip-123a45678bEXAMPLE",
       "PoolCidrs": ["0.0.0.0/0"],
       "LocalGatewayRouteTableId": "lgw-rtb-059615ef7dEXAMPLE",
    }
  ]
}
```

For more information, see Customer-owned IP addresses in the AWS Outposts User Guide.

- For API details, see DescribeCoipPools in AWS CLI Command Reference.

describe-conversion-tasks

The following code example shows how to use `describe-conversion-tasks`.

AWS CLI

To view the status of a conversion task

This example returns the status of a conversion task with the ID import-i-ffvko9js.

Command:

```
aws ec2 describe-conversion-tasks --conversion-task-ids import-i-ffvko9js
```
Output:

```json
{
    "ConversionTasks": [
        {
            "ConversionTaskId": "import-i-ffvko9js",
            "ImportInstance": {
                "InstanceId": "i-1234567890abcdef0",
                "Volumes": [
                    {
                        "Volume": {
                            "Id": "vol-049df61146c4d7901",
                            "Size": 16
                        },
                        "Status": "completed",
                        "Image": {
                            "Size": 1300687360,
                            "ImportManifestUrl": "https://s3.amazonaws.com/myimportbucket/411443cd-d620-4f1c-9d66-13144EXAMPLE/RHEL5.vmdkmanifest.xml?AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE&Expires=140EXAMPLE&Signature=XYNhznHNgCqsjDxL9wRL%2FJvEXAMPLE",
                            "Format": "VMDK"
                        },
                        "BytesConverted": 1300682960,
                        "AvailabilityZone": "us-east-1d"
                    }
                ],
                "State": "completed"
            }
        }
    ]
}
```

- For API details, see [DescribeConversionTasks](https://awsdocs.amazonaws.com/AmazonS3/latest/API/ACCT.html#ACCT-Operation) in *AWS CLI Command Reference*.

**describe-customer-gateways**

The following code example shows how to use `describe-customer-gateways`.

**AWS CLI**

To describe your customer gateways
This example describes your customer gateways.

Command:

```bash
aws ec2 describe-customer-gateways
```

Output:

```json
{
    "CustomerGateways": [
        {
            "CustomerGatewayId": "cgw-b4dc3961",
            "IpAddress": "203.0.113.12",
            "State": "available",
            "Type": "ipsec.1",
            "BgpAsn": "65000"
        },
        {
            "CustomerGatewayId": "cgw-0e11f167",
            "IpAddress": "12.1.2.3",
            "State": "available",
            "Type": "ipsec.1",
            "BgpAsn": "65534"
        }
    ]
}
```

To describe a specific customer gateway

This example describes the specified customer gateway.

Command:

```bash
aws ec2 describe-customer-gateways --customer-gateway-ids cgw-0e11f167
```

Output:

```json
{
    "CustomerGateways": [
        {
            "CustomerGatewayId": "cgw-0e11f167",
            "IpAddress": "12.1.2.3",
```
• For API details, see [DescribeCustomerGateways](#) in [AWS CLI Command Reference](#).

describe-dhcp-options

The following code example shows how to use `describe-dhcp-options`.

**AWS CLI**

**Example 1: To describe your DHCP options**

The following `describe-dhcp-options` example retrieves details about your DHCP options.

```bash
aws ec2 describe-dhcp-options
```

**Output:**

```json
{
   "DhcpOptions": [ 
   {
      "DhcpConfigurations": [ 
      {
         "Key": "domain-name",
         "Values": [ 
         {
            "Value": "us-east-2.compute.internal"
         }
      },
      ]
   },
   {
      "Key": "domain-name-servers",
      "Values": [ 
      {
         "Value": "AmazonProvidedDNS"
      }
   ]
   }
   ]
}
```
For more information, see Working with DHCP Option Sets in the AWS VPC User Guide.

Example 2: To describe your DHCP options and filter the output

The following describe-dhcp-options example describes your DHCP options and uses a filter to return only DHCP options that have example.com for the domain name server. The example uses the --query parameter to display only the configuration information and ID in the output.

```
aws ec2 describe-dhcp-options \
   --filters Name=key,Values=domain-name-servers Name=value,Values=example.com \
   --query "DhcpOptions[*].[DhcpConfigurations,DhcpOptionsId]"
```

Output:
For more information, see [Working with DHCP Option Sets](https://docs.aws.amazon.com/vpc/latest/userguide/working-with-dhcp-option-sets.html) in the *AWS VPC User Guide*.

- For API details, see [DescribeDhcpOptions](https://docs.aws.amazon.com/cli/latest/reference/ec2/describe-dhcp-options.html) in *AWS CLI Command Reference*.

### describe-egress-only-internet-gateways

The following code example shows how to use `describe-egress-only-internet-gateways`.

**AWS CLI**

**To describe your egress-only Internet gateways**

This example describes your egress-only Internet gateways.

**Command:**

```
aws ec2 describe-egress-only-internet-gateways
```

**Output:**
For API details, see DescribeEgressOnlyInternetGateways in AWS CLI Command Reference.

describe-elastic-gpus

The following code example shows how to use describe-elastic-gpus.

AWS CLI

To describe an Elastic GPU

Command:

```bash
aws ec2 describe-elastic-gpus --elastic-gpu-ids egpu-12345678901234567890abcdefghijkl
```

For API details, see DescribeElasticGpus in AWS CLI Command Reference.

describe-export-image-tasks

The following code example shows how to use describe-export-image-tasks.

AWS CLI

To monitor an export image task

The following describe-export-image-tasks example checks the status of the specified export image task. The resulting image file in Amazon S3 is my-export-bucket.exports/export-ami-1234567890abcdef0.vmdk.
dict aws ec2 describe-export-image-tasks \
   --export-image-task-ids export-ami-1234567890abcdef0

Output for an export image task that is in progress.

```
{
   "ExportImageTasks": [
   {
      "ExportImageTaskId": "export-ami-1234567890abcdef0"
      "Progress": "21",
      "S3ExportLocation": {
         "S3Bucket": "my-export-bucket",
         "S3Prefix": "exports/
      },
      "Status": "active",
      "StatusMessage": "updating"
   }
   ]
}
```

Output for an export image task that is completed.

```
{
   "ExportImageTasks": [
   {
      "ExportImageTaskId": "export-ami-1234567890abcdef0"
      "S3ExportLocation": {
         "S3Bucket": "my-export-bucket",
         "S3Prefix": "exports/
      },
      "Status": "completed"
   }
   ]
}
```

For more information, see Export a VM from an AMI in the VM Import/Export User Guide.
- For API details, see DescribeExportImageTasks in AWS CLI Command Reference.

describe-export-tasks

The following code example shows how to use describe-export-tasks.
AWS CLI

To list details about an instance export task

This example describes the export task with ID export-i-fh8sjjsq.

Command:

```
aws ec2 describe-export-tasks --export-task-ids export-i-fh8sjjsq
```

Output:

```
{
   "ExportTasks": [
      {
         "State": "active",
         "InstanceExportDetails": {
            "InstanceId": "i-1234567890abcdef0",
            "TargetEnvironment": "vmware"
         },
         "ExportToS3Task": {
            "S3Bucket": "myexportbucket",
            "S3Key": "RHEL5export-i-fh8sjjsq.ova",
            "DiskImageFormat": "vmdk",
            "ContainerFormat": "ova"
         },
         "Description": "RHEL5 instance",
         "ExportTaskId": "export-i-fh8sjjsq"
      }
   ]
}
```

- For API details, see [DescribeExportTasks](https://docs.aws.amazon.com/cli/latest/reference/ec2/describe-export-tasks.html) in *AWS CLI Command Reference*.

describe-fast-launch-images

The following code example shows how to use `describe-fast-launch-images`.

AWS CLI

To describe the details for Windows AMIs that are configured for faster launching
The following describe-fast-launch-images example describes the details for each of the AMIs in your account that are configured for faster launching, including the resource type, the snapshot configuration, the launch template details, the maximum number of parallel launches, the AMI owner ID, the state of the fast launch configuration, the reason the state was changed, and the time that the state change occurred.

```
aws ec2 describe-fast-launch-images
```

**Output:**

```
{
   "FastLaunchImages": [
   {
      "ImageId": "ami-01234567890abcedf",
      "ResourceType": "snapshot",
      "SnapshotConfiguration": {},
      "LaunchTemplate": {
         "LaunchTemplateId": "lt-01234567890abcedf",
         "LaunchTemplateName": "EC2FastLaunchDefaultResourceCreation-a8c6215d-94e6-441b-9272-dbd1f87b07e2",
         "Version": "1"
      },
      "MaxParallelLaunches": 6,
      "OwnerId": "0123456789123",
      "State": "enabled",
      "StateTransitionReason": "Client.UserInitiated",
      "StateTransitionTime": "2022-01-27T22:20:06.552000+00:00"
   }
   ]
}
```

For more information about configuring a Windows AMI for faster launching, see Configure your AMI for faster launching in the Amazon EC2 User Guide.

- For API details, see DescribeFastLaunchImages in AWS CLI Command Reference.

**describe-fast-snapshot-restores**

The following code example shows how to use describe-fast-snapshot-restores.
AWS CLI

**To describe fast snapshot restores**

The following `describe-fast-snapshot-restores` example displays details for all fast snapshot restores with a state of disabled.

```
aws ec2 describe-fast-snapshot-restores \
  --filters Name=state,Values=disabled
```

Output:

```
{
  "FastSnapshotRestores": [
    {
      "SnapshotId": "snap-1234567890abcdef0",
      "AvailabilityZone": "us-west-2c",
      "State": "disabled",
      "StateTransitionReason": "Client.UserInitiated - Lifecycle state transition",
      "OwnerId": "123456789012",
      "EnablingTime": "2020-01-25T23:57:49.596Z",
      "OptimizingTime": "2020-01-25T23:58:25.573Z",
      "DisablingTime": "2020-01-26T00:40:56.069Z",
      "DisabledTime": "2020-01-26T00:41:27.390Z"
    }
  ]
}
```

The following `describe-fast-snapshot-restores` example describes all fast snapshot restores.

```
aws ec2 describe-fast-snapshot-restores
```

- For API details, see [DescribeFastSnapshotRestores](#) in AWS CLI Command Reference.

**describe-fleet-history**

The following code example shows how to use `describe-fleet-history`.

---

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AWS CLI

To describe EC2 Fleet history

The following describe-fleet-history example returns the history for the specified EC2 Fleet starting at the specified time. The output is for an EC2 Fleet with two running instances.

```bash
aws ec2 describe-fleet-history \
  --fleet-id fleet-12a34b55-67cd-8ef9-ba9b-9208dEXAMPLE \
  --start-time 2020-09-01T00:00:00Z
```

Output:

```
{
    "HistoryRecords": [
    {
        "EventInformation": {
            "EventSubType": "submitted"
        },
        "EventType": "fleetRequestChange",
        "Timestamp": "2020-09-01T18:26:05.000Z"
    },
    {
        "EventInformation": {
            "EventSubType": "active"
        },
        "EventType": "fleetRequestChange",
        "Timestamp": "2020-09-01T18:26:15.000Z"
    },
    {
        "EventInformation": {
            "EventDescription": "t2.small, ami-07c8bc5c1ce9598c3, ...",
            "EventSubType": "progress"
        },
        "EventType": "fleetRequestChange",
        "Timestamp": "2020-09-01T18:26:17.000Z"
    },
    {
        "EventInformation": {
            "InstanceId": "i-083a1c446e66085d2"
        },
        "EventSubType": "launched",
        "Timestamp": "2020-09-01T18:26:17.000Z"
    }
]
```
For more information, see [Managing an EC2 Fleet](https://docs.aws.amazon.com/AmazonElasticComputeCloud/latest/UserGuide/EC2-For-Specialist-Users.html) in the *Amazon Elastic Compute Cloud User Guide for Linux Instances*.

- For API details, see [DescribeFleetHistory](https://docs.aws.amazon.com/cli/latest/reference/ec2/describe-fleet-history.html) in *AWS CLI Command Reference*.

### describe-fleet-instances

The following code example shows how to use `describe-fleet-instances`.

**AWS CLI**

To describe the running instances for an EC2 Fleet

The following `describe-fleet-instances` example describes the running instances for the specified EC2 Fleet.

```
aws ec2 describe-fleet-instances 
   --fleet-id 12a34b55-67cd-8ef9-ba9b-9208dEXAMPLE
```

Output:

```json
{
   "ActiveInstances": [
      {
```

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"InstanceId": "i-090db02406cc3c2d6",
"InstanceType": "t2.small",
"SpotInstanceRequestId": "sir-a43gtpfk",
"InstanceHealth": "healthy"
},
{
"InstanceId": "i-083a1c446e66085d2",
"InstanceType": "t2.small",
"SpotInstanceRequestId": "sir-iwcit2nj",
"InstanceHealth": "healthy"
}
],  
"FleetId": "fleet-12a34b55-67cd-8ef9-ba9b-9208dEXAMPLE"
}

For more information, see [Managing an EC2 Fleet](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide) in the *Amazon Elastic Compute Cloud User Guide for Linux Instances*.

- For API details, see [DescribeFleetInstances](https://docs.aws.amazon.com/cli/latest/reference/ec2/describe-fleet-instances) in *AWS CLI Command Reference*.

describe-fleets

The following code example shows how to use `describe-fleets`.

**AWS CLI**

**To describe an EC2 Fleet**

The following `describe-fleets` example describes the specified EC2 Fleet.

```
aws ec2 describe-fleets \
    --fleet-ids fleet-12a34b55-67cd-8ef9-ba9b-9208dEXAMPLE
```

**Output:**

```
{
   "Fleets": [ 
   {
      "ActivityStatus": "pending_fulfillment",
      "CreateTime": "2020-09-01T18:26:05.000Z",
      "FleetId": "fleet-12a34b55-67cd-8ef9-ba9b-9208dEXAMPLE",
      "FleetState": "active",
      "ExcessCapacityTerminationPolicy": "termination",
```
For more information, see Managing an EC2 Fleet in the Amazon Elastic Compute Cloud User Guide for Linux Instances.

- For API details, see DescribeFleets in AWS CLI Command Reference.

describe-flow-logs

The following code example shows how to use describe-flow-logs.

AWS CLI

Example 1: To describe all of your flow logs
The following `describe-flow-logs` example displays details for all of your flow logs.

```
aws ec2 describe-flow-logs
```

Output:

```json
{
   "FlowLogs": [
      {
         "DeliverLogsPermissionArn": "arn:aws:iam::123456789012:role/flow-logs-role",
         "DeliverLogsStatus": "SUCCESS",
         "FlowLogId": "fl-aabbccdd112233445",
         "MaxAggregationInterval": 600,
         "FlowLogStatus": "ACTIVE",
         "LogGroupName": "FlowLogGroup",
         "ResourceId": "subnet-12345678901234567",
         "TrafficType": "ALL",
         "LogDestinationType": "cloud-watch-logs",
         "LogFormat": "${version} ${account-id} ${interface-id} ${srcaddr} ${dstaddr} ${srcport} ${dstport} ${protocol} ${packets} ${bytes} ${start} ${end} ${action} ${log-status}"
      },
      {
         "CreationTime": "2020-02-04T15:22:29.986Z",
         "DeliverLogsStatus": "SUCCESS",
         "FlowLogId": "fl-01234567890123456",
         "MaxAggregationInterval": 60,
         "FlowLogStatus": "ACTIVE",
         "ResourceId": "vpc-00112233445566778",
         "TrafficType": "ACCEPT",
         "LogDestinationType": "s3",
         "LogDestination": "arn:aws:s3:::my-flow-log-bucket/custom",
         "LogFormat": "${version} ${vpc-id} ${subnet-id} ${instance-id} ${interface-id} ${account-id} ${type} ${srcaddr} ${dstaddr} ${srcport} ${dstport} ${pkt-srcaddr} ${pkt-dstaddr} ${protocol} ${bytes} ${packets} ${start} ${end} ${action} ${tcp-flags} ${log-status}"
      }
   ]
}
```

**Example 2:** To describe a subset of your flow logs
The following describe-flow-logs example uses a filter to display details for only those flow logs that are in the specified log group in Amazon CloudWatch Logs.

```bash
aws ec2 describe-flow-logs \
  --filter "Name=log-group-name,Values=MyFlowLogs"
```

- For API details, see [DescribeFlowLogs](https://docs.aws.amazon.com/cli/latest/reference/ec2/describe-flow-logs.html) in *AWS CLI Command Reference*.

**describe-fpga-image-attribute**

The following code example shows how to use `describe-fpga-image-attribute`.

**AWS CLI**

**To describe the attributes of an Amazon FPGA image**

This example describes the load permissions for the specified AFI.

**Command:**

```bash
aws ec2 describe-fpga-image-attribute --fpga-image-id afi-0d123e123bfc85abc --attribute loadPermission
```

**Output:**

```
{
  "FpgaImageAttribute": {
    "FpgaImageId": "afi-0d123e123bfc85abc",
    "LoadPermissions": [
      {
        "UserId": "123456789012"
      }
    ]
  }
}
```

- For API details, see [DescribeFpgaImageAttribute](https://docs.aws.amazon.com/cli/latest/reference/ec2/describe-fpga-image-attribute.html) in *AWS CLI Command Reference*.

**describe-fpga-images**

The following code example shows how to use `describe-fpga-images`.
AWS CLI

**To describe Amazon FPGA images**

This example describes AFIs that are owned by account 123456789012.

Command:

```
aws ec2 describe-fpga-images --filters Name=owner-id,Values=123456789012
```

Output:

```json
{
    "FpgaImages": [
        {
            "UpdateTime": "2017-12-22T12:09:14.000Z",
            "Name": "my-afi",
            "PciId": {
                "SubsystemVendorId": "0xfedd",
                "VendorId": "0x1d0f",
                "DeviceId": "0xf000",
                "SubsystemId": "0x1d51"
            },
            "FpgaImageGlobalId": "agfi-123cb27b5e84a0abc",
            "Public": false,
            "State": {
                "Code": "available"
            },
            "ShellVersion": "0x071417d3",
            "OwnerId": "123456789012",
            "FpgaImageId": "afi-0d123e123bfc85abc",
            "CreateTime": "2017-12-22T11:43:33.000Z",
            "Description": "my-afi"
        }
    ]
}
```

- For API details, see [DescribeFpgaImages](https://docs.aws.amazon.com/cli/latest/reference/ec2/describe-fpga-images.html) in *AWS CLI Command Reference*.

**describe-host-reservation-offerings**

The following code example shows how to use `describe-host-reservation-offerings`.
**AWS CLI**

**To describe Dedicated Host Reservation offerings**

This example describes the Dedicated Host Reservations for the M4 instance family that are available to purchase.

**Command:**

```
aws ec2 describe-host-reservation-offerings --filter Name=instance-family,Values=m4
```

**Output:**

```
{
   "OfferingSet": [
      {
         "HourlyPrice": "1.499",
         "OfferingId": "hro-03f707bf363b6b324",
         "InstanceFamily": "m4",
         "PaymentOption": "NoUpfront",
         "UpfrontPrice": "0.000",
         "Duration": 31536000
      },
      {
         "HourlyPrice": "1.045",
         "OfferingId": "hro-0ef9181cabdef7a02",
         "InstanceFamily": "m4",
         "PaymentOption": "NoUpfront",
         "UpfrontPrice": "0.000",
         "Duration": 94608000
      },
      {
         "HourlyPrice": "0.714",
         "OfferingId": "hro-04567a15500b92a51",
         "InstanceFamily": "m4",
         "PaymentOption": "PartialUpfront",
         "UpfrontPrice": "6254.000",
         "Duration": 31536000
      },
      {
         "HourlyPrice": "0.484",
         "OfferingId": "hro-0d5d7a9d23ed7fbe",
         "InstanceFamily": "m4",
      }
   ]
}
```
<table>
<thead>
<tr>
<th>PaymentOption</th>
<th>UpfrontPrice</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>PartialUpfront</td>
<td>12720.000</td>
<td>94608000</td>
</tr>
<tr>
<td>AllUpfront</td>
<td>23913.000</td>
<td>94608000</td>
</tr>
<tr>
<td>AllUpfront</td>
<td>12257.000</td>
<td>31536000</td>
</tr>
</tbody>
</table>

For API details, see [DescribeHostReservationOfferings](https://docs.aws.amazon.com/cli/latest/reference/ec2/describe-host-reservations) in AWS CLI Command Reference.

**describe-host-reservations**

The following code example shows how to use `describe-host-reservations`.

**AWS CLI**

**To describe Dedicated Host Reservations in your account**

This example describes the Dedicated Host Reservations in your account.

Command:

```bash
aws ec2 describe-host-reservations
```

Output:

```json
{
```
"HostReservationSet": [ 
  
  "Count": 1,
  "End": "2019-01-10T12:14:09Z",
  "HourlyPrice": "1.499",
  "InstanceFamily": "m4",
  "OfferingId": "hro-03f707bf363b6b324",
  "PaymentOption": "NoUpfront",
  "State": "active",
  "HostIdSet": [ 
    "h-013abcd2a00cbd123"
  ],
  "Start": "2018-01-10T12:14:09Z",
  "HostReservationId": "hr-0d418a3a4ff69ae",
  "UpfrontPrice": "0.000",
  "Duration": 31536000

  
  ]

}]

• For API details, see DescribeHostReservations in AWS CLI Command Reference.

describe-hosts

The following code example shows how to use describe-hosts.

**AWS CLI**

**To view details about Dedicated Hosts**

The following describe-hosts example displays details for the available Dedicated Hosts in your AWS account.

```bash
aws ec2 describe-hosts --filter "Name=state,Values=available"
```

Output:

```json
{
  "Hosts": [ 
    {
      "HostId": "h-07879ac9f49EXAMPLE",
      "Tags": [
```
For more information, see Viewing Dedicated Hosts in the Amazon Elastic Compute Cloud User Guide for Linux Instances.

- For API details, see DescribeHosts in AWS CLI Command Reference.

describe-id-format

The following code example shows how to use describe-id-format.

AWS CLI

Example 1: To describe the ID format of a resource
The following describe-id-format example describes the ID format for security groups.

```
aws ec2 describe-id-format
   --resource security-group
```

In the following example output, the Deadline value indicates that the deadline for this resource type to permanently switch from the short ID format to the long ID format expired at 00:00 UTC on August 15, 2018.

```
{
   "Statuses": [
      {
         "Deadline": "2018-08-15T00:00:00.000Z",
         "Resource": "security-group",
         "UseLongIds": true
      }
   ]
}
```

**Example 2: To describe the ID format for all resources**

The following describe-id-format example describes the ID format for all resource types. All resource types that supported the short ID format were switched to use the long ID format.

```
aws ec2 describe-id-format
```

- For API details, see [DescribeIdFormat](#) in [AWS CLI Command Reference](#).

**describe-identity-id-format**

The following code example shows how to use describe-identity-id-format.

**AWS CLI**

**To describe the ID format for an IAM role**

The following describe-identity-id-format example describes the ID format received by instances created by the IAM role EC2Role in your AWS account.

```
aws ec2 describe-identity-id-format
```
The following output indicates that instances created by this role receive IDs in long ID format.

```json
{
    "Statuses": [
        {
            "Deadline": "2016-12-15T00:00:00Z",
            "Resource": "instance",
            "UseLongIds": true
        }
    ]
}
```

To describe the ID format for an IAM user

The following `describe-identity-id-format` example describes the ID format received by snapshots created by the IAM user `AdminUser` in your AWS account.

```
aws ec2 describe-identity-id-format \
    --principal-arn arn:aws:iam::123456789012:user/AdminUser \
    --resource snapshot
```

The output indicates that snapshots created by this user receive IDs in long ID format.

```json
{
    "Statuses": [
        {
            "Deadline": "2016-12-15T00:00:00Z",
            "Resource": "snapshot",
            "UseLongIds": true
        }
    ]
}
```

- For API details, see `DescribelIdentityIdFormat` in AWS CLI Command Reference.

**describe-image-attribute**

The following code example shows how to use `describe-image-attribute`. 
AWS CLI

To describe the launch permissions for an AMI

This example describes the launch permissions for the specified AMI.

Command:

```bash
aws ec2 describe-image-attribute --image-id ami-5731123e --attribute launchPermission
```

Output:

```json
{
   "LaunchPermissions": [
      {
         "UserId": "123456789012"
      }
   ],
   "ImageId": "ami-5731123e",
}
```

To describe the product codes for an AMI

This example describes the product codes for the specified AMI. Note that this AMI has no product codes.

Command:

```bash
aws ec2 describe-image-attribute --image-id ami-5731123e --attribute productCodes
```

Output:

```json
{
   "ProductCodes": [],
   "ImageId": "ami-5731123e",
}
```

- For API details, see [DescribeImageAttribute](#) in *AWS CLI Command Reference*. 

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describe-import-image-tasks

The following code example shows how to use describe-import-image-tasks.

AWS CLI

To monitor an import image task

The following describe-import-image-tasks example checks the status of the specified import image task.

```bash
aws ec2 describe-import-image-tasks \
  --import-task-ids import-ami-1234567890abcdef0
```

Output for an import image task that is in progress.

```json
{
  "ImportImageTasks": [
    {
      "ImportTaskId": "import-ami-1234567890abcdef0",
      "Progress": "28",
      "SnapshotDetails": [
        {
          "DiskImageSize": 705638400.0,
          "Format": "ova",
          "Status": "completed",
          "UserBucket": {
            "S3Bucket": "my-import-bucket",
            "S3Key": "vms/my-server-vm.ova"
          }
        }
      ],
      "Status": "active",
      "StatusMessage": "converting"
    }
  ]
}
```

Output for an import image task that is completed. The ID of the resulting AMI is provided by ImageId.

```json
{
}
```
"ImportImageTasks": [
  {
    "ImportTaskId": "import-ami-1234567890abcdef0",
    "ImageId": "ami-1234567890abcdef0",
    "SnapshotDetails": [
      {
        "DiskImageSize": 705638400.0,
        "Format": "ova",
        "SnapshotId": "snap-1234567890abcdef0"
      }
    ],
    "Status": "completed",
    "UserBucket": {
      "S3Bucket": "my-import-bucket",
      "S3Key": "vms/my-server-vm.ova"
    }
  }
],
"Status": "completed"
}  

• For API details, see DescribeImportImageTasks in AWS CLI Command Reference.

describe-import-snapshot-tasks

The following code example shows how to use describe-import-snapshot-tasks.

AWS CLI

To monitor an import snapshot task

The following describe-import-snapshot-tasks example checks the status of the specified import snapshot task.

aws ec2 describe-import-snapshot-tasks \\  --import-task-ids import-snap-1234567890abcdef0

Output for an import snapshot task that is in progress:

{  
  "ImportSnapshotTasks": [  


Output for an import snapshot task that is completed. The ID of the resulting snapshot is provided by `SnapshotId`.

```json
{
    "ImportSnapshotTasks": [
    {
        "Description": "My server VMDK",
        "ImportTaskId": "import-snap-1234567890abcdef0",
        "SnapshotTaskDetail": {
            "Description": "My server VMDK",
            "DiskImageSize": "705638400.0",
            "Format": "VMDK",
            "Progress": "42",
            "Status": "active",
            "StatusMessage": "downloading/converting",
            "UserBucket": {
                "S3Bucket": "my-import-bucket",
                "S3Key": "vms/my-server-vm.vmdk"
            }
        }
    }
    ]
}
```

- For API details, see [DescribeImportSnapshotTasks](https://docs.aws.amazon.com/cli/latest/reference/ecs/describe-import-snapshot-tasks.html) in *AWS CLI Command Reference*. 

Actions and scenarios
**describe-instance-attribute**

The following code example shows how to use `describe-instance-attribute`.

**AWS CLI**

**To describe the instance type**

This example describes the instance type of the specified instance.

Command:

```bash/aws ec2 describe-instance-attribute --instance-id i-1234567890abcdef0 --attribute instanceType```

Output:

```json
{
   "InstanceId": "i-1234567890abcdef0"
   "InstanceType": {
      "Value": "t1.micro"
   }
}
```

**To describe the disableApiTermination attribute**

This example describes the `disableApiTermination` attribute of the specified instance.

Command:

```bash/aws ec2 describe-instance-attribute --instance-id i-1234567890abcdef0 --attribute disableApiTermination```

Output:

```json
{
   "InstanceId": "i-1234567890abcdef0"
   "DisableApiTermination": {
      "Value": "false"
   }
}
```

**To describe the block device mapping for an instance**
This example describes the `blockDeviceMapping` attribute of the specified instance.

Command:

```
aws ec2 describe-instance-attribute --instance-id i-1234567890abcdef0 --attribute blockDeviceMapping
```

Output:

```
{
   "InstanceId": "i-1234567890abcdef0",
   "BlockDeviceMappings": [
      {
         "DeviceName": "/dev/sda1",
         "Ebs": {
            "Status": "attached",
            "DeleteOnTermination": true,
            "VolumeId": "vol-049df61146c4d7901",
            "AttachTime": "2013-05-17T22:42:34.000Z"
         }
      },
      {
         "DeviceName": "/dev/sdf",
         "Ebs": {
            "Status": "attached",
            "DeleteOnTermination": false,
            "VolumeId": "vol-049df61146c4d7901",
            "AttachTime": "2013-09-10T23:07:00.000Z"
         }
      }
   ],
}
```

- For API details, see [DescribeInstanceAttribute](https://docs.aws.amazon.com/cli/latest/reference/ec2/describe-instance-attribute.html) in AWS CLI Command Reference.

**describe-instance-connect-endpoints**

The following code example shows how to use `describe-instance-connect-endpoints`.

**AWS CLI**

To describe an EC2 Instance Connect Endpoint
The following `describe-instance-connect-endpoints` example describes the specified EC2 Instance Connect Endpoint.

```
aws ec2 describe-instance-connect-endpoints \
  --region us-east-1 \
  --instance-connect-endpoint-ids eice-0123456789example
```

Output:

```
{
  "InstanceConnectEndpoints": [
    {
      "OwnerId": "111111111111",
      "InstanceConnectEndpointId": "eice-0123456789example",
      "InstanceConnectEndpointArn": "arn:aws:ec2:us-east-1:111111111111:instance-connect-endpoint/eice-0123456789example",
      "State": "create-complete",
      "StateMessage": "",
      "DnsName": "eice-0123456789example.b67b86ba.ec2-instance-connect-endpoint.us-east-1.amazonaws.com",
      "NetworkInterfaceIds": ["eni-0123456789example"],
      "VpcId": "vpc-0123abcd",
      "AvailabilityZone": "us-east-1d",
      "CreatedAt": "2023-02-07T12:05:37+00:00",
      "SubnetId": "subnet-0123abcd",
      "Tags": []
    }
  ]
}
```

For more information, see [Create an EC2 Instance Connect Endpoint](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/instance-connect-endpoint-create.html) in the Amazon EC2 User Guide.

- For API details, see [DescribeInstanceConnectEndpoints](https://docs.aws.amazon.com/cli/latest/reference/ec2/describe-instance-connect-endpoints.html) in AWS CLI Command Reference.

**describe-instance-credit-specifications**

The following code example shows how to use `describe-instance-credit-specifications`.
AWS CLI

**To describe the credit option for CPU usage of one or more instances**

The following describe-instance-credit-specifications example describes the CPU credit option for the specified instance.

```
aws ec2 describe-instance-credit-specifications \
   --instance-ids i-1234567890abcdef0
```

Output:

```
{
   "InstanceCreditSpecifications": [
      {
         "InstanceId": "i-1234567890abcdef0",
         "CpuCredits": "unlimited"
      }
   ]
}
```

For more information, see [Work with burstable performance instances](https://docs.aws.amazon.com/AmazonEC2/latest/UserGuide/WorkWithBurstablePerformanceInstances.html) in the *Amazon EC2 User Guide*.

- For API details, see [DescribeInstanceCreditSpecifications](https://docs.aws.amazon.com/AWSCommandLineReference/latest/reference/describe-instance-credit-specifications.html) in *AWS CLI Command Reference*.

**describe-instance-event-notification-attributes**

The following code example shows how to use describe-instance-event-notification-attributes.

**AWS CLI**

**To describe the tags for scheduled event notifications**

The following describe-instance-event-notification-attribute example describes the tags to appear in scheduled event notifications.

```
aws ec2 describe-instance-event-notification-attributes
```

Output:
For more information, see Scheduled events for your instances in the Amazon Elastic Compute Cloud User Guide for Linux Instances.

- For API details, see DescribeInstanceEventNotificationAttributes in AWS CLI Command Reference.

describe-instance-event-windows

The following code example shows how to use describe-instance-event-windows.

AWS CLI

**Example 1: To describe all event windows**

The following describe-instance-event-windows example describes all event windows in the specified Region.

```bash
aws ec2 describe-instance-event-windows \
   --region us-east-1
```

Output:

```json
{
   "InstanceEventWindows": [
      {
         "InstanceEventWindowId": "iew-0abcdef1234567890",
         "Name": "myEventWindowName",
         "CronExpression": "* 21-23 * * 2,3",
         "AssociationTarget": {
            "InstanceIds": [
               "i-1234567890abcdef0",
               "i-0598c7d356eba48d7"
            ],
            "Tags": [],
            "DedicatedHostIds": []
         }
      }
   ]
}
```
Example 2: To describe a specific event window

The following `describe-instance-event-windows` example describes a specific event by using the `instance-event-window` parameter to describe a specific event window.

```
aws ec2 describe-instance-event-windows \
  --region us-east-1 \
  --instance-event-window-ids iew-0abcdef1234567890
```

Output:

```
{
  "InstanceEventWindows": [
    {
      "InstanceEventWindowId": "iew-0abcdef1234567890",
      "Name": "myEventWindowName",
      "CronExpression": "* 21-23 * * 2,3",
      "AssociationTarget": {
        "InstanceIds": [
          "i-1234567890abcdef0",
          "i-0598c7d356eba48d7"
        ],
        "Tags": [],
        "DedicatedHostIds": []
      },
      "State": "active",
      "Tags": []
    }
  ]
}
```

Example 3: To describe event windows that match one or more filters
The following `describe-instance-event-windows` example describes event windows that match one or more filters using the `filter` parameter. The `instance-id` filter is used to describe all of the event windows that are associated with the specified instance. When a filter is used, it performs a direct match. However, the `instance-id` filter is different. If there is no direct match to the instance ID, then it falls back to indirect associations with the event window, such as the tags of the instance or Dedicated Host ID (if the instance is a Dedicated Host).

```
aws ec2 describe-instance-event-windows \
   --region us-east-1 \
   --filters Name=instance-id,Values=i-1234567890abcdef0 \
   --max-results 100 \
   --next-token <next-token-value>
```

Output:

```
{
   "InstanceEventWindows": [
      {
         "InstanceEventWindowId": "iew-0dbc0adb66f235982",
         "TimeRanges": [
            {
               "StartWeekDay": "sunday",
               "StartHour": 2,
               "EndWeekDay": "sunday",
               "EndHour": 8
            }
         ],
         "Name": "myEventWindowName",
         "AssociationTarget": {
            "InstanceIds": [],
            "Tags": [],
            "DedicatedHostIds": [
               "h-0140d9a7ecbd102dd"
            ]
         },
         "State": "active",
         "Tags": []
      }
   ]
}
```
In the example output, the instance is on a Dedicated Host, which is associated with the event window.

For event window constraints, see Considerations in the Amazon EC2 User Guide.

- For API details, see DescribeInstanceEventWindows in AWS CLI Command Reference.

describe-instance-topology

The following code example shows how to use describe-instance-topology.

AWS CLI

To describe the instance topology of all your instances

The following describe-instance-topology example describes the topology of all your instances that match the supported instance types for this command.

```
aws ec2 describe-instance-topology \
  --region us-west-2
```

Output:

```
{
  "Instances": [
    {
      "InstanceId": "i-1111111111example",
      "InstanceType": "p4d.24xlarge",
      "GroupName": "my-ml-cpg",
      "NetworkNodes": [
        "nn-1111111111example",
        "nn-2222222222example",
        "nn-3333333333example"
      ],
      "ZoneId": "usw2-az2",
      "AvailabilityZone": "us-west-2a"
    },
    {
      "InstanceId": "i-2222222222example",
      "InstanceType": "p4d.24xlarge",
      "NetworkNodes": [
        "nn-1111111111example",
        "nn-2222222222example"
      ]
    }
  ]
}
```
For more information, including more examples, see Amazon EC2 instance topology in the Amazon EC2 User Guide.

- For API details, see DescribeInstanceTopology in AWS CLI Command Reference.

describe-instance-type-offerings

The following code example shows how to use describe-instance-type-offerings.

AWS CLI

Example 1: To list the instance types offered in a Region
The following describe-instance-type-offerings example lists the instance types offered in the Region configured as the default Region for the AWS CLI.

```bash
aws ec2 describe-instance-type-offerings
```

To list the instance types offered in a different Region, specify the Region using the `--region` parameter.

```bash
aws ec2 describe-instance-type-offerings \
   --region us-east-2
```

Output:

```json
{
   "InstanceTypeOfferings": [
      {
         "InstanceType": "m5.2xlarge",
         "LocationType": "region",
         "Location": "us-east-2"
      },
      {
         "InstanceType": "t3.micro",
         "LocationType": "region",
         "Location": "us-east-2"
      },
      ...
   ]
}
```

**Example 2: To list the instance types offered in an Availability Zone**

The following describe-instance-type-offerings example lists the instance types offered in the specified Availability Zone. The Availability Zone must be in the specified Region.

```bash
aws ec2 describe-instance-type-offerings \
   --location-type availability-zone \
   --filters Name=location,Values=us-east-2a \
   --region us-east-2
```

**Example 3: To check whether an instance type is supported**
The following `describe-instance-type-offerings` command indicates whether the `c5.xlarge` instance type is supported in the specified Region.

```bash
aws ec2 describe-instance-type-offerings \
   --filters Name=instance-type,Values=c5.xlarge \
   --region us-east-2
```

The following `describe-instance-type-offerings` example lists all C5 instance types that are supported in the specified Region.

```bash
aws ec2 describe-instance-type-offerings \
   --filters Name=instance-type,Values=c5* \
   --query "InstanceTypeOfferings[].InstanceType" \
   --region us-east-2
```

Output:

```
[  "c5d.12xlarge",  
  "c5d.9xlarge",  
  "c5n.xlarge",  
  "c5.xlarge",  
  "c5d.metal",  
  "c5n.metal",  
  "c5.large",  
  "c5d.2xlarge",  
  "c5n.4xlarge",  
  "c5.2xlarge",  
  "c5n.large",  
  "c5n.9xlarge",  
  "c5d.large",  
  "c5.18xlarge",  
  "c5d.18xlarge",  
  "c5.12xlarge",  
  "c5n.18xlarge",  
  "c5.metal",  
  "c5d.4xlarge",  
  "c5.24xlarge",  
  "c5d.xlarge",  
  "c5n.2xlarge",  
  "c5d.24xlarge",  
  "c5.9xlarge",
```
For API details, see DescribeInstanceTypeOfferings in AWS CLI Command Reference.

describe-internet-gateways

The following code example shows how to use describe-internet-gateways.

AWS CLI

To describe an internet gateway

The following describe-internet-gateways example describes the specified internet gateway.

aws ec2 describe-internet-gateways \\n  --internet-gateway-ids igw-0d0fb496b3EXAMPLE

Output:

```json
{
  "InternetGateways": [
    {
      "Attachments": [
        {
          "State": "available",
          "VpcId": "vpc-0a60eb65bEXAMPLE"
        }
      ],
      "InternetGatewayId": "igw-0d0fb496b3EXAMPLE",
      "OwnerId": "123456789012",
      "Tags": [
        {
          "Key": "Name",
          "Value": "my-igw"
        }
      ]
    }
  ]
}
```
For more information, see Internet gateways in the Amazon VPC User Guide.

- For API details, see DescribeInternetGateways in AWS CLI Command Reference.

describe-ipam-pools

The following code example shows how to use describe-ipam-pools.

AWS CLI

To view the details for an IPAM pool

The following describe-ipam-pools example shows the details for pools.

(Linux):

```
aws ec2 describe-ipam-pools \
   --filters Name=owner-id,Values=123456789012 Name=ipam-scope-id,Values=ipam-scope-02fc38cd4c48e7d38
```

(Windows):

```
aws ec2 describe-ipam-pools ^
   --filters Name=owner-id,Values=123456789012 Name=ipam-scope-id,Values=ipam-scope-02fc38cd4c48e7d38
```

Output:

```json
{
   "IpamPools": [
      {
         "OwnerId": "123456789012",
         "IpamPoolId": "ipam-pool-02ec043a19bbe5d08",
         "IpamPoolArn": "arn:aws:ec2::123456789012:ipam-pool/ipam-pool-02ec043a19bbe5d08",
         "IpamScopeArn": "arn:aws:ec2::123456789012:ipam-scope/ipam-scope-02fc38cd4c48e7d38",
         "IpamScopeType": "private",
         "IpamArn": "arn:aws:ec2::123456789012:ipam-ipam-08440e7a3acde3908",
         "IpamRegion": "us-east-1",
         "Locale": "None",
         "PoolDepth": 1,
         "State": "create-complete",
```
"AutoImport": true,
"AddressFamily": "ipv4",
"AllocationMinNetmaskLength": 16,
"AllocationMaxNetmaskLength": 26,
"AllocationDefaultNetmaskLength": 24,
"AllocationResourceTags": [ 
    
    ],
"Tags": [ 
    
    ]
]
}

• For API details, see DescribeIpamPools in AWS CLI Command Reference.

describe-ipam-scopes

The following code example shows how to use describe-ipam-scopes.

AWS CLI

To view the details for an IPAM scope

The following describe-ipam-scopes example shows the details for scopes.

```bash
aws ec2 describe-ipam-scopes \
    --filters Name=owner-id,Values=123456789012 Name=ipam-id,Values=ipam-08440e7a3acde3908
```

Output:

```json
{
    "IpamScopes": [
        
        ],
    "OwnerId": "123456789012",
```
"IpamScopeId": "ipam-scope-02fc38cd4c48e7d38",
"IpamScopeArn": "arn:aws:ec2::123456789012:ipam-scope/ipam-scope-02fc38cd4c48e7d38",
"IpamArn": "arn:aws:ec2::123456789012:ipam-ipam-08440e7a3acde3908",
"IpamRegion": "us-east-1",
"IpamScopeType": "private",
"IsDefault": true,
"PoolCount": 2,
"State": "create-complete",
"Tags": []
}
{
  "OwnerId": "123456789012",
  "IpamScopeId": "ipam-scope-0b9eed026396dbc16",
  "IpamScopeArn": "arn:aws:ec2::123456789012:ipam-scope/ipam-scope-0b9eed026396dbc16",
  "IpamArn": "arn:aws:ec2::123456789012:ipam-ipam-08440e7a3acde3908",
  "IpamRegion": "us-east-1",
  "IpamScopeType": "public",
  "IsDefault": true,
  "PoolCount": 0,
  "State": "create-complete",
  "Tags": []
}
{
  "OwnerId": "123456789012",
  "IpamScopeId": "ipam-scope-0f1aff29486355c22",
  "IpamScopeArn": "arn:aws:ec2::123456789012:ipam-scope/ipam-scope-0f1aff29486355c22",
  "IpamArn": "arn:aws:ec2::123456789012:ipam-ipam-08440e7a3acde3908",
  "IpamRegion": "us-east-1",
  "IpamScopeType": "private",
  "IsDefault": false,
  "Description": "Example description",
  "PoolCount": 0,
  "State": "create-complete",
  "Tags": [
    {
      "Key": "Name",
      "Value": "Example name value"
    }
  ]
}
describe-ipams

The following code example shows how to use `describe-ipams`.

**AWS CLI**

*To view the details for an IPAM*

The following `describe-ipams` example shows the details of an IPAM.

```
aws ec2 describe-ipams \
    --filters Name=owner-id,Values=123456789012
```

**Output:**

```json
{
    "Ipams": [
        {
            "OwnerId": "123456789012",
            "IpamId": "ipam-08440e7a3acde3908",
            "IpamArn": "arn:aws:ec2::123456789012:ipam/ipam-08440e7a3acde3908",
            "IpamRegion": "us-east-1",
            "PublicDefaultScopeId": "ipam-scope-0b9eed026396dbc16",
            "PrivateDefaultScopeId": "ipam-scope-02fc38cd4c48e7d38",
            "ScopeCount": 3,
            "OperatingRegions": [
                {
                    "RegionName": "us-east-1"
                },
                {
                    "RegionName": "us-east-2"
                },
                {
                    "RegionName": "us-west-1"
                }
            ],
            "State": "create-complete",
            "Tags": [
                {
                    ...  // Additional tags
                }
            ]
        }
    ]
}
```
The following code example shows how to use `describe-ipv6-pools`.

**AWS CLI**

**To describe your IPv6 address pools**

The following `describe-ipv6-pools` example displays details for all of your IPv6 address pools.

```bash
aws ec2 describe-ipv6-pools
```

**Output:**

```
{
    "Ipv6Pools": [
        {
            "PoolId": "ipv6pool-ec2-012345abc12345abc",
            "PoolCidrBlocks": [
                {
                    "Cidr": "2001:db8:123::/48"
                }
            ],
            "Tags": [
                {
                    "Key": "pool-1",
                    "Value": "public"
                }
            ]
        }
    ]
}
```
The following code example shows how to use `describe-launch-template-versions`.

### AWS CLI

**To describe launch template versions**

This example describes the versions of the specified launch template.

**Command:**

```
aws ec2 describe-launch-template-versions --launch-template-id lt-068f72b72934aff71
```

**Output:**

```
{
   "LaunchTemplateVersions": [
      {
         "LaunchTemplateId": "lt-068f72b72934aff71",
         "LaunchTemplateName": "Webservers",
         "VersionNumber": 3,
         "CreatedBy": "arn:aws:iam::123456789102:root",
         "LaunchTemplateData": {
            "KeyName": "kp-us-east",
            "ImageId": "ami-6057e21a",
            "InstanceType": "t2.small",
            "NetworkInterfaces": [
               {
                  "SubnetId": "subnet-7b16de0c",
                  "DeviceIndex": 0,
                  "Groups": [
                     "sg-7c227019"
                  ]
               }
            ],
            "DefaultVersion": false,
            "CreateTime": "2017-11-20T13:19:54.000Z"
         }
      }
   ]
}
```
},
{
  "LaunchTemplateId": "lt-068f72b72934aff71",
  "LaunchTemplateName": "Webservers",
  "VersionNumber": 2,
  "CreatedBy": "arn:aws:iam::123456789102:root",
  "LaunchTemplateData": {
    "KeyName": "kp-us-east",
    "ImageId": "ami-6057e21a",
    "InstanceType": "t2.medium",
    "NetworkInterfaces": [
      {
        "SubnetId": "subnet-1a2b3c4d",
        "DeviceIndex": 0,
        "Groups": [
          "sg-7c227019"
        ]
      }
    ],
    "DefaultVersion": false,
    "CreateTime": "2017-11-20T13:12:32.000Z"
  }
},
{
  "LaunchTemplateId": "lt-068f72b72934aff71",
  "LaunchTemplateName": "Webservers",
  "VersionNumber": 1,
  "CreatedBy": "arn:aws:iam::123456789102:root",
  "LaunchTemplateData": {
    "UserData": "",
    "KeyName": "kp-us-east",
    "ImageId": "ami-aabbcc11",
    "InstanceType": "t2.medium",
    "NetworkInterfaces": [
      {
        "SubnetId": "subnet-7b16de0c",
        "DeviceIndex": 0,
        "DeleteOnTermination": false,
        "Groups": [
          "sg-7c227019"
        ],
        "AssociatePublicIpAddress": true
      }
    ]
  }
}
For API details, see `DescribeLaunchTemplateVersions` in *AWS CLI Command Reference*.

describe-launch-templates

The following code example shows how to use `describe-launch-templates`.

**AWS CLI**

To describe launch templates

This example describes your launch templates.

Command:

```bash
aws ec2 describe-launch-templates
```

Output:

```json
{
   "LaunchTemplates": [
      {
         "LatestVersionNumber": 2,
         "LaunchTemplateId": "lt-0e06d290751193123",
         "LaunchTemplateName": "TemplateForWebServer",
         "DefaultVersionNumber": 2,
         "CreatedBy": "arn:aws:iam::123456789012:root",
         "CreateTime": "2017-11-27T09:30:23.000Z"
      },
      {
         "LatestVersionNumber": 6,
         "LaunchTemplateId": "lt-0c45b5e061ec98456",
         "LaunchTemplateName": "DBServersTemplate",
         "DefaultVersionNumber": 1,
         "CreatedBy": "arn:aws:iam::123456789012:root",
         "CreateTime": "2017-11-20T09:25:22.000Z"
      }
   ]
}
```
For API details, see [DescribeLaunchTemplates](https://docs.aws.amazon.com/cli/latest/reference/ec2/describe-launch-templates.html) in *AWS CLI Command Reference*.

**describe-local-gateway-route-table-virtual-interface-group-associations**

The following code example shows how to use `describe-local-gateway-route-table-virtual-interface-group-associations`.

**AWS CLI**

To describe associations between virtual interface groups and local gateway route tables

The following `describe-local-gateway-route-table-virtual-interface-group-associations` example describes the associations between virtual interface groups and local gateway route tables in your AWS account.

```bash
aws ec2 describe-local-gateway-route-table-virtual-interface-group-associations
```

Output:

```json
{

}
```
The following code example shows how to use `describe-local-gateway-route-table-vpc-associations`.

**AWS CLI**

To describe the associations between VPCs and local gateway route tables

The following `describe-local-gateway-route-table-vpc-associations` example displays information about the specified association between VPCs and local gateway route tables.

```
aws ec2 describe-local-gateway-route-table-vpc-associations
  --local-gateway-route-table-vpc-association-ids lgw-vpc-assoc-0e0f27af15EXAMPLE
```

Output:

```json
{
  "LocalGatewayRouteTableVpcAssociation": {

  }
}
```

For more information, see [Working with local gateways](https://aws.amazon.com/outposts/user-guide/) in the *AWS Outposts User Guide*.

- For API details, see [DescribeLocalGatewayRouteTableVirtualInterfaceGroupAssociations](https://docs.aws.amazon.com/cli/latest/reference/ec2/describe-local-gateway-route-table-vpc-associations.html) in *AWS CLI Command Reference*.

```json
"LocalGatewayRouteTableVirtualInterfaceGroupAssociations": [

  {

    "LocalGatewayRouteTableVirtualInterfaceGroupAssociationId": "lgw-vif-grp-assoc-07145b276bEXAMPLE",
    "LocalGatewayVirtualInterfaceGroupId": "lgw-vif-grp-07145b276bEXAMPLE",
    "LocalGatewayId": "lgw-0ab1c23d4eEXAMPLE",
    "LocalGatewayRouteTableId": "lgw-rtb-059615ef7dEXAMPLE",
    "LocalGatewayRouteTableArn": "arn:aws:ec2:us-west-2:123456789012:local-gateway-route-table/lgw-rtb-059615ef7dEXAMPLE",
    "OwnerId": "123456789012",
    "State": "associated",
    "Tags": []

  }

]}
```
"LocalGatewayRouteTableVpcAssociationId": "lgw-vpc-assoc-0f27af1EXAMPLE",
"LocalGatewayRouteTableId": "lgw-rtb-059615ef7dEXAMPLE",
"LocalGatewayId": "lgw-09b493aa7cEXAMPLE",
"VpcId": "vpc-0efe9bde08EXAMPLE",
"State": "associated"

For more information, see Local gateway route tables in the Outposts User Guide.

- For API details, see DescribeLocalGatewayRouteTableVpcAssociations in AWS CLI Command Reference.

describe-local-gateway-route-tables

The following code example shows how to use describe-local-gateway-route-tables.

AWS CLI

To describe your Local Gateway Route Tables

The following describe-local-gateway-route-tables example displays details about the local gateway route tables.

aws ec2 describe-local-gateway-route-tables

Output:

{
   "LocalGatewayRouteTables": [
      {
         "LocalGatewayRouteTableId": "lgw-rtb-059615ef7deEXAMPLE",
         "LocalGatewayId": "lgw-09b493aa7cEXAMPLE",
         "State": "available"
      }
   ]
}

- For API details, see DescribeLocalGatewayRouteTables in AWS CLI Command Reference.
describe-local-gateway-virtual-interface-groups

The following code example shows how to use describe-local-gateway-virtual-interface-groups.

**AWS CLI**

To describe local gateway virtual interface groups

The following describe-local-gateway-virtual-interface-groups example describes the local gateway virtual interface groups in your AWS account.

```
aws ec2 describe-local-gateway-virtual-interface-groups
```

Output:

```
{
   "LocalGatewayVirtualInterfaceGroups": [
       {
         "LocalGatewayVirtualInterfaceGroupId": "lgw-vif-grp-07145b276bEXAMPLE",
         "LocalGatewayVirtualInterfaceIds": [
             "lgw-vif-01a23bc4d5EXAMPLE",
             "lgw-vif-543ab21012EXAMPLE"
         ],
         "LocalGatewayId": "lgw-0ab1c23d4eEXAMPLE",
         "OwnerId": "123456789012",
         "Tags": []
       }
   ]
}
```

For more information, see [Working with local gateways](#) in the AWS Outposts User Guide.

- For API details, see [DescribeLocalGatewayVirtualInterfaceGroups](#) in AWS CLI Command Reference.

describe-local-gateway-virtual-interfaces

The following code example shows how to use describe-local-gateway-virtual-interfaces.
**AWS CLI**

**To describe local gateway virtual interfaces**

The following `describe-local-gateway-virtual-interfaces` example describes the local gateway virtual interfaces in your AWS account.

```bash
aws ec2 describe-local-gateway-virtual-interfaces
```

Output:

```json
{
   "LocalGatewayVirtualInterfaces": [
   {
      "LocalGatewayVirtualInterfaceId": "lgw-vif-01a23bc4d5EXAMPLE",
      "LocalGatewayId": "lgw-0ab1c23d4eEXAMPLE",
      "Vlan": 2410,
      "LocalAddress": "0.0.0.0/0",
      "PeerAddress": "0.0.0.0/0",
      "LocalBgpAsn": 65010,
      "PeerBgpAsn": 65000,
      "OwnerId": "123456789012",
      "Tags": []
   },
   {
      "LocalGatewayVirtualInterfaceId": "lgw-vif-543ab21012EXAMPLE",
      "LocalGatewayId": "lgw-0ab1c23d4eEXAMPLE",
      "Vlan": 2410,
      "LocalAddress": "0.0.0.0/0",
      "PeerAddress": "0.0.0.0/0",
      "LocalBgpAsn": 65010,
      "PeerBgpAsn": 65000,
      "OwnerId": "123456789012",
      "Tags": []
   }
   ]
}
```

For more information, see [Working with local gateways](https://docs.aws.amazon.com/outsposts/latest/userguide/working-with-local-gateways.html) in the *AWS Outposts User Guide*.

- For API details, see [DescribeLocalGatewayVirtualInterfaces](https://docs.aws.amazon.com/cli/latest/reference/ec2/describe-local-gateway-virtual-interfaces.html) in *AWS CLI Command Reference*.  

---

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describe-local-gateways

The following code example shows how to use describe-local-gateways.

AWS CLI

To describe your Local Gateways

The following describe-local-gateways example displays details for the local gateways that are available to you.

```bash
aws ec2 describe-local-gateways
```

Output:

```json
{
   "LocalGateways": [
      {
         "LocalGatewayId": "lgw-09b493aa7cEXAMPLE",
         "OwnerId": "123456789012",
         "State": "available"
      }
   ]
}
```

- For API details, see [DescribeLocalGateways](https://docs.aws.amazon.com/cli/latest/reference/ec2/describe-local-gateways.html) in *AWS CLI Command Reference*.

describe-managed-prefix-lists

The following code example shows how to use describe-managed-prefix-lists.

AWS CLI

To describe managed prefix lists

The following describe-managed-prefix-lists example describes the prefix lists owned by AWS account 123456789012.

```bash
aws ec2 describe-managed-prefix-lists \\
   --filters Name=owner-id,Values=123456789012
```
Output:

```json
{
    "PrefixLists": [
        {
            "PrefixListId": "pl-11223344556677aab",
            "AddressFamily": "IPv6",
            "State": "create-complete",
            "PrefixListName": "vpc-ipv6-cidrs",
            "MaxEntries": 25,
            "Version": 1,
            "Tags": [],
            "OwnerId": "123456789012"
        },
        {
            "PrefixListId": "pl-0123456abcabcabc1",
            "AddressFamily": "IPv4",
            "State": "active",
            "PrefixListName": "vpc-cidrs",
            "MaxEntries": 10,
            "Version": 1,
            "Tags": [],
            "OwnerId": "123456789012"
        }
    ]
}
```

For more information, see Managed prefix lists in the Amazon VPC User Guide.

- For API details, see DescribeManagedPrefixLists in AWS CLI Command Reference.

describe-moving-addresses

The following code example shows how to use describe-moving-addresses.

AWS CLI

To describe your moving addresses
This example describes all of your moving Elastic IP addresses.

Command:

```bash
aws ec2 describe-moving-addresses
```

Output:

```json
{
  "MovingAddressStatuses": [
    {
      "PublicIp": "198.51.100.0",
      "MoveStatus": "MovingToVpc"
    }
  ]
}
```

This example describes all addresses that are moving to the EC2-VPC platform.

Command:

```bash
aws ec2 describe-moving-addresses --filters Name=moving-status,Values=MovingToVpc
```

• For API details, see [DescribeMovingAddresses](#) in [AWS CLI Command Reference](#).

describe-nat-gateways

The following code example shows how to use describe-nat-gateways.

**AWS CLI**

**Example 1: To describe a public NAT gateway**

The following describe-nat-gateways example describes the specified public NAT gateway.

```bash
aws ec2 describe-nat-gateways \
   --nat-gateway-id nat-0123456789abcdef
```

Output:

```json
{
  "NatGateways": [}
```
Example 2: To describe a private NAT gateway

The following describe-nat-gateways example describes the specified private NAT gateway.

```
aws ec2 describe-nat-gateways
```
Output:

```json
{
    "NatGateways": [
        {
            "CreateTime": "2023-08-25T00:50:05.000Z",
            "NatGatewayAddresses": [
                {
                    "NetworkInterfaceId": "eni-0065a61b324d1897a",
                    "PrivateIp": "10.0.20.240",
                    "IsPrimary": true,
                    "Status": "succeeded"
                },
                {
                    "NetworkInterfaceId": "eni-0065a61b324d1897a",
                    "PrivateIp": "10.0.20.33",
                    "IsPrimary": false,
                    "Status": "succeeded"
                },
                {
                    "NetworkInterfaceId": "eni-0065a61b324d1897a",
                    "PrivateIp": "10.0.20.197",
                    "IsPrimary": false,
                    "Status": "succeeded"
                }
            ],
            "NatGatewayId": "nat-1234567890abcdef0",
            "State": "available",
            "SubnetId": "subnet-08fc749671EXAMPLE",
            "VpcId": "vpc-098eb5ef58EXAMPLE",
            "Tags": [
                {
                    "Key": "Name",
                    "Value": "private-nat"
                }
            ],
            "ConnectivityType": "private"
        }
    ]
}```
describe-network-acls

The following code example shows how to use describe-network-acls.

AWS CLI

To describe your network ACLs

The following describe-network-acls example retrieves details about your network ACLs.

```bash
aws ec2 describe-network-acls
```

Output:

```json
{
   "NetworkAcls": [
   {
      "Associations": [
         {
            "NetworkAclAssociationId": "aclassoc-0c1679dc41EXAMPLE",
            "NetworkAclId": "acl-0ea1f54ca7EXAMPLE",
            "SubnetId": "subnet-0931fc2fa5EXAMPLE"
         }
      ],
      "Entries": [
         {
            "CidrBlock": "0.0.0.0/0",
            "Egress": true,
            "Protocol": "-1",
            "RuleAction": "allow",
            "RuleNumber": 100
         },
         {
            "CidrBlock": "0.0.0.0/0",
            "Egress": true,
            "Protocol": "-1",
            "RuleAction": "deny",
            "RuleNumber": 32767
         }
      ]
   }
}
{
   "CidrBlock": "0.0.0.0/0",
   "Egress": false,
   "Protocol": "-1",
   "RuleAction": "allow",
   "RuleNumber": 100
 },
{
   "CidrBlock": "0.0.0.0/0",
   "Egress": false,
   "Protocol": "-1",
   "RuleAction": "deny",
   "RuleNumber": 32767
 }
],
"IsDefault": true,
"NetworkAclId": "acl-0e1f54ca7EXAMPLE",
"Tags": [],
"VpcId": "vpc-06e4ab6c6cEXAMPLE",
"OwnerId": "111122223333"
},
{
   "Associations": [],
   "Entries": [
   {
      "CidrBlock": "0.0.0.0/0",
      "Egress": true,
      "Protocol": "-1",
      "RuleAction": "allow",
      "RuleNumber": 100
   },
   {
      "Egress": true,
      "Ipv6CidrBlock": "::/0",
      "Protocol": "-1",
      "RuleAction": "allow",
      "RuleNumber": 101
   },
   {
      "CidrBlock": "0.0.0.0/0",
      "Egress": true,
      "Protocol": "-1",
      "RuleAction": "deny",
      "RuleNumber": 32767
   }
]


`{    "Egress": true,
    "Ipv6CidrBlock": "::/0",
    "Protocol": "-1",
    "RuleAction": "deny",
    "RuleNumber": 32768
},

`{    "CidrBlock": "0.0.0.0/0",
    "Egress": false,
    "Protocol": "-1",
    "RuleAction": "allow",
    "RuleNumber": 100
},

`{    "Egress": false,
    "Ipv6CidrBlock": "::/0",
    "Protocol": "-1",
    "RuleAction": "allow",
    "RuleNumber": 101
},

`{    "CidrBlock": "0.0.0.0/0",
    "Egress": false,
    "Protocol": "-1",
    "RuleAction": "deny",
    "RuleNumber": 32767
},

`{    "Egress": false,
    "Ipv6CidrBlock": "::/0",
    "Protocol": "-1",
    "RuleAction": "deny",
    "RuleNumber": 32768
}

`,

"IsDefault": true,
"NetworkAclId": "acl-0e2a78e4e2EXAMPLE",
"Tags": [],
"VpcId": "vpc-03914af63eEXAMPLE",
"OwnerId": "111122223333"
]`
For more information, see [Network ACLs](https://docs.aws.amazon.com/vpc/latest/userguide/network-acls.html) in the *AWS VPC User Guide*.

- For API details, see [DescribeNetworkAcls](https://docs.aws.amazon.com/cli/latest/reference/ec2/describe-network-acls.html) in *AWS CLI Command Reference*.

---

**describe-network-insights-access-scope-analyses**

The following code example shows how to use `describe-network-insights-access-scope-analyses`.

**AWS CLI**

To describe Network Insights access scope analyses

The following `describe-network-insights-access-scope-analyses` example describes the access scope analysis in your AWS account.

```bash
aws ec2 describe-network-insights-access-scope-analyses \
  --region us-east-1
```

Output:

```json
{
  "NetworkInsightsAccessScopeAnalyses": [
    {
      "NetworkInsightsAccessScopeAnalysisId": "nisa-123456789111",
      "NetworkInsightsAccessScopeId": "nis-123456789222",
      "Status": "succeeded",
      "StartDate": "2022-01-25T19:45:36.842000+00:00",
      "FindingsFound": "true",
      "Tags": []
    }
  ]
}
```

For more information, see [Getting started with Network Access Analyzer using the AWS CLI](https://docs.aws.amazon.com/access-analyzer/latest/userguide/cli-habil-drilldown.html) in the *Network Access Analyzer Guide*. 
For API details, see `DescribeNetworkInsightsAccessScopeAnalyses` in AWS CLI Command Reference.

**describe-network-insights-access-scopes**

The following code example shows how to use `describe-network-insights-access-scopes`.

**AWS CLI**

**To describe Network Insights access scopes**

The following `describe-network-insights-access-scopes` example describes the access-scope analyses in your AWS account.

```bash
aws ec2 describe-network-insights-access-scopes \
  --region us-east-1
```

Output:

```json
{
  "NetworkInsightsAccessScopes": [
    {
      "NetworkInsightsAccessScopeId": "nis-123456789111",
      "CreatedDate": "2021-11-29T21:12:41.416000+00:00",
      "UpdatedDate": "2021-11-29T21:12:41.416000+00:00",
      "Tags": []
    }
  ]
}
```

For more information, see Getting started with Network Access Analyzer using the AWS CLI in the Network Access Analyzer Guide.

For API details, see `DescribeNetworkInsightsAccessScopes` in AWS CLI Command Reference.

**describe-network-insights-analyses**

The following code example shows how to use `describe-network-insights-analyses`.

```bash
aws ec2 describe-network-insights-analyses \
  --region us-east-1
```

Output:

```json
{
  "NetworkInsightsAnalyses": [
    {
      "NetworkInsightsAnalysisId": "nis-123456789111",
      "CreatedDate": "2021-11-29T21:12:41.416000+00:00",
      "UpdatedDate": "2021-11-29T21:12:41.416000+00:00",
      "Tags": []
    }
  ]
}
```
AWS CLI

To view the results of a path analysis

The following describe-network-insights-analyses example describes the specified analysis. In this example, the source is an internet gateway, the destination is an EC2 instance, and the protocol is TCP. The analysis succeeded (Status is succeeded) and the path is not reachable (NetworkPathFound is false). The explanation code ENI_SG_RULES_MISMATCH indicates that the security group for the instance does not contain a rule that allows traffic on the destination port.

```bash
aws ec2 describe-network-insights-analyses \
   --network-insights-analysis-ids nia-02207aa13eb480c7a
```

Output:

```json
{
   "NetworkInsightsAnalyses": [
      {
         "NetworkInsightsAnalysisId": "nia-02207aa13eb480c7a",
         "NetworkInsightsPathId": "nip-0b26f224f1d131fa8",
         "StartDate": "2021-01-20T22:58:37.495Z",
         "Status": "succeeded",
         "NetworkPathFound": false,
         "Explanations": [
            {
               "Direction": "ingress",
               "ExplanationCode": "ENI_SG_RULES_MISMATCH",
               "NetworkInterface": {
                  "Id": "eni-0a25edef15a6cc08c",
                  "Arn": "arn:aws:ec2:us-east-1:123456789012:network-interface/eni-0a25edef15a6cc08c"
               },
               "SecurityGroups": [
                  {
                     "Id": "sg-02f0d35a850ba727f",
                     "Arn": "arn:aws:ec2:us-east-1:123456789012:security-group.sg-02f0d35a850ba727f"
                  }
               ]
            }
         ]
      }
   ]
}
```
"Subnet": {
    "Id": "subnet-004ff41eccb4d1194",
    "Arn": "arn:aws:ec2:us-east-1:123456789012:subnet/subnet-004ff41eccb4d1194"
},
"Vpc": {
    "Id": "vpc-f1663d98ad28331c7",
    "Arn": "arn:aws:ec2:us-east-1:123456789012:vpc/vpc-f1663d98ad28331c7"
}
"Tags": []
]
]

For more information, see [Getting started using the AWS CLI](https://docs.aws.amazon.com/cli/latest/userguide/cli-reference-command-set-overview.html) in the [Reachability Analyzer Guide](https://docs.aws.amazon.com/reachability-analyzer/latest/userguide/)


describe-network-insights-paths

The following code example shows how to use `describe-network-insights-paths`.

**AWS CLI**

To describe a path

The following `describe-network-insights-paths` example describes the specified path.

```bash
aws ec2 describe-network-insights-paths
    --network-insights-path-ids nip-0b26f224f1d131fa8
```

Output:

```json
{
    "NetworkInsightsPaths": [
        {
            "NetworkInsightsPathId": "nip-0b26f224f1d131fa8",
            "CreatedDate": "2021-01-20T22:43:46.933Z",
            "Tags": []
        }
    ]
}
```
describe-network-interface-attribute

The following code example shows how to use describe-network-interface-attribute.

AWS CLI

To describe the attachment attribute of a network interface

This example command describes the attachment attribute of the specified network interface.

Command:

```
aws ec2 describe-network-interface-attribute --network-interface-id eni-686ea200 --attribute attachment
```

Output:

```
{
  "NetworkInterfaceId": "eni-686ea200",
  "Attachment": {
    "Status": "attached",
    "DeviceIndex": 0,
    "AttachTime": "2015-05-21T20:02:20.000Z",
    "InstanceId": "i-1234567890abcdef0",
    "DeleteOnTermination": true,
    "AttachmentId": "eni-attach-43348162",
    "InstanceOwnerId": "123456789012"
  }
}
```

To describe the description attribute of a network interface
This example command describes the description attribute of the specified network interface.

Command:

```bash
aws ec2 describe-network-interface-attribute --network-interface-id eni-686ea200 --attribute description
```

Output:

```json
{
    "NetworkInterfaceId": "eni-686ea200",
    "Description": {
        "Value": "My description"
    }
}
```

To describe the groupSet attribute of a network interface

This example command describes the groupSet attribute of the specified network interface.

Command:

```bash
aws ec2 describe-network-interface-attribute --network-interface-id eni-686ea200 --attribute groupSet
```

Output:

```json
{
    "NetworkInterfaceId": "eni-686ea200",
    "Groups": [
        {
            "GroupName": "my-security-group",
            "GroupId": "sg-903004f8"
        }
    ]
}
```

To describe the sourceDestCheck attribute of a network interface

This example command describes the sourceDestCheck attribute of the specified network interface.
Command:

```bash
aws ec2 describe-network-interface-attribute --network-interface-id eni-686ea200 --attribute sourceDestCheck
```

Output:

```json
{
    "NetworkInterfaceId": "eni-686ea200",
    "SourceDestCheck": {
        "Value": true
    }
}
```


**describe-network-interface-permissions**

The following code example shows how to use `describe-network-interface-permissions`.

**AWS CLI**

**To describe your network interface permissions**

This example describes all of your network interface permissions.

Command:

```bash
aws ec2 describe-network-interface-permissions
```

Output:

```json
{
    "NetworkInterfacePermissions": [
        {
            "PermissionState": {
                "State": "GRANTED"
            },
            "NetworkInterfacePermissionId": "eni-perm-06fd19020ede149ea",
            "NetworkInterfaceId": "eni-b909511a",
            "Permission": "INSTANCE-ATTACH",
            "AwsAccountId": "123456789012"
        }
    ]
}
```
• For API details, see `DescribeNetworkInterfacePermissions` in *AWS CLI Command Reference*.

describe-network-interfaces

The following code example shows how to use describe-network-interfaces.

**AWS CLI**

**To describe your network interfaces**

This example describes all your network interfaces.

Command:

```
aws ec2 describe-network-interfaces
```

Output:

```json
{
   "NetworkInterfaces": [
   {
      "Status": "in-use",
      "MacAddress": "02:2f:8f:00:cf:75",
      "SourceDestCheck": true,
      "VpcId": "vpc-a01106c2",
      "Description": "my network interface",
      "Association": {
         "PublicIp": "203.0.113.12",
         "AssociationId": "eipassoc-0fbb766a",
         "PublicDnsName": "ec2-203-0-113-12.compute-1.amazonaws.com",
         "IpOwnerId": "123456789012"
      },
      "NetworkInterfaceId": "eni-e5aa89a3",
      "PrivateIpAddresses": [
      {
         "PrivateDnsName": "ip-10-0-1-17.ec2.internal",
         "Association": {
            "PublicIp": "203.0.113.12",
            "AssociationId": "eipassoc-0fbb766a",
```
"PublicDnsName": "ec2-203-0-113-12.compute-1.amazonaws.com",
"IpOwnerId": "123456789012"
],
"Primary": true,
"PrivateIpAddress": "10.0.1.17"
}
],
"RequesterManaged": false,
"Iipv6Addresses": [],
"PrivateDnsName": "ip-10-0-1-17.ec2.internal",
"AvailabilityZone": "us-east-1d",
"Attachment": {
    "Status": "attached",
    "DeviceIndex": 1,
    "AttachTime": "2013-11-30T23:36:42.00Z",
    "InstanceId": "i-1234567890abcdef0",
    "DeleteOnTermination": false,
    "AttachmentId": "eni-attach-66c4350a",
    "InstanceOwnerId": "123456789012"
},
"Groups": [
    {
        "GroupName": "default",
        "GroupId": "sg-8637d3e3"
    }
],
"SubnetId": "subnet-b61f49f0",
"OwnerId": "123456789012",
"TagSet": [],
"PrivateIpAddress": "10.0.1.17"
},
{
    "Status": "in-use",
    "MacAddress": "02:58:f5:ef:4b:06",
    "SourceDestCheck": true,
    "VpcId": "vpc-a01106c2",
    "Description": "Primary network interface",
    "Association": {
        "PublicIp": "198.51.100.0",
        "IpOwnerId": "amazon"
    },
    "NetworkInterfaceId": "eni-f9ba9bf",
    "PrivateIpAddresses": [
        {
            "PrivateDnsName": "ip-10-0-1-17.ec2.internal",
            "IpOwnerId": "123456789012",
            "PrivateIpAddress": "10.0.1.17"
        }
    ]
}
This example describes network interfaces that have a tag with the key `Purpose` and the value `Prod`.

**Command:**

```
aws ec2 describe-network-interfaces --filters Name=tag:Purpose,Values=Prod
```

**Output:**

```json

"Association": {
    "PublicIp": "198.51.100.0",
    "IpOwnerId": "amazon"
},
    "Primary": true,
    "PrivateIpAddress": "10.0.1.149"
}
],
"RequesterManaged": false,
"Ipv6Addresses": [],
"AvailabilityZone": "us-east-1d",
"Attachment": {
    "Status": "attached",
    "DeviceIndex": 0,
    "AttachTime": "2013-11-30T23:35:33.000Z",
    "InstanceId": "i-0598c7d356eba48d7",
    "DeleteOnTermination": true,
    "AttachmentId": "eni-attach-1b9db777",
    "InstanceOwnerId": "123456789012"
},
"Groups": [
    {
        "GroupName": "default",
        "GroupId": "sg-8637d3e3"
    }
],
"SubnetId": "subnet-b61f49f0",
"OwnerId": "123456789012",
"TagSet": [],
"PrivateIpAddress": "10.0.1.149"
}
]
}

```

```
{
    "NetworkInterfaces": [
        {
            "Status": "available",
            "MacAddress": "12:2c:bd:f9:bf:17",
            "SourceDestCheck": true,
            "VpcId": "vpc-8941ebec",
            "Description": "ProdENI",
            "NetworkInterfaceId": "eni-b9a5ac93",
            "PrivateIpAddresses": [
                {
                    "PrivateDnsName": "ip-10-0-1-55.ec2.internal",
                    "Primary": true,
                    "PrivateIpAddress": "10.0.1.55"
                },
                {
                    "PrivateDnsName": "ip-10-0-1-117.ec2.internal",
                    "Primary": false,
                    "PrivateIpAddress": "10.0.1.117"
                }
            ],
            "RequesterManaged": false,
            "PrivateDnsName": "ip-10-0-1-55.ec2.internal",
            "AvailabilityZone": "us-east-1d",
            "Ipv6Addresses": [],
            "Groups": [
                {
                    "GroupName": "MySG",
                    "GroupId": "sg-905002f5"
                }
            ],
            "SubnetId": "subnet-31d6c219",
            "OwnerId": "123456789012",
            "TagSet": [
                {
                    "Value": "Prod",
                    "Key": "Purpose"
                }
            ],
            "PrivateIpAddress": "10.0.1.55"
        }
    ]
}
For API details, see `DescribeNetworkInterfaces` in *AWS CLI Command Reference*.

describe-placement-groups

The following code example shows how to use `describe-placement-groups`.

**AWS CLI**

To describe your placement groups

This example command describes all of your placement groups.

Command:

```
aws ec2 describe-placement-groups
```

Output:

```
{
   "PlacementGroups": [
   {
      "GroupName": "my-cluster",
      "State": "available",
      "Strategy": "cluster"
   },
   ...
   ]
}
```

For API details, see `DescribePlacementGroups` in *AWS CLI Command Reference*.

describe-prefix-lists

The following code example shows how to use `describe-prefix-lists`.

**AWS CLI**

To describe prefix lists

This example lists all available prefix lists for the region.

Command:
aws ec2 describe-prefix-lists

Output:

{
  "PrefixLists": [
    {
      "PrefixListName": "com.amazonaws.us-east-1.s3",
      "Cidrs": [
        "54.231.0.0/17"
      ],
      "PrefixListId": "pl-63a5400a"
    }
  ]
}

- For API details, see DescribePrefixLists in AWS CLI Command Reference.

describe-principal-id-format

The following code example shows how to use describe-principal-id-format.

AWS CLI

To describe the ID format for IAM users and roles with long ID format enabled

The following describe-principal-id-format example describes the ID format for the root user, all IAM roles, and all IAM users with long ID format enabled.

aws ec2 describe-principal-id-format \
   --resource instance

Output:

{
  "Principals": [
    {
      "Arn": "arn:aws:iam::123456789012:root",
      "Statuses": [
      
        
      ]
    }
  ]
}
For API details, see `DescribePrincipalIdFormat` in *AWS CLI Command Reference*.

describe-public-ipv4-pools

The following code example shows how to use `describe-public-ipv4-pools`.

**AWS CLI**

To describe your public IPv4 address pools

The following `describe-public-ipv4-pools` example displays details about the address pools that were created when you provisioned public IPv4 address ranges using Bring Your Own IP Addresses (BYOIP).

```
aws ec2 describe-public-ipv4-pools
```

Output:

```
{
    "PublicIpv4Pools": [
        {
            "PoolId": "ipv4pool-ec2-1234567890abcdef0",
            "Deadline": "2016-12-15T00:00:00.000Z",
            "Resource": "reservation",
            "UseLongIds": true
        },
        {
            "Deadline": "2016-12-15T00:00:00.000Z",
            "Resource": "instance",
            "UseLongIds": true
        },
        {
            "Deadline": "2016-12-15T00:00:00.000Z",
            "Resource": "volume",
            "UseLongIds": true
        }
    ]
}
```
"PoolAddressRanges": [
  {
    "FirstAddress": "203.0.113.0",
    "LastAddress": "203.0.113.255",
    "AddressCount": 256,
    "AvailableAddressCount": 256
  },
  "TotalAddressCount": 256,
  "TotalAvailableAddressCount": 256
}
]

• For API details, see [DescribePublicIpv4Pools](#) in *AWS CLI Command Reference*.

describe-replace-root-volume-tasks

The following code example shows how to use describe-replace-root-volume-tasks.

**AWS CLI**

**Example 1: To view information about a specific root volume replacement task**

The following describe-replace-root-volume-tasks example describes root volume replacement task replacevol-0111122223333abcd.

```
aws ec2 describe-replace-root-volume-tasks \
   --replace-root-volume-task-ids replacevol-0111122223333abcd
```

**Output:**

```
{
  "ReplaceRootVolumeTasks": [
    {
      "ReplaceRootVolumeTaskId": "replacevol-0111122223333abcd",
      "Tags": [],
      "InstanceIds": "i-0123456789abcdefa",
      "TaskState": "succeeded",
      "StartTime": "2022-03-14T15:16:28Z",
      "CompleteTime": "2022-03-14T15:16:52Z"
    }
  ]
}
```
Example 2: To view information about all root volume replacement tasks for a specific instance

The following `describe-replace-root-volume-tasks` example describes all of the root volume replacement tasks for instance i-0123456789abcdefa.

```
aws ec2 describe-replace-root-volume-tasks \
--filters Name=instance-id,Values=i-0123456789abcdefa
```

Output:

```
{
  "ReplaceRootVolumeTasks": [
    {
      "ReplaceRootVolumeTaskId": "replacevol-0111122223333abcd",
      "Tags": [],
      "InstanceId": "i-0123456789abcdefa",
      "TaskState": "succeeded",
      "StartTime": "2022-03-14T15:06:38Z",
      "CompleteTime": "2022-03-14T15:07:03Z"
    },
    {
      "ReplaceRootVolumeTaskId": "replacevol-0444455555555abcd",
      "Tags": [],
      "InstanceId": "i-0123456789abcdefa",
      "TaskState": "succeeded",
      "StartTime": "2022-03-14T15:16:28Z",
      "CompleteTime": "2022-03-14T15:16:52Z"
    }
  ]
}
```

For more information, see Replace a root volume in the Amazon Elastic Compute Cloud User Guide.

- For API details, see DescribeReplaceRootVolumeTasks in AWS CLI Command Reference.
describe-reserved-instances

The following code example shows how to use describe-reserved-instances.

AWS CLI

To describe your Reserved Instances

This example command describes the Reserved Instances that you own.

Command:

```bash
aws ec2 describe-reserved-instances
```

Output:

```json
{
    "ReservedInstances": [
        {
            "ReservedInstancesId": "b847fa93-e282-4f55-b59a-1342example",
            "OfferingType": "No Upfront",
            "AvailabilityZone": "us-west-1c",
            "End": "2016-08-14T21:34:34.000Z",
            "ProductDescription": "Linux/UNIX",
            "UsagePrice": 0.00,
            "RecurringCharges": [
                {
                    "Amount": 0.104,
                    "Frequency": "Hourly"
                }
            ],
            "Start": "2015-08-15T21:34:35.086Z",
            "State": "active",
            "FixedPrice": 0.0,
            "CurrencyCode": "USD",
            "Duration": 31536000,
            "InstanceTenancy": "default",
            "InstanceType": "m3.medium",
            "InstanceCount": 2
        }
    ]
}
```
To describe your Reserved Instances using filters

This example filters the response to include only three-year, t2.micro Linux/UNIX Reserved Instances in us-west-1c.

Command:

```
aws ec2 describe-reserved-instances --filters Name=duration,Values=94608000
   Name=instance-type,Values=t2.micro
   Name=product-description,Values=Linux/UNIX
   Name=availability-zone,Values=us-east-1e
```

Output:

```
{
   "ReservedInstances": [
      {
         "ReservedInstancesId": "f127bd27-edb7-44c9-a0eb-0d7e09259af0",
         "OfferingType": "All Upfront",
         "AvailabilityZone": "us-east-1e",
         "End": "2018-03-26T21:34:34.000Z",
         "ProductDescription": "Linux/UNIX",
         "UsagePrice": 0.00,
         "RecurringCharges": [],
         "Start": "2015-03-27T21:34:35.848Z",
         "State": "active",
         "FixedPrice": 151.0,
         "CurrencyCode": "USD",
         "Duration": 94608000,
         "InstanceTenancy": "default",
         "InstanceType": "t2.micro",
         "InstanceCount": 1
      }
   ]
}
```

For more information, see Using Amazon EC2 Instances in the AWS Command Line Interface User Guide.

- For API details, see `DescribeReservedInstances` in AWS CLI Command Reference.

describe-reserved-instances-listings

The following code example shows how to use describe-reserved-instances-listings.
To describe a Reserved Instance listing

The following `describe-reserved-instances-listings` example retrieves information about the specified Reserved Instance listing.

```
aws ec2 describe-reserved-instances-listings \
    --reserved-instances-listing-id 5ec28771-05ff-4b9b-aa31-9e57dexample
```

This command produces no output.

- For API details, see `DescribeReservedInstancesListings` in AWS CLI Command Reference.

describe-reserved-instances-modifications

The following code example shows how to use `describe-reserved-instances-modifications`.

AWS CLI

To describe Reserved Instances modifications

This example command describes all the Reserved Instances modification requests that have been submitted for your account.

Command:

```
aws ec2 describe-reserved-instances-modifications
```

Output:

```
{
    "ReservedInstancesModifications": [
    {
        "Status": "fulfilled",
        "ModificationResults": [
        {
            "ReservedInstancesId": "93bbca2-62f1-4d9d-b225-16bada29e6c7",
            "TargetConfiguration": {
                "AvailabilityZone": "us-east-1b",
                "InstanceType": "m1.large",
            },
        },
    ]
    }
}
```
"InstanceCount": 3
}
},
{
"ReservedInstancesId": "1ba8e2e3-aabb-46c3-bcf5-3fe2fda922e6",
"TargetConfiguration": {
   "AvailabilityZone": "us-east-1d",
   "InstanceType": "m1.xlarge",
   "InstanceCount": 1
}
}
]
"EffectiveDate": "2015-08-12T17:00:00.000Z",
"CreateDate": "2015-08-12T17:52:52.630Z",
"UpdateDate": "2015-08-12T18:08:06.698Z",
"ClientToken": "c9adb218-3222-4889-8216-0cf0e52dc37e:
"ReservedInstancesModificationId": "rimod-d3ed4335-b1d3-4de6-
ab31-0f13aaf46687",
"ReservedInstancesIds": [
   {
      "ReservedInstancesId": "b847fa93-e282-4f55-b59a-1342f5bd7c02"
   }
]
}
}

• For API details, see DescribeReservedInstancesModifications in AWS CLI Command Reference.

describe-reserved-instances-offerings

The following code example shows how to use describe-reserved-instances-offerings.

AWS CLI

To describe Reserved Instances offerings

This example command describes all Reserved Instances available for purchase in the region.

Command:

aws ec2 describe-reserved-instances-offerings
Output:

```json
{
"ReservedInstancesOfferings": [
{
"OfferingType": "Partial Upfront",
"AvailabilityZone": "us-east-1b",
"InstanceTenancy": "default",
"PricingDetails": [],
"ProductDescription": "Red Hat Enterprise Linux",
"UsagePrice": 0.0,
"RecurringCharges": [
{
"Amount": 0.088,
"Frequency": "Hourly"
}
],
"Marketplace": false,
"CurrencyCode": "USD",
"FixedPrice": 631.0,
"Duration": 94608000,
"ReservedInstancesOfferingId": "9a06095a-bdc6-47fe-a94a-2a382f016040",
"InstanceType": "c1.medium"
},
{
"OfferingType": "Partial Upfront",
"AvailabilityZone": "us-east-1b",
"InstanceTenancy": "default",
"PricingDetails": [],
"ProductDescription": "Linux/UNIX",
"UsagePrice": 0.0,
"RecurringCharges": [
{
"Amount": 0.028,
"Frequency": "Hourly"
}
],
"Marketplace": false,
"CurrencyCode": "USD",
"FixedPrice": 631.0,
"Duration": 94608000,
"ReservedInstancesOfferingId": "bfbe6c0d-418d-b144-7258578d329d",
"InstanceType": "c1.medium"
}
]
}```
To describe your Reserved Instances offerings using options

This example lists Reserved Instances offered by AWS with the following specifications: t1.micro instance types, Windows (Amazon VPC) product, and Heavy Utilization offerings.

Command:

```
aws ec2 describe-reserved-instances-offerings --no-include-marketplace --instance-type "t1.micro" --product-description "Windows (Amazon VPC)" --offering-type "no upfront"
```

Output:

```json
{
    "ReservedInstancesOfferings": [
    {
        "OfferingType": "No Upfront",
        "AvailabilityZone": "us-east-1b",
        "InstanceTenancy": "default",
        "PricingDetails": [],
        "ProductDescription": "Windows",
        "UsagePrice": 0.0,
        "RecurringCharges": [
            {
                "Amount": 0.015,
                "Frequency": "Hourly"
            }
        ],
        "Marketplace": false,
        "CurrencyCode": "USD",
        "FixedPrice": 0.0,
        "Duration": 31536000,
        "ReservedInstancesOfferingId": "c48ab04c-fe69-4f94-8e39-a23842292823",
        "InstanceType": "t1.micro"
    },
    ...
    {
        "OfferingType": "No Upfront",
        "AvailabilityZone": "us-east-1d",
```
For API details, see [DescribeReservedInstancesOfferings](https://docs.aws.amazon.com/cli/latest/reference/ec2/describe-reserved-instances-offerings) in *AWS CLI Command Reference*.

describe-route-tables

The following code example shows how to use `describe-route-tables`.

**AWS CLI**

To describe your route tables

The following `describe-route-tables` example retrieves the details about your route tables.

```
aws ec2 describe-route-tables
```

Output:

```json
{
   "RouteTables": [
      {
         "Associations": [
            {
               "Main": true,
               "RouteTableAssociationId": "rtbassoc-0df3f54e06EXAMPLE",
               "RouteTableId": "rtb-0f3f54e06EXAMPLE"
            }
         ]
      }
   ]
}
```
"RouteTableId": "rtb-09ba434c1bEXAMPLE",
],
"PropagatingVgws": [],
"RouteTableId": "rtb-09ba434c1bEXAMPLE",
"Routes": [
 {
 "DestinationCidrBlock": "10.0.0.0/16",
 "GatewayId": "local",
 "Origin": "CreateRouteTable",
 "State": "active"
 },
 {
 "DestinationCidrBlock": "0.0.0.0/0",
 "NatGatewayId": "nat-06c018cbd8EXAMPLE",
 "Origin": "CreateRoute",
 "State": "blackhole"
 }
],
"Tags": [],
"VpcId": "vpc-0065acced4EXAMPLE",
"OwnerId": "111122223333"
},
{
 "Associations": [
 {
 "Main": true,
 "RouteTableAssociationId": "rtbassoc-9EXAMPLE",
 "RouteTableId": "rtb-a1eec7de"
 }
 ],
 "PropagatingVgws": [],
 "RouteTableId": "rtb-a1eec7de",
 "Routes": [
 {
 "DestinationCidrBlock": "172.31.0.0/16",
 "GatewayId": "local",
 "Origin": "CreateRouteTable",
 "State": "active"
 },
 {
 "DestinationCidrBlock": "0.0.0.0/0",
 "GatewayId": "igw-fEXAMPLE",
 "Origin": "CreateRoute",
"

- For API details, see [DescribeRouteTables](https://docs.aws.amazon.com/cli/latest/reference/ec2/describe-routetables.html) in [AWS CLI Command Reference](https://docs.aws.amazon.com/cli/latest/reference/).
describe-scheduled-instance-availability

The following code example shows how to use describe-scheduled-instance-availability.

AWS CLI

**To describe an available schedule**

This example describes a schedule that occurs every week on Sunday, starting on the specified date.

Command:

```
aws ec2 describe-scheduled-instance-availability --recurrence
   Frequency=Weekly,Interval=1,OccurrenceDays=[1] --first-slot-start-time-range
   EarliestTime=2016-01-31T00:00:00Z,LatestTime=2016-01-31T04:00:00Z
```

Output:

```json
{
   "ScheduledInstanceAvailabilitySet": [
       {
           "AvailabilityZone": "us-west-2b",
           "TotalScheduledInstanceHours": 1219,
           "PurchaseToken": "eyJ2IjoiMSIsInMiOjEsImMiOi...",
           "MinTermDurationInDays": 366,
           "AvailableInstanceCount": 20,
           "Recurrence": {
               "OccurrenceDaySet": [1],
               "Interval": 1,
               "Frequency": "Weekly",
               "OccurrenceRelativeToEnd": false
           },
           "Platform": "Linux/UNIX",
           "FirstSlotStartTime": "2016-01-31T00:00:00Z",
           "MaxTermDurationInDays": 366,
           "SlotDurationInHours": 23,
           "NetworkPlatform": "EC2-VPC",
           "InstanceType": "c4.large",
           "HourlyPrice": "0.095"
       }
   ]
}
```
To narrow the results, you can add filters that specify the operating system, network, and instance type.

Command:

--filters Name=platform,Values=Linux/UNIX Name=network-platform,Values=EC2-VPC Name=instance-type,Values=c4.large

- For API details, see `DescribeScheduledInstanceAvailability` in *AWS CLI Command Reference*.

**describe-scheduled-instances**

The following code example shows how to use `describe-scheduled-instances`.

**AWS CLI**

To describe your Scheduled Instances

This example describes the specified Scheduled Instance.

Command:

```
aws ec2 describe-scheduled-instances --scheduled-instance-ids
sci-1234-1234-1234-1234-123456789012
```

Output:

```
{
   "ScheduledInstanceSet": [
    {
      "AvailabilityZone": "us-west-2b",
      "ScheduledInstanceId": "sci-1234-1234-1234-1234-123456789012",
      "HourlyPrice": "0.095",
      "CreateDate": "2016-01-25T21:43:38.612Z",
      "Recurrence": {
        "OccurrenceDaySet": [1],
      }
    }
  ]
}
```
This example describes all your Scheduled Instances.

Command:

```bash
aws ec2 describe-scheduled-instances
```

- For API details, see [DescribeScheduledInstances](#) in *AWS CLI Command Reference*.

**describe-security-group-references**

The following code example shows how to use describe-security-group-references.

**AWS CLI**

**To describe security group references**

This example describes the security group references for sg-bbbbb2222. The response indicates that security group sg-bbbbb2222 is being referenced by a security group in VPC vpc-aaaaaaa.

Command:

```bash
aws ec2 describe-security-group-references --group-id sg-bbbbb2222
```
The following code example shows how to use `describe-security-group-rules`.

**AWS CLI**

**Example 1: To describe the security group rules for a security group**

The following `describe-security-group-rules` example describes the security group rules of a specified security group. Use the filters option to scope the results to a specific security group.

```
aws ec2 describe-security-group-rules \\
    --filters Name="group-id",Values="sg-1234567890abcdef0"
```

**Output:**

```
{
    "SecurityGroupRules": [
        {
            "SecurityGroupId": "sg-1234567890abcdef0",
            "GroupId": "sg-1234567890abcdef0",
            "GroupOwnerId": "111122223333",
            "IsEgress": false,
            "IpProtocol": ":-1",
            "FromPort": -1,
            "ToPort": -1,
            "ReferencedGroupInfo": {
            ...
}}
```

For API details, see `DescribeSecurityGroupReferences` in *AWS CLI Command Reference*.
Example 2: To describe a security group rule

The following `describe-security-group-rules` example describes the specified security group rule.

```
aws ec2 describe-security-group-rules \
    --security-group-rule-ids sgr-cdef01234567890ab
```

Output:

```
{
    "SecurityGroupRules": [
        {"GroupId": "sg-1234567890abcdef0", "UserId": "111122223333", "Tags": []},
        {
            "SecurityGroupRuleId": "sgr-bcdef01234567890a", "GroupId": "sg-1234567890abcdef0", "GroupOwnerID": "111122223333", "IsEgress": true, "IpProtocol": "-1", "FromPort": -1, "ToPort": -1, "CidrIpv6": "::/0", "Tags": []}
    ]
}
```
For more information, see Security group rules in the Amazon VPC User Guide.

- For API details, see DescribeSecurityGroupRules in AWS CLI Command Reference.

describe-snapshot-attribute

The following code example shows how to use describe-snapshot-attribute.

AWS CLI

To describe the snapshot attributes for a snapshot

The following describe-snapshot-attribute example lists the accounts with which a snapshot is shared.

```
aws ec2 describe-snapshot-attribute \
   --snapshot-id snap-01234567890abcedf \
   --attribute createVolumePermission
```

Output:

```
{
   "SnapshotId": "snap-01234567890abcedf",
   "CreateVolumePermissions": [
      {
         "UserId": "123456789012"
      }
   ]
}
```
For more information, see Share an Amazon EBS snapshot in the Amazon Elastic Compute Cloud User Guide.

- For API details, see DescribeSnapshotAttribute in AWS CLI Command Reference.

describe-snapshot-tier-status

The following code example shows how to use describe-snapshot-tier-status.

AWS CLI

**To view archival information about an archived snapshot**

The following describe-snapshot-tier-status example provides archival information about an archived snapshot.

```
aws ec2 describe-snapshot-tier-status \
  --filters "Name=snapshot-id, Values=snap-01234567890abcedf"
```

Output:

```
{
  "SnapshotTierStatuses": [
    {
      "Status": "completed",
      "ArchivalCompleteTime": "2021-09-15T17:33:16.147Z",
      "LastTieringProgress": 100,
      "Tags": [],
      "VolumeId": "vol-01234567890abcedf",
      "LastTieringOperationState": "archival-completed",
      "StorageTier": "archive",
      "OwnerId": "123456789012",
      "SnapshotId": "snap-01234567890abcedf",
      "LastTieringStartTime": "2021-09-15T16:44:37.574Z"
    }
  ]
}
```

For more information, see View archived snapshots in the Amazon Elastic Compute Cloud User Guide.

- For API details, see DescribeSnapshotTierStatus in AWS CLI Command Reference.
describe-spot-datafeed-subscription

The following code example shows how to use `describe-spot-datafeed-subscription`.

**AWS CLI**

*To describe Spot Instance datafeed subscription for an account*

This example command describes the data feed for the account.

Command:

```bash
aws ec2 describe-spot-datafeed-subscription
```

Output:

```json
{
    "SpotDatafeedSubscription": {
        "OwnerId": "123456789012",
        "Prefix": "spotdata",
        "Bucket": "my-s3-bucket",
        "State": "Active"
    }
}
```

- For API details, see [DescribeSpotDatafeedSubscription](https://docs.aws.amazon.com/cli/latest/reference/ec2/describe-spot-datafeed-subscription) in *AWS CLI Command Reference*.

describe-spot-fleet-instances

The following code example shows how to use `describe-spot-fleet-instances`.

**AWS CLI**

*To describe the Spot Instances associated with a Spot fleet*

This example command lists the Spot instances associated with the specified Spot fleet.

Command:

```bash
aws ec2 describe-spot-fleet-instances --spot-fleet-request-id sfr-73fbd2ce-aa30-494c-8788-1cee4EXAMPLE
```

Output:
- For API details, see [DescribeSpotFleetInstances](#) in *AWS CLI Command Reference*.

**describe-spot-fleet-request-history**

The following code example shows how to use `describe-spot-fleet-request-history`.

**AWS CLI**

**To describe Spot fleet history**

This example command returns the history for the specified Spot fleet starting at the specified time.

**Command:**

```bash
aws ec2 describe-spot-fleet-request-history --spot-fleet-request-id sfr-73fbd2ce-aa30-494c-8788-1cee4EXAMPLE --start-time 2015-05-26T00:00:00Z
```

The following example output shows the successful launches of two Spot Instances for the Spot fleet.

**Output:**

```json
{
  "HistoryRecords": [
    {
      "EventInformation": {
        "EventSubType": "submitted"
      }
    }
  ]
}
```
For API details, see `DescribeSpotFleetRequestHistory` in AWS CLI Command Reference.

describe-spot-fleet-requests

The following code example shows how to use `describe-spot-fleet-requests`.

AWS CLI

To describe your Spot fleet requests
This example describes all of your Spot fleet requests.

Command:

```
aws ec2 describe-spot-fleet-requests
```

Output:

```json
{
   "SpotFleetRequestConfigs": [
      {
         "SpotFleetRequestId": "sfr-73fbd2ce-aa30-494c-8788-1cee4EXAMPLE",
         "SpotFleetRequestConfig": {
            "TargetCapacity": 20,
            "LaunchSpecifications": [
               {
                  "EbsOptimized": false,
                  "NetworkInterfaces": [
                     {
                        "SubnetId": "subnet-a61dafcf",
                        "DeviceIndex": 0,
                        "DeleteOnTermination": false,
                        "AssociatePublicIpAddress": true,
                        "SecondaryPrivateIpAddressCount": 0
                     }
                  ],
                  "InstanceType": "cc2.8xlarge",
                  "ImageId": "ami-1a2b3c4d"
               },
               {
                  "EbsOptimized": false,
                  "NetworkInterfaces": [
                     {
                        "SubnetId": "subnet-a61dafcf",
                        "DeviceIndex": 0,
                        "DeleteOnTermination": false,
                        "AssociatePublicIpAddress": true,
                        "SecondaryPrivateIpAddressCount": 0
                     }
                  ],
                  "InstanceType": "r3.8xlarge",
                  "ImageId": "ami-1a2b3c4d"
               }
            ]
         }
      }
   ]
}
```
To describe a Spot fleet request

This example describes the specified Spot fleet request.

Command:

```
aws ec2 describe-spot-fleet-requests --spot-fleet-request-ids sfr-73fbd2ce-aa30-494c-8788-1ce4EXAMPLE
```
Output:

```json
{
    "SpotFleetRequestConfigs": [
        {
            "SpotFleetRequestId": "sfr-73fbd2ce-aa30-494c-8788-1cee4EXAMPLE",
            "SpotFleetRequestConfig": {
                "TargetCapacity": 20,
                "LaunchSpecifications": [
                    {
                        "EbsOptimized": false,
                        "NetworkInterfaces": [
                            {
                                "SubnetId": "subnet-a61dafcf",
                                "DeviceIndex": 0,
                                "DeleteOnTermination": false,
                                "AssociatePublicIpAddress": true,
                                "SecondaryPrivateIpAddressCount": 0
                            }
                        ],
                        "InstanceType": "cc2.8xlarge",
                        "ImageId": "ami-1a2b3c4d"
                    },
                    {
                        "EbsOptimized": false,
                        "NetworkInterfaces": [
                            {
                                "SubnetId": "subnet-a61dafcf",
                                "DeviceIndex": 0,
                                "DeleteOnTermination": false,
                                "AssociatePublicIpAddress": true,
                                "SecondaryPrivateIpAddressCount": 0
                            }
                        ],
                        "InstanceType": "r3.8xlarge",
                        "ImageId": "ami-1a2b3c4d"
                    }
                ],
                "SpotPrice": "0.05",
                "IamFleetRole": "arn:aws:iam::123456789012:role/my-spot-fleet-role"
            }
        }
    ],
    "SpotFleetRequestState": "active"
}
```
describe-spot-instance-requests

The following code example shows how to use describe-spot-instance-requests.

AWS CLI

Example 1: To describe a Spot Instance request

The following describe-spot-instance-requests example describes the specified Spot Instance request.

```bash
aws ec2 describe-spot-instance-requests \
  --spot-instance-request-ids sir-08b93456
```

Output:

```json
{
  "SpotInstanceRequests": [
    {
      "CreateTime": "2018-04-30T18:14:55.000Z",
      "InstanceId": "i-1234567890abcdef1",
      "LaunchSpecification": {
        "InstanceType": "t2.micro",
        "ImageId": "ami-003634241a8fcdec0",
        "KeyName": "my-key-pair",
        "SecurityGroups": [
          {
            "GroupName": "default",
            "GroupId": "sg-e38f24a7"
          }
        ],
        "BlockDeviceMappings": [
          {
            "DeviceName": "/dev/sda1",
            "Ebs": {
              "DeleteOnTermination": true,
              "SnapshotId": "snap-0e54a519c999adbbd",
            }
          }
        ]
    }
  ]
}
```
Example 2: To describe Spot Instance requests based on filters

The following `describe-spot-instance-requests` example uses filters to scope the results to Spot Instance requests with the specified instance type in the specified Availability Zone. The example uses the `--query` parameter to display only the instance IDs.
aws ec2 describe-spot-instance-requests \ 
   --filters Name=launch.instance-type,Values=m3.medium Name=launched-availability-zone,Values=us-east-2a \ 
   --query "SpotInstanceRequests[*].[InstanceId]" \ 
   --output text

Output:

i-057750d42936e468a
i-001efd250fafa6ffa
i-027552a73f021f3bd
...

For additional examples using filters, see [Listing and filtering your resources](#) in the [Amazon Elastic Compute Cloud User Guide](#).

**Example 3: To describe Spot Instance requests based on tags**

The following `describe-spot-instance-requests` example uses tag filters to scope the results to Spot Instance requests that have the tag `cost-center=cc123`.

```bash
aws ec2 describe-spot-instance-requests \ 
   --filters Name=tag:cost-center,Values=cc123
```

For an example of the output for `describe-spot-instance-requests`, see Example 1.

For additional examples using tag filters, see [Working with tags](#) in the [Amazon EC2 User Guide](#).

- For API details, see [DescribeSpotInstanceRequests](#) in [AWS CLI Command Reference](#).

**describe-spot-price-history**

The following code example shows how to use `describe-spot-price-history`.

**AWS CLI**

**To describe Spot price history**

This example command returns the Spot Price history for `m1.xlarge` instances for a particular day in January.

**Command:**
To describe Spot price history for Linux/UNIX Amazon VPC

This example command returns the Spot Price history for m1.xlarge, Linux/UNIX Amazon VPC instances for a particular day in January.

Command:

```
aws ec2 describe-spot-price-history --instance-types m1.xlarge --product-description "Linux/UNIX (Amazon VPC)" --start-time 2014-01-06T07:08:09 --end-time 2014-01-06T08:09:10
```
Output:

```
{
    "SpotPriceHistory": [
        {
            "Timestamp": "2014-01-06T04:32:53.000Z",
            "ProductDescription": "Linux/UNIX (Amazon VPC)",
            "InstanceType": "m1.xlarge",
            "SpotPrice": "0.080000",
            "AvailabilityZone": "us-west-1a"
        },
        {
            "Timestamp": "2014-01-05T11:28:26.000Z",
            "ProductDescription": "Linux/UNIX (Amazon VPC)",
            "InstanceType": "m1.xlarge",
            "SpotPrice": "0.080000",
            "AvailabilityZone": "us-west-1c"
        }
    ]
}
```

- For API details, see [DescribeSpotPriceHistory](#) in *AWS CLI Command Reference*.

### describe-stale-security-groups

The following code example shows how to use describe-stale-security-groups.

**AWS CLI**

**To describe stale security groups**

This example describes stale security group rules for vpc-11223344. The response shows that sg-5fa68d3a in your account has a stale ingress SSH rule that references sg-279ab042 in the peer VPC, and that sg-fe6fba9a in your account has a stale egress SSH rule that references sg-ef6fba8b in the peer VPC.

Command:

```
aws ec2 describe-stale-security-groups --vpc-id vpc-11223344
```

Output:
{
    "StaleSecurityGroupSet": [
        {
            "VpcId": "vpc-11223344",
            "StaleIpPermissionsEgress": [
                {
                    "ToPort": 22,
                    "FromPort": 22,
                    "UserIdGroupPairs": [
                        {
                            "VpcId": "vpc-7a20e51f",
                            "GroupId": "sg-ef6fba8b",
                            "VpcPeeringConnectionId": "pcx-b04deed9",
                            "PeeringStatus": "active"
                        }
                    ],
                    "IpProtocol": "tcp"
                }
            ],
            "GroupName": "MySG1",
            "StaleIpPermissions": [],
            "GroupId": "sg-fe6fba9a",
            "Description": "MySG1"
        },
        {
            "VpcId": "vpc-11223344",
            "StaleIpPermissionsEgress": [],
            "GroupName": "MySG2",
            "StaleIpPermissions": [
                {
                    "ToPort": 22,
                    "FromPort": 22,
                    "UserIdGroupPairs": [
                        {
                            "VpcId": "vpc-7a20e51f",
                            "GroupId": "sg-279ab042",
                            "Description": "Access from pcx-b04deed9",
                            "VpcPeeringConnectionId": "pcx-b04deed9",
                            "PeeringStatus": "active"
                        }
                    ],
                    "IpProtocol": "tcp"
                }
            ]
        }
    ]
}
For API details, see `DescribeStaleSecurityGroups` in *AWS CLI Command Reference*.

describe-store-image-tasks

The following code example shows how to use `describe-store-image-tasks`.

**AWS CLI**

To describe the progress of an AMI store task

The following `describe-store-image-tasks` example describes the progress of an AMI store task.

```bash
aws ec2 describe-store-image-tasks
```

Output:

```json
{
    "AmiId": "ami-1234567890abcdef0",
    "Bucket": "my-ami-bucket",
    "ProgressPercentage": 17,
    "S3ObjectKey": "ami-1234567890abcdef0.bin",
    "StoreTaskState": "InProgress",
    "StoreTaskFailureReason": null,
    "TaskStartTime": "2022-01-01T01:01:01.001Z"
}
```


For API details, see `DescribeStoreImageTasks` in *AWS CLI Command Reference*. 
**describe-tags**

The following code example shows how to use `describe-tags`.

**AWS CLI**

**Example 1: To describe all tags for a single resource**

The following `describe-tags` example describes the tags for the specified instance.

```bash
aws ec2 describe-tags \
  --filters "Name=resource-id,Values=i-1234567890abcdef8"
```

Output:

```
{
  "Tags": [
    {
      "ResourceType": "instance",
      "ResourceId": "i-1234567890abcdef8",
      "Value": "Test",
      "Key": "Stack"
    },
    {
      "ResourceType": "instance",
      "ResourceId": "i-1234567890abcdef8",
      "Value": "Beta Server",
      "Key": "Name"
    }
  ]
}
```

**Example 2: To describe all tags for a resource type**

The following `describe-tags` example describes the tags for your volumes.

```bash
aws ec2 describe-tags \
  --filters "Name=resource-type,Values=volume"
```

Output:

```
{
  "Tags": [
```

Actions and scenarios
Example 3: To describe all your tags

The following describe-tags example describes the tags for all your resources.

```
aws ec2 describe-tags
```

Example 4: To describe the tags for your resources based on a tag key

The following describe-tags example describes the tags for your resources that have a tag with the key Stack.

```
aws ec2 describe-tags \
   --filters Name=key,Values=Stack
```

Output:

```
{
   "Tags": [
       {
           "ResourceType": "volume",
           "ResourceId": "vol-027552a73f021f3b",
           "Value": "Production",
           "Key": "Stack"
       },
       {
           "ResourceType": "instance",
           "ResourceId": "i-1234567890abcdef8",
```
Example 5: To describe the tags for your resources based on a tag key and tag value

The following describe-tags example describes the tags for your resources that have the tag Stack=Test.

```bash
aws ec2 describe-tags \
  --filters Name=key,Values=Stack Name=value,Values=Test
```

Output:

```json
{
  "Tags": [
    {
      "ResourceType": "image",
      "ResourceId": "ami-3ac336533f021f3bd",
      "Value": "Test",
      "Key": "Stack"
    },
    {
      "ResourceType": "instance",
      "ResourceId": "i-1234567890abcdef8",
      "Value": "Test",
      "Key": "Stack"
    }
  ]
}
```

The following describe-tags example uses alternate syntax to describe resources with the tag Stack=Test.

```bash
aws ec2 describe-tags \
  --filters "Name=tag:Stack,Values=Test"
```

The following describe-tags example describes the tags for all your instances that have a tag with the key Purpose and no value.
aws ec2 describe-tags \   --filters "Name=resource-type,Values=instance" "Name=key,Values=Purpose" "Name=value,Values="

Output:

```
{
   "Tags": [
       {
           "ResourceType": "instance",
           "ResourceId": "i-1234567890abcdef5",
           "Value": null,
           "Key": "Purpose"
       }
   ]
}
```

• For API details, see [DescribeTags](https://awscli.amazonaws.com/v2/documentation/api/latest/reference/ec2/describe-tags.html) in *AWS CLI Command Reference*.

describe-traffic-mirror-filters

The following code example shows how to use `describe-traffic-mirror-filters`.

**AWS CLI**

To view your traffic mirror filters

The following `describe-traffic-mirror-filters` example displays details for all of your traffic mirror filters.

aws ec2 describe-traffic-mirror-filters

Output:

```
{
   "TrafficMirrorFilters": [
       {
           "TrafficMirrorFilterId": "tmf-0293f26e86EXAMPLE",
           "IngressFilterRules": [
               {
                   "TrafficMirrorFilterRuleId": "tmfr-0ca76e0e08EXAMPLE",
               }
           ]
       }
   ]
}
For more information, see View your traffic mirror filters in the Traffic Mirroring Guide.

- For API details, see DescribeTrafficMirrorFilters in AWS CLI Command Reference.

describe-traffic-mirror-sessions

The following code example shows how to use describe-traffic-mirror-sessions.

AWS CLI

To describe a Traffic Mirror Session

The following describe-traffic-mirror-sessions example displays details of the your Traffic Mirror sessions.

```bash
aws ec2 describe-traffic-mirror-sessions
```

Output:

```json
{
   "TrafficMirrorSessions": [
   {
     "Tags": [],
     "VirtualNetworkId": 42,
     "OwnerId": "111122223333",
```
For more information, see [View Traffic Mirror Session Details](#) in the *AWS Traffic Mirroring Guide*.

- For API details, see [DescribeTrafficMirrorSessions](#) in *AWS CLI Command Reference*.

**describe-traffic-mirror-targets**

The following code example shows how to use `describe-traffic-mirror-targets`.

**AWS CLI**

**To describe a traffic mirror target**

The following `describe-traffic-mirror-targets` example displays information about the specified traffic mirror target.

```
aws ec2 describe-traffic-mirror-targets \
```
--traffic-mirror-target-ids tmt-0dabe9b0a6EXAMPLE

Output:

```json
{
  "TrafficMirrorTargets": [
    {
      "TrafficMirrorTargetId": "tmt-0dabe9b0a6EXAMPLE",
      "NetworkLoadBalancerArn": "arn:aws:elasticloadbalancing:us-east-1:111122223333:loadbalancer/net/NLB/7cdec873fEXAMPLE",
      "Type": "network-load-balancer",
      "Description": "Example Network Load Balancer target",
      "OwnerId": "111122223333",
      "Tags": []
    }
  ]
}
```

For more information, see Traffic mirror targets in the Amazon VPC Traffic Mirroring Guide.

- For API details, see DescribeTrafficMirrorTargets in AWS CLI Command Reference.

describe-transit-gateway-attachments

The following code example shows how to use describe-transit-gateway-attachments.

**AWS CLI**

**To view your transit gateway attachments**

The following describe-transit-gateway-attachments example displays details for your transit gateway attachments.

```bash
aws ec2 describe-transit-gateway-attachments
```

Output:

```json
{
  "TransitGatewayAttachments": [
    {
      "TransitGatewayAttachmentId": "tgw-attach-01f8100bc7EXAMPLE",
      "TransitGatewayId": "tgw-02f776b1a7EXAMPLE",
    }
  ]
}
```
"TransitGatewayOwnerId": "123456789012",
"ResourceOwnerId": "123456789012",
"ResourceType": "vpc",
"ResourceId": "vpc-3EXAMPLE",
"State": "available",
"Association": {
    "TransitGatewayRouteTableId": "tgw-rtb-002573ed1eEXAMPLE",
    "State": "associated"
},
"CreationTime": "2019-08-26T14:59:25.000Z",
"Tags": [
    {
        "Key": "Name",
        "Value": "Example"
    }
]
},
{
    "TransitGatewayAttachmentId": "tgw-attach-0b5968d3b6EXAMPLE",
    "TransitGatewayId": "tgw-02f776b1a7EXAMPLE",
    "TransitGatewayOwnerId": "123456789012",
    "ResourceOwnerId": "123456789012",
    "ResourceType": "vpc",
    "ResourceId": "vpc-0065acced4EXAMPLE",
    "State": "available",
    "Association": {
        "TransitGatewayRouteTableId": "tgw-rtb-002573ed1eEXAMPLE",
        "State": "associated"
    },
    "CreationTime": "2019-08-07T17:03:07.000Z",
    "Tags": []
},
{
    "TransitGatewayAttachmentId": "tgw-attach-08e0bc912cEXAMPLE",
    "TransitGatewayId": "tgw-02f776b1a7EXAMPLE",
    "TransitGatewayOwnerId": "123456789012",
    "ResourceOwnerId": "123456789012",
    "ResourceType": "direct-connect-gateway",
    "ResourceId": "11460968-4ac1-4fd3-bdb2-00599EXAMPLE",
    "State": "available",
    "Association": {
        "TransitGatewayRouteTableId": "tgw-rtb-002573ed1eEXAMPLE",
        "State": "associated"
    }
}
"CreationTime": "2019-08-14T20:27:44.000Z",
"Tags": []
},
{
  "TransitGatewayAttachmentId": "tgw-attach-0a89069f57EXAMPLE",
  "TransitGatewayId": "tgw-02f776b1a7EXAMPLE",
  "TransitGatewayOwnerId": "123456789012",
  "ResourceOwnerId": "123456789012",
  "ResourceType": "direct-connect-gateway",
  "ResourceId": "8384da05-13ce-4a91-aada-5a1baEXAMPLE",
  "State": "available",
  "Association": {
    "TransitGatewayRouteTableId": "tgw-rtb-002573ed1eEXAMPLE",
    "State": "associated"
  },
  "CreationTime": "2019-08-14T20:33:02.000Z",
  "Tags": []
}
}

For more information, see Work with transit gateways in the Transit Gateways Guide.

- For API details, see DescribeTransitGatewayAttachments in AWS CLI Command Reference.

describe-transit-gateway-connect-peers

The following code example shows how to use describe-transit-gateway-connect-peers.

AWS CLI

To describe a Transit Gateway Connect peer

The following describe-transit-gateway-connect-peers example describes the specified Connect peer.

```bash
aws ec2 describe-transit-gateway-connect-peers \
  --transit-gateway-connect-peer-ids tgw-connect-peer-0666adbac4EXAMPLE
```

Output:

```json
{
```
"TransitGatewayConnectPeers": [ 
  {
    "TransitGatewayAttachmentId": "tgw-attach-0f0927767cEXAMPLE",
    "TransitGatewayConnectPeerId": "tgw-connect-peer-0666adbac4EXAMPLE",
    "State": "available",
    "CreationTime": "2021-10-13T03:35:17.000Z",
    "ConnectPeerConfiguration": {
      "TransitGatewayAddress": "10.0.0.234",
      "PeerAddress": "172.31.1.11",
      "InsideCidrBlocks": [ "169.254.6.0/29"
      ],
      "Protocol": "gre",
      "BgpConfigurations": [
        {
          "TransitGatewayAsn": 64512,
          "PeerAsn": 64512,
          "TransitGatewayAddress": "169.254.6.2",
          "PeerAddress": "169.254.6.1",
          "BgpStatus": "down"
        },
        {
          "TransitGatewayAsn": 64512,
          "PeerAsn": 64512,
          "TransitGatewayAddress": "169.254.6.3",
          "PeerAddress": "169.254.6.1",
          "BgpStatus": "down"
        }
      ],
      "Tags": []
    }
  }
]
AWS CLI

To describe a transit gateway Connect attachment

The following describe-transit-gateway-connects example describes the specified Connect attachment.

```bash
aws ec2 describe-transit-gateway-connects \
    --transit-gateway-attachment-ids tgw-attach-037012e5dcEXAMPLE
```

Output:

```
{
   "TransitGatewayConnects": [
      {
          "TransitGatewayAttachmentId": "tgw-attach-037012e5dcEXAMPLE",
          "TransportTransitGatewayAttachmentId": "tgw-attach-0a89069f57EXAMPLE",
          "TransitGatewayId": "tgw-02f776b1a7EXAMPLE",
          "State": "available",
          "CreationTime": "2021-03-09T19:59:17+00:00",
          "Options": {
              "Protocol": "gre"
          },
          "Tags": []
      }
   ]
}
```

For more information, see Transit gateway Connect attachments and Transit Gateway Connect peers in the Transit Gateways Guide.

- For API details, see DescribeTransitGatewayConnects in AWS CLI Command Reference.

describe-transit-gateway-multicast-domains

The following code example shows how to use describe-transit-gateway-multicast-domains.

AWS CLI

To describe your transit gateway multicast domains
The following `describe-transit-gateway-multicast-domains` example displays details for all of your transit gateway multicast domains.

```bash
aws ec2 describe-transit-gateway-multicast-domains
```

Output:

```json
{
    "TransitGatewayMulticastDomains": [
        {
            "TransitGatewayMulticastDomainId": "tgw-mcast-domain-000fb24d04EXAMPLE",
            "TransitGatewayId": "tgw-0bf0bffefaEXAMPLE",
            "OwnerId": "123456789012",
            "Options": {
                "Igmpv2Support": "disable",
                "StaticSourcesSupport": "enable",
                "AutoAcceptSharedAssociations": "disable"
            },
            "State": "available",
            "CreationTime": "2019-12-10T18:32:50+00:00",
            "Tags": [
                {
                    "Key": "Name",
                    "Value": "mc1"
                }
            ]
        }
    ]
}
```

For more information, see [Managing multicast domains](#) in the *Transit Gateways Guide*.

- For API details, see `DescribeTransitGatewayMulticastDomains` in *AWS CLI Command Reference*.

### describe-transit-gateway-peering-attachments

The following code example shows how to use `describe-transit-gateway-peering-attachments`.

Actions and scenarios
AWS CLI

To describe your transit gateway peering attachments

The following describe-transit-gateway-peering-attachments example displays details for all of your transit gateway peering attachments.

```bash
aws ec2 describe-transit-gateway-peering-attachments
```

Output:

```json
{
   "TransitGatewayPeeringAttachments": [
      {
         "TransitGatewayAttachmentId": "tgw-attach-4455667788aabbcccd",
         "RequesterTgwInfo": {
            "TransitGatewayId": "tgw-123abc05e04123abc",
            "OwnerId": "123456789012",
            "Region": "us-west-2"
         },
         "AccepterTgwInfo": {
            "TransitGatewayId": "tgw-11223344aabbcc112",
            "OwnerId": "123456789012",
            "Region": "us-east-2"
         },
         "State": "pendingAcceptance",
         "CreationTime": "2019-12-09T11:38:05.000Z",
         "Tags": []
      }
   ]
}
```

For more information, see Transit Gateway Peering Attachments in the Transit Gateways Guide.

- For API details, see DescribeTransitGatewayPeeringAttachments in AWS CLI Command Reference.

describe-transit-gateway-policy-tables

The following code example shows how to use describe-transit-gateway-policy-tables.
AWS CLI

To describe a transit gateway policy table

The following describe-transit-gateway-policy-tables example describes the specified transit gateway policy table.

```bash
aws ec2 describe-transit-gateway-policy-tables \
   --transit-gateway-policy-table-ids tgw-ptb-0a16f134b78668a81
```

Output:

```json
{
   "TransitGatewayPolicyTables": [
      {
         "TransitGatewayPolicyTableId": "tgw-ptb-0a16f134b78668a81",
         "TransitGatewayId": "tgw-067f8505c18f0bd6e",
         "State": "available",
         "CreationTime": "2023-11-28T16:36:43+00:00",
         "Tags": []
      }
   ]
}
```

For more information, see Transit gateway policy tables in the Transit Gateway User Guide.

- For API details, see DescribeTransitGatewayPolicyTables in AWS CLI Command Reference.

describe-transit-gateway-route-tables

The following code example shows how to use describe-transit-gateway-route-tables.

AWS CLI

To describe your transit gateway route tables

The following describe-transit-gateway-route-tables example displays details for your transit gateway route tables.

```bash
aws ec2 describe-transit-gateway-route-tables
```
Output:

```
{
   "TransitGatewayRouteTables": [
   {
      "TransitGatewayRouteTableId": "tgw-rtb-0ca78a549EXAMPLE",
      "TransitGatewayId": "tgw-0bc994abffEXAMPLE",
      "State": "available",
      "DefaultAssociationRouteTable": true,
      "DefaultPropagationRouteTable": true,
      "CreationTime": "2018-11-28T14:24:49.000Z",
      "Tags": []
   },
   {
      "TransitGatewayRouteTableId": "tgw-rtb-0e8f48f148EXAMPLE",
      "TransitGatewayId": "tgw-0043d72bb4EXAMPLE",
      "State": "available",
      "DefaultAssociationRouteTable": true,
      "DefaultPropagationRouteTable": true,
      "CreationTime": "2018-11-28T14:24:00.000Z",
      "Tags": []
   }
   ]
}
```

For more information, see [View transit gateway route tables](#) in the [Transit Gateways Guide](#).

- For API details, see [DescribeTransitGatewayRouteTables](#) in [AWS CLI Command Reference](#).

describe-transit-gateway-vpc-attachments

The following code example shows how to use `describe-transit-gateway-vpc-attachments`.

**AWS CLI**

To describe your transit gateway VPC attachments

The following `describe-transit-gateway-vpc-attachments` example displays details for your transit gateway VPC attachments.

```
aws ec2 describe-transit-gateway-vpc-attachments
```
Output:

```json
{
  "TransitGatewayVpcAttachments": [
    {
      "TransitGatewayAttachmentId": "tgw-attach-0a08e88308EXAMPLE",
      "TransitGatewayId": "tgw-0043d72bb4EXAMPLE",
      "VpcId": "vpc-0f501f7ee8EXAMPLE",
      "VpcOwnerId": "111122223333",
      "State": "available",
      "SubnetIds": [
        "subnet-045d586432EXAMPLE",
        "subnet-0a0ad478a6EXAMPLE"
      ],
      "CreationTime": "2019-02-13T11:04:02.000Z",
      "Options": {
        "DnsSupport": "enable",
        "Ipv6Support": "disable"
      },
      "Tags": [
        {
          "Key": "Name",
          "Value": "attachment name"
        }
      ]
    }
  ]
}
```

For more information, see [View your VPC attachments](#) in the Transit Gateways Guide.

- For API details, see [DescribeTransitGatewayVpcAttachments](#) in AWS CLI Command Reference.

**describe-transit-gateways**

The following code example shows how to use `describe-transit-gateways`.

**AWS CLI**

**To describe your transit gateways**

The following `describe-transit-gateways` example retrieves details about your transit gateways.
aws ec2 describe-transit-gateways

Output:

```json
{
    "TransitGateways": [
        {
            "TransitGatewayId": "tgw-0262a0e521EXAMPLE",
            "State": "available",
            "OwnerId": "111122223333",
            "Description": "MyTGW",
            "CreationTime": "2019-07-10T14:02:12.000Z",
            "Options": {
                "AmazonSideAsn": 64516,
                "AutoAcceptSharedAttachments": "enable",
                "DefaultRouteTableAssociation": "enable",
                "AssociationDefaultRouteTableId": "tgw-rtb-018774adf3EXAMPLE",
                "DefaultRouteTablePropagation": "enable",
                "PropagationDefaultRouteTableId": "tgw-rtb-018774adf3EXAMPLE",
                "VpnEcmpSupport": "enable",
                "DnsSupport": "enable"
            },
            "Tags": []
        },
        {
            "TransitGatewayId": "tgw-0fb8421e2dEXAMPLE",
            "State": "available",
            "OwnerId": "111122223333",
            "Options": {
                "AmazonSideAsn": 65412,
                "AutoAcceptSharedAttachments": "disable",
                "DefaultRouteTableAssociation": "enable",
                "AssociationDefaultRouteTableId": "tgw-rtb-06a241a3d8EXAMPLE",
                "DefaultRouteTablePropagation": "enable",
                "PropagationDefaultRouteTableId": "tgw-rtb-06a241a3d8EXAMPLE",
                "VpnEcmpSupport": "enable",
                "DnsSupport": "enable"
            }
        }
    ]
}
```
For API details, see \texttt{DescribeTransitGateways} in \textit{AWS CLI Command Reference}.

\textbf{describe-verified-access-endpoints}

The following code example shows how to use \texttt{describe-verified-access-endpoints}.

\textbf{AWS CLI}

\textbf{To describe a Verified Access endpoint}

The following \texttt{delete-verified-access-endpoints} example describes the specified Verified Access endpoint.

\begin{verbatim}
aws ec2 describe-verified-access-endpoints \ 
  --verified-access-endpoint-ids vae-066fac616d4d546f2
\end{verbatim}

\textbf{Output:}

\begin{verbatim}
{
  "VerifiedAccessEndpoints": [
    {
      "VerifiedAccessInstanceId": "vai-0ce000c0b7643abea",
      "VerifiedAccessGroupId": "vagr-0dbe967baf14b7235",
      "VerifiedAccessEndpointId": "vae-066fac616d4d546f2",
      "ApplicationDomain": "example.com",
      "EndpointType": "network-interface",
      "AttachmentType": "vpc",
      "DomainCertificateArn": "arn:aws:acm:us-east-2:123456789012:certificate/eb065ea0-26f9-4e75-a6ce-0a1a7EXAMPLE",
      "EndpointDomain": "my-ava-app.edge-00c3372d53b1540bb.vai-0ce000c0b7643abea.prod.verified-access.us-east-2.amazonaws.com",
    }
  ]
}
\end{verbatim}
For more information, see [Verified Access endpoints](https://docs.aws.amazon.com/verified-access/latest/userguide/verifaccess-endpoints.html) in the *AWS Verified Access User Guide*.

- For API details, see [DescribeVerifiedAccessEndpoints](https://docs.aws.amazon.com/cli/latest/reference/ec2/describe-verified-access-groups.html) in *AWS CLI Command Reference*.

### describe-verified-access-groups

The following code example shows how to use `describe-verified-access-groups`.

#### AWS CLI

**To describe a Verified Access group**

The following `describe-verified-access-groups` example describes the specified Verified Access group.

```bash
aws ec2 describe-verified-access-groups \\
   --verified-access-group-ids vagr-0dbe967baf14b7235
```

**Output:**

- For API details, see [DescribeVerifiedAccessGroups](https://aws.amazon.comCLI Command Reference).

### describe-verified-access-instance-logging-configurations

The following code example shows how to use `describe-verified-access-instance-logging-configurations`.

**AWS CLI**

**To describe the logging configuration for a Verified Access instance**

The following `describe-verified-access-instance-logging-configurations` example describes the logging configuration for the specified Verified Access instance.

```
aws ec2 describe-verified-access-instance-logging-configurations \
  --verified-access-instance-ids vai-0ce000c0b7643abea
```

**Output:**

{  
   "VerifiedAccessGroups": [  
     {  
       "VerifiedAccessGroupId": "vagr-0dbe967baf14b7235",  
       "VerifiedAccessInstanceId": "vai-0ce000c0b7643abea",  
       "Description": "Testing Verified Access",  
       "Owner": "123456789012",  
       "VerifiedAccessGroupArn": "arn:aws:ec2:us-east-2:123456789012:verified-access-group/vagr-0dbe967baf14b7235",  
       "CreationTime": "2023-08-25T19:55:19",  
       "LastUpdatedTime": "2023-08-25T22:17:25",  
       "Tags": [  
         {  
           "Key": "Name",  
           "Value": "my-va-group"  
         }  
       ]  
    ]  
  ]
}
For more information, see [Verified Access logs](#) in the [AWS Verified Access User Guide](#).

- For API details, see [DescribeVerifiedAccessInstanceLoggingConfigurations](#) in [AWS CLI Command Reference](#).

**describe-verified-access-instances**

The following code example shows how to use describe-verified-access-instances.

**AWS CLI**

**To describe a Verified Access instance**

The following describe-verified-access-instances example describes the specified Verified Access instance.

```bash
aws ec2 describe-verified-access-instances \
```
Output:

```
{
    "VerifiedAccessInstances": [
        {
            "VerifiedAccessInstanceId": "vai-0ce000c0b7643abea",
            "Description": "Testing Verified Access",
            "VerifiedAccessTrustProviders": [
                {
                    "VerifiedAccessTrustProviderId": "vatp-0bb32de759a3e19e7",
                    "TrustProviderType": "user",
                    "UserTrustProviderType": "iam-identity-center"
                }
            ],
            "CreationTime": "2023-08-25T18:27:56",
            "LastUpdatedTime": "2023-08-25T19:03:32",
            "Tags": [
                {
                    "Key": "Name",
                    "Value": "my-ava-instance"
                }
            ]
        }
    ]
}
```

For more information, see [Verified Access instances](https://docs.aws.amazon.com/verified-access/latest/userguide/verified-access-instances.html) in the *AWS Verified Access User Guide*.

- For API details, see [DescribeVerifiedAccessInstances](https://docs.aws.amazon.com/verified-access/latest/APIReference/API_DescribeVerifiedAccessInstances.html) in *AWS CLI Command Reference*.

### describe-verified-access-trust-providers

The following code example shows how to use `describe-verified-access-trust-providers`.

### AWS CLI

**To describe a Verified Access trust provider**

The following `describe-verified-access-trust-providers` example describes the specified Verified Access trust provider.
aws ec2 describe-verified-access-trust-providers \ 
   --verified-access-trust-provider-ids vatp-0bb32de759a3e19e7

Output:

```json
{
   "VerifiedAccessTrustProviders": [
      {
         "VerifiedAccessTrustProviderId": "vatp-0bb32de759a3e19e7",
         "Description": "Testing Verified Access",
         "TrustProviderType": "user",
         "UserTrustProviderType": "iam-identity-center",
         "PolicyReferenceName": "idc",
         "CreationTime": "2023-08-25T19:00:38",
         "LastUpdatedTime": "2023-08-25T19:03:32",
         "Tags": [
            {
               "Key": "Name",
               "Value": "my-va-trust-provider"
            }
         ]
      }
   ]
}
```

For more information, see [Trust providers for Verified Access](https://docs.aws.amazon.com/awsverifiedaccess/latest/userguide/trust-providers.html) in the *AWS Verified Access User Guide*.

- For API details, see [DescribeVerifiedAccessTrustProviders](https://docs.aws.amazon.com/cli/latest/reference/ec2/describe-verified-access-trust-providers.html) in *AWS CLI Command Reference*.

---

describe-volume-attribute

The following code example shows how to use `describe-volume-attribute`.

**AWS CLI**

To describe a volume attribute

This example command describes the `autoEnableIo` attribute of the volume with the ID `vol-049df61146c4d7901`.

Command:
aws ec2 describe-volume-attribute --volume-id vol-049df61146c4d7901 --attribute autoEnableIO

Output:

```
{
   "AutoEnableIO": {
      "Value": false
   },
   "VolumeId": "vol-049df61146c4d7901"
}
```


**describe-volume-status**

The following code example shows how to use `describe-volume-status`.

**AWS CLI**

**To describe the status of a single volume**

This example command describes the status for the volume `vol-1234567890abcdef0`.

**Command:**

```
aws ec2 describe-volume-status --volume-ids vol-1234567890abcdef0
```

**Output:**

```
{
   "VolumeStatuses": [
      {
         "VolumeStatus": {
            "Status": "ok",
            "Details": [
               {
                  "Status": "passed",
                  "Name": "io-enabled"
               },
               {
                  "Status": "not-applicable",
                  "Name": "io-disabled"
               }
            ]
         }]
   }
```
To describe the status of impaired volumes

This example command describes the status for all volumes that are impaired. In this example output, there are no impaired volumes.

Command:

```
aws ec2 describe-volume-status --filters Name=volume-status.status,Values=impaired
```

Output:

```
{
   "VolumeStatuses": []
}
```

If you have a volume with a failed status check (status is impaired), see Working with an Impaired Volume in the *Amazon EC2 User Guide*.

- For API details, see [DescribeVolumeStatus](https://docs.aws.amazon.com/cli/latest/reference/ec2/describe-volume-status.html) in *AWS CLI Command Reference*.

describe-volumes

The following code example shows how to use describe-volumes.

AWS CLI

**Example 1: To describe a volume**

The following describe-volumes example describes the specified volumes in the current Region.
aws ec2 describe-volumes \
---volume-ids vol-049df61146c4d7901 vol-1234567890abcdef0

Output:

```
{
"Volumes": [
{
 "AvailabilityZone": "us-east-1a",
 "Attachments": [
 {
 "AttachTime": "2013-12-18T22:35:00.000Z",
 "InstanceId": "i-1234567890abcdef0",
 "VolumeId": "vol-049df61146c4d7901",
 "State": "attached",
 "DeleteOnTermination": true,
 "Device": "/dev/sda1"
 }
 ],
 "Encrypted": true,
 "KmsKeyId": "arn:aws:kms:us-east-2a:123456789012:key/8c5b2c63-b9bc-45a3-a87a-5513eEXAMPLE",
 "VolumeType": "gp2",
 "VolumeId": "vol-049df61146c4d7901",
 "State": "in-use",
 "Iops": 100,
 "SnapshotId": "snap-1234567890abcdef0",
 "CreateTime": "2019-12-18T22:35:00.084Z",
 "Size": 8
 },
{
 "AvailabilityZone": "us-east-1a",
 "Attachments": [],
 "Encrypted": false,
 "VolumeType": "gp2",
 "VolumeId": "vol-1234567890abcdef0",
 "State": "available",
 "Iops": 300,
 "SnapshotId": "",
 "CreateTime": "2020-02-27T00:02:41.791Z",
 "Size": 100
 }
]```
Example 2: To describe volumes that are attached to a specific instance

The following describe-volumes example describes all volumes that are both attached to the specified instance and set to delete when the instance terminates.

```bash
aws ec2 describe-volumes
    --region us-east-1
    --filters Name=attachment.instance-id,Values=i-1234567890abcdef0
    Name=attachment.delete-on-termination,Values=true
```

For an example of the output for describe-volumes, see Example 1.

Example 3: To describe available volumes in a specific Availability Zone

The following describe-volumes example describes all volumes that have a status of available and are in the specified Availability Zone.

```bash
aws ec2 describe-volumes
    --filters Name=status,Values=available
    Name=availability-zone,Values=us-east-1a
```

For an example of the output for describe-volumes, see Example 1.

Example 4: To describe volumes based on tags

The following describe-volumes example describes all volumes that have the tag key Name and a value that begins with Test. The output is then filtered with a query that displays only the tags and IDs of the volumes.

```bash
aws ec2 describe-volumes
    --filters Name=tag:Name,Values=Test* \
    --query "Volumes[*].{ID:VolumeId,Tag:Tags}"
```

Output:

```json
[
  {
    "Tag": [
      {
        "Value": "Test2",
```
{ "Key": "Name" 
 },
"ID": "vol-1234567890abcdef0"
},
{
"Tag": [
{
"Value": "Test1",
"Key": "Name"
}
],
"ID": "vol-049df61146c4d7901"
}]

For additional examples using tag filters, see [Working with tags](#) in the *Amazon EC2 User Guide*.

- For API details, see [DescribeVolumes](#) in *AWS CLI Command Reference*.

### describe-volumes-modifications

The following code example shows how to use `describe-volumes-modifications`.

#### AWS CLI

**To describe the modification status for a volume**

The following `describe-volumes-modifications` example describes the volume modification status of the specified volume.

```bash
aws ec2 describe-volumes-modifications \
  --volume-ids vol-1234567890abcdef0
```

**Output:**

```json
{
  "VolumeModification": {
    "TargetSize": 150,
    "TargetVolumeType": "io1",
    "ModificationState": "optimizing",
    "VolumeId": "vol-1234567890abcdef0",
    "TargetIops": 100,
  }
}```
For API details, see DescribeVolumesModifications in AWS CLI Command Reference.

describe-vpc-attribute

The following code example shows how to use describe-vpc-attribute.

AWS CLI

To describe the enableDnsSupport attribute

This example describes the enableDnsSupport attribute. This attribute indicates whether DNS resolution is enabled for the VPC. If this attribute is true, the Amazon DNS server resolves DNS hostnames for your instances to their corresponding IP addresses; otherwise, it does not.

Command:

```
aws ec2 describe-vpc-attribute --vpc-id vpc-a01106c2 --attribute enableDnsSupport
```

Output:

```
{
   "VpcId": "vpc-a01106c2",
   "EnableDnsSupport": {
      "Value": true
   }
}
```

To describe the enableDnsHostnames attribute

This example describes the enableDnsHostnames attribute. This attribute indicates whether the instances launched in the VPC get DNS hostnames. If this attribute is true, instances in the VPC get DNS hostnames; otherwise, they do not.

Command:
aws ec2 describe-vpc-attribute --vpc-id vpc-a01106c2 --attribute enableDnsHostnames

Output:

```json
{
    "VpcId": "vpc-a01106c2",
    "EnableDnsHostnames": {
        "Value": true
    }
}
```

- For API details, see [DescribeVpcAttribute](#) in *AWS CLI Command Reference*.

**describe-vpc-classic-link**

The following code example shows how to use `describe-vpc-classic-link`.

**AWS CLI**

To describe the ClassicLink status of your VPCs

This example lists the ClassicLink status of vpc-88888888.

**Command:**

`aws ec2 describe-vpc-classic-link --vpc-id vpc-88888888`

**Output:**

```json
{
    "Vpcs": [
        {
            "ClassicLinkEnabled": true,
            "VpcId": "vpc-88888888",
            "Tags": [
                {
                    "Value": "classiclinkvpc",
                    "Key": "Name"
                }
            ]
        }
    ]
}
```
This example lists only VPCs that are enabled for Classiclink (the filter value of `is-classic-link-enabled` is set to `true`).

Command:

```
aws ec2 describe-vpc-classic-link --filter "Name=is-classic-link-enabled,Values=true"
```

- For API details, see [DescribeVpcClassicLink](https://docs.aws.amazon.com/cli/latest/reference/ec2/describe-vpc-classic-link.html) in *AWS CLI Command Reference*.

**describe-vpc-classic-link-dns-support**

The following code example shows how to use `describe-vpc-classic-link-dns-support`.

**AWS CLI**

**To describe ClassicLink DNS support for your VPCs**

This example describes the ClassicLink DNS support status of all of your VPCs.

Command:

```
aws ec2 describe-vpc-classic-link-dns-support
```

Output:

```json
{
    "Vpcs": [
        {
            "VpcId": "vpc-88888888",
            "ClassicLinkDnsSupported": true
        },
        {
            "VpcId": "vpc-1a2b3c4d",
            "ClassicLinkDnsSupported": false
        }
    ]
}
```

- For API details, see [DescribeVpcClassicLinkDnsSupport](https://docs.aws.amazon.com/cli/latest/reference/ec2/describe-vpc-classic-link-dns-support.html) in *AWS CLI Command Reference*. 

Actions and scenarios
describe-vpc-endpoint-connection-notifications

The following code example shows how to use describe-vpc-endpoint-connection-notifications.

AWS CLI

To describe endpoint connection notifications

The following describe-vpc-endpoint-connection-notifications example describes all of your endpoint connection notifications.

aws ec2 describe-vpc-endpoint-connection-notifications

Output:

```json
{
    "ConnectionNotificationSet": [
        {
            "ConnectionNotificationState": "Enabled",
            "ConnectionNotificationType": "Topic",
            "ConnectionEvents": [
                "Accept",
                "Reject",
                "Delete",
                "Connect"
            ],
            "ConnectionNotificationId": "vpce-nfn-04bcb952bc8af7abc",
            "ConnectionNotificationArn": "arn:aws:sns:us-east-1:123456789012:VpceNotification",
            "VpcEndpointId": "vpce-0324151a02f327123"
        }
    ]
}
```


describe-vpc-endpoint-connections

The following code example shows how to use describe-vpc-endpoint-connections.
AWS CLI

To describe VPC endpoint connections

This example describes the interface endpoint connections to your endpoint service and filters the results to display endpoints that are PendingAcceptance.

Command:

```bash
aws ec2 describe-vpc-endpoint-connections --filters Name=vpc-endpoint-state,Values=pendingAcceptance
```

Output:

```json
{
  "VpcEndpointConnections": [
    {
      "VpcEndpointId": "vpce-0abed31004e618123",
      "ServiceId": "vpce-svc-0abcd088d20def56",
      "CreationTimestamp": "2017-11-30T10:00:24.350Z",
      "VpcEndpointState": "pendingAcceptance",
      "VpcEndpointOwner": "123456789012"
    }
  ]
}
```

- For API details, see [DescribeVpcEndpointConnections](https://docs.aws.amazon.com/cli/latest/reference/ec2/describe-vpc-endpoint-connections.html) in AWS CLI Command Reference.

**describe-vpc-endpoint-service-configurations**

The following code example shows how to use `describe-vpc-endpoint-service-configurations`.

**AWS CLI**

To describe endpoint service configurations

The following `describe-vpc-endpoint-service-configurations` example describes your endpoint service configurations.

```bash
aws ec2 describe-vpc-endpoint-service-configurations
```
Output:

{
    "ServiceConfigurations": [
    {
        "ServiceType": [
            {
                "ServiceType": "GatewayLoadBalancer"
            }
        ],
        "ServiceId": "vpce-svc-012d33a1c4321cabc",
        "ServiceName": "com.amazonaws.vpce.us-east-1.vpce-svc-012d33a1c4321cabc",
        "ServiceState": "Available",
        "AvailabilityZones": [
            "us-east-1d"
        ],
        "AcceptanceRequired": false,
        "ManagesVpcEndpoints": false,
        "GatewayLoadBalancerArns": [
            "arn:aws:elasticloadbalancing:us-east-1:123456789012:loadbalancer/gwy/GWLBSERVICE/123210844e429123"
        ],
        "Tags": []
    },
    {
        "ServiceType": [
            {
                "ServiceType": "Interface"
            }
        ],
        "ServiceId": "vpce-svc-123cabc125efa123",
        "ServiceName": "com.amazonaws.vpce.us-east-1.vpce-svc-123cabc125efa123",
        "ServiceState": "Available",
        "AvailabilityZones": [
            "us-east-1a"
        ],
        "AcceptanceRequired": true,
        "ManagesVpcEndpoints": false,
        "NetworkLoadBalancerArns": [
            "arn:aws:elasticloadbalancing:us-east-1:123456789012:loadbalancer/net/NLBforService/1238753950b25123"
        ],
        "BaseEndpointDnsNames": ["Actions and scenarios"]
    }
]
For more information, see VPC endpoint services in the Amazon VPC User Guide.

- For API details, see DescribeVpcEndpointServiceConfigurations in AWS CLI Command Reference.

### describe-vpc-endpoint-service-permissions

The following code example shows how to use describe-vpc-endpoint-service-permissions.

**AWS CLI**

**To describe endpoint service permissions**

This example describes the permissions for the specified endpoint service.

**Command:**

```bash
aws ec2 describe-vpc-endpoint-service-permissions --service-id vpce-svc-03d5ebb7d9579a2b3
```

**Output:**

```json
{
   "AllowedPrincipals": [
      {
         "PrincipalType": "Account",
         "Principal": "arn:aws:iam::123456789012:root"
      }
   ]
}
```
describe-vpc-endpoint-services

The following code example shows how to use describe-vpc-endpoint-services.

AWS CLI

Example 1: To describe all VPC endpoint services

The following "describe-vpc-endpoint-services" example lists all VPC endpoint services for an AWS Region.

```
aws ec2 describe-vpc-endpoint-services
```

Output:

```
{
   "ServiceDetails": [
   {
      "ServiceType": [
      {
         "ServiceType": "Gateway"
      }
     ],
     "AcceptanceRequired": false,
     "ServiceName": "com.amazonaws.us-east-1.dynamodb",
     "VpcEndpointPolicySupported": true,
     "Owner": "amazon",
     "AvailabilityZones": [
      "us-east-1a",
      "us-east-1b",
      "us-east-1c",
      "us-east-1d",
      "us-east-1e",
      "us-east-1f"
     ],
     "BaseEndpointDnsNames": [
      "dynamodb.us-east-1.amazonaws.com"
   }
   ]
}
```

For API details, see DescribeVpcEndpointServicePermissions in AWS CLI Command Reference.
[{
    "ServiceType": [
    {
        "ServiceType": "Interface"
    }
    ],
    "PrivateDnsName": "ec2.us-east-1.amazonaws.com",
    "ServiceName": "com.amazonaws.us-east-1.ec2",
    "VpcEndpointPolicySupported": false,
    "Owner": "amazon",
    "AvailabilityZones": [
    "us-east-1a",
    "us-east-1b",
    "us-east-1c",
    "us-east-1d",
    "us-east-1e",
    "us-east-1f"
    ],
    "AcceptanceRequired": false,
    "BaseEndpointDnsNames": [
    "ec2.us-east-1.vpce.amazonaws.com"
    ]
},
{
    "ServiceType": [
    {
        "ServiceType": "Interface"
    }
    ],
    "PrivateDnsName": "ssm.us-east-1.amazonaws.com",
    "ServiceName": "com.amazonaws.us-east-1.ssm",
    "VpcEndpointPolicySupported": true,
    "Owner": "amazon",
    "AvailabilityZones": [
    "us-east-1a",
    "us-east-1b",
    "us-east-1c",
    "us-east-1d",
    "us-east-1e"
    ],
    "AcceptanceRequired": false,
    "BaseEndpointDnsNames": [

For more information, see View available AWS service names in the User Guide for AWSPrivateLink.

**Example 2: To describe the details about an endpoint service**

The following "describe-vpc-endpoint-services" example lists the details of the Amazon S3 interface endpoint service.

```bash
aws ec2 describe-vpc-endpoint-services \
    --filter "Name=service-type,Values=Interface" Name=service-name,Values=com.amazonaws.us-east-1.s3
```

Output:

```json
{
    "ServiceDetails": [
    {
        "ServiceName": "com.amazonaws.us-east-1.s3",
        "ServiceId": "vpce-svc-081d84efcdEXAMPLE",
        "ServiceType": [
            {
                "ServiceType": "Interface"
            }
        ],
        "AvailabilityZones": [
            "us-east-1a",
            "us-east-1b",
            "us-east-1c",
```
For more information, see View available AWS service names in the User Guide for AWSPrivateLink.

- For API details, see DescribeVpcEndpointServices in AWS CLI Command Reference.

describe-vpc-endpoints

The following code example shows how to use describe-vpc-endpoints.

AWS CLI

To describe your VPC endpoints

The following describe-vpc-endpoints example displays details for all of your VPC endpoints.

```bash
aws ec2 describe-vpc-endpoints
```

Output:

```
{
  "VpcEndpoints": [
    {
```
"VpcId": "vpc-aabb1122",
"NetworkInterfaceIds": [],
"SubnetIds": [],
"PrivateDnsEnabled": true,
"State": "available",
"ServiceName": "com.amazonaws.us-east-1.dynamodb",
"RouteTableIds": [
  "rtb-3d560345"
],
"Groups": [],
"VpcEndpointId": "vpce-032a826a",
"VpcEndpointType": "Gateway",
"CreationTimestamp": "2017-09-05T20:41:28Z",
"DnsEntries": [],
"OwnerId": "123456789012"
},
{
  "PolicyDocument": "{\n    \"Statement\": [{\n      \"Action\": \"*
    \", \n    \"Effect\": \"Allow\", \n    \"Principal\": \"*\", \n    \"Resource\": \"*\"}
  ],
  "VpcId": "vpc-1a2b3c4d",
  "NetworkInterfaceIds": [
    "eni-2ec2b084",
    "eni-1b4a65cf"
  ],
  "SubnetIds": [
    "subnet-d6fcaa8d",
    "subnet-7b16de0c"
  ],
  "PrivateDnsEnabled": false,
  "State": "available",
  "ServiceName": "com.amazonaws.us-east-1.elasticloadbalancing",
  "RouteTableIds": [],
  "Groups": [
    {
      "GroupName": "default",
      "GroupId": "sg-54e8bf31"
    }
  ],
  "VpcEndpointId": "vpce-0f89a33420c1931d7",
  "VpcEndpointType": "Interface",
  "CreationTimestamp": "2017-09-05T17:55:27.583Z",
  "PrivateDnsEnabled": false,
  "State": "available",
  "ServiceName": "com.amazonaws.us-east-1ICYF",
  "RouteTableIds": [],
  "Groups": [],
  "VpcEndpointId": "vpce-0f89a33420c1931d7",
  "VpcEndpointType": "Interface",
  "CreationTimestamp": "2017-09-05T17:55:27.583Z",
  "PrivateDnsEnabled": false,
  "State": "available",
  "ServiceName": "com.amazonaws.us-east-1.IFYF",
  "RouteTableIds": [],
  "Groups": []
}
For more information, see [VPC endpoints](https://docs.aws.amazon.com/vpc/latest/userguide/vpc-endpoints.html) in the *Amazon VPC User Guide*.

- For API details, see [DescribeVpcEndpoints](https://docs.aws.amazon.com/cli/latest/reference/ec2/describe-vpc-endpoints.html) in *AWS CLI Command Reference*. 
describe-vpc-peering-connections

The following code example shows how to use describe-vpc-peering-connections.

**AWS CLI**

**To describe your VPC peering connections**

This example describes all of your VPC peering connections.

**Command:**

```
aws ec2 describe-vpc-peering-connections
```

**Output:**

```json
{
    "VpcPeeringConnections": [
        {
            "Status": {
                "Message": "Active",
                "Code": "active"
            },
            "Tags": [
                {
                    "Value": "Peering-1",
                    "Key": "Name"
                }
            ],
            "AccepterVpcInfo": {
                "OwnerId": "111122223333",
                "VpcId": "vpc-1a2b3c4d",
                "CidrBlock": "10.0.1.0/28"
            },
            "VpcPeeringConnectionId": "pcx-11122233",
            "RequesterVpcInfo": {
                "PeeringOptions": {
                    "AllowEgressFromLocalVpcToRemoteClassicLink": false,
                    "AllowEgressFromLocalClassicLinkToRemoteVpc": false
                },
                "OwnerId": "444455556666",
                "VpcId": "vpc-123abc45",
                "CidrBlock": "192.168.0.0/16"
            }
        }
    ]
}
```
To describe specific VPC peering connections

This example describes all of your VPC peering connections that are in the pending-acceptance state.

Command:

```bash
aws ec2 describe-vpc-peering-connections --filters Name=status-code,Values=pending-acceptance
```

This example describes all of your VPC peering connections that have the tag Owner=Finance.

Command:

```bash
aws ec2 describe-vpc-peering-connections --filters Name=tag:Owner,Values=Finance
```
This example describes all of the VPC peering connections you requested for the specified VPC, vpc-1a2b3c4d.

Command:

```
aws ec2 describe-vpc-peering-connections --filters Name=requester-vpc-info.vpc-id,Values=vpc-1a2b3c4d
```

- For API details, see `DescribeVpcPeeringConnections` in *AWS CLI Command Reference*.

**describe-vpn-connections**

The following code example shows how to use `describe-vpn-connections`.

**AWS CLI**

**Example 1: To describe your VPN connections**

The following `describe-vpn-connections` example describes all of your Site-to-Site VPN connections.

```
aws ec2 describe-vpn-connections
```

Output:

```
{
    "VpnConnections": [
        {
            "CustomerGatewayConfiguration": "...configuration information...",
            "CustomerGatewayId": "cgw-01234567abcde1234",
            "Category": "VPN",
            "State": "available",
            "Type": "ipsec.1",
            "VpnConnectionId": "vpn-1122334455aabbccd",
            "TransitGatewayId": "tgw-00112233445566aab",
            "Options": {
                "EnableAcceleration": false,
                "StaticRoutesOnly": true,
                "LocalIpv4NetworkCidr": "0.0.0.0/0",
                "RemoteIpv4NetworkCidr": "0.0.0.0/0",
                "TunnelInsideIpVersion": "ipv4"
            }
        }
    ]
}
```
For more information, see [How AWS Site-to-Site VPN works](#) in the [AWS Site-to-Site VPN User Guide](#).

**Example 2: To describe your available VPN connections**

The following `describe-vpn-connections` example describes your Site-to-Site VPN connections with a state of available.

```
aws ec2 describe-vpn-connections \
   --filters "Name=state,Values=available"
```

For more information, see [How AWS Site-to-Site VPN works](#) in the [AWS Site-to-Site VPN User Guide](#).

- For API details, see [DescribeVpnConnections](#) in [AWS CLI Command Reference](#).
**describe-vpn-gateways**

The following code example shows how to use `describe-vpn-gateways`.

**AWS CLI**

**To describe your virtual private gateways**

This example describes your virtual private gateways.

Command:

```bash
aws ec2 describe-vpn-gateways
```

Output:

```json
{
   "VpnGateways": [
      {
         "State": "available",
         "Type": "ipsec.1",
         "VpnGatewayId": "vgw-f211f09b",
         "VpcAttachments": [
            {
               "State": "attached",
               "VpcId": "vpc-98eb5ef5"
            }
         ]
      },
      {
         "State": "available",
         "Type": "ipsec.1",
         "VpnGatewayId": "vgw-9a4cacf3",
         "VpcAttachments": [
            {
               "State": "attaching",
               "VpcId": "vpc-a01106c2"
            }
         ]
      }
   ]
}
```
For API details, see `DescribeVpnGateways` in *AWS CLI Command Reference*.

**detach-classic-link-vpc**

The following code example shows how to use `detach-classic-link-vpc`.

**AWS CLI**

**To unlink (detach) an EC2-Classic instance from a VPC**

This example unlinks instance i-0598c7d356eba48d7 from VPC vpc-88888888.

**Command:**

```
aws ec2 detach-classic-link-vpc --instance-id i-0598c7d356eba48d7 --vpc-id vpc-88888888
```

**Output:**

```
{
   "Return": true
}
```

For API details, see `DetachClassicLinkVpc` in *AWS CLI Command Reference*.

**detach-internet-gateway**

The following code example shows how to use `detach-internet-gateway`.

**AWS CLI**

**To detach an internet gateway from your VPC**

The following `detach-internet-gateway` example detaches the specified internet gateway from the specific VPC.

```
aws ec2 detach-internet-gateway \
   --internet-gateway-id igw-0d0fb496b3EXAMPLE \
   --vpc-id vpc-0a60eb65b4EXAMPLE
```

This command produces no output.
For more information, see Internet gateways in the Amazon VPC User Guide.

- For API details, see DetachInternetGateway in AWS CLI Command Reference.

**detach-network-interface**

The following code example shows how to use detach-network-interface.

**AWS CLI**

**To detach a network interface from your instance**

This example detaches the specified network interface from the specified instance. If the command succeeds, no output is returned.

Command:

```
aws ec2 detach-network-interface --attachment-id eni-attach-66c4350a
```

- For API details, see DetachNetworkInterface in AWS CLI Command Reference.

**detach-verified-access-trust-provider**

The following code example shows how to use detach-verified-access-trust-provider.

**AWS CLI**

**To detach a trust provider from an instance**

The following detach-verified-access-trust-provider example detaches the specified Verified Access trust provider from the specified Verified Access instance.

```
aws ec2 detach-verified-access-trust-provider
   --verified-access-instance-id vai-0ce000c0b7643abea
   --verified-access-trust-provider-id vatp-0bb32de759a3e19e7
```

Output:

```json
{
   "VerifiedAccessTrustProvider": {
      "VerifiedAccessTrustProviderId": "vatp-0bb32de759a3e19e7",
      "Description": "Testing Verified Access",
```
For more information, see [Verified Access instances](#) in the *AWS Verified Access User Guide*.

- For API details, see [DetachVerifiedAccessTrustProvider](#) in *AWS CLI Command Reference*.

**detach-volume**

The following code example shows how to use `detach-volume`.

**AWS CLI**

**To detach a volume from an instance**

This example command detaches the volume (vol-049df61146c4d7901) from the instance it is attached to.

Command:

```
aws ec2 detach-volume --volume-id vol-1234567890abcdef0
```

Output:

```
{
    "AttachTime": "2014-02-27T19:23:06.000Z",
    "InstanceId": "i-1234567890abcdef0",
    "VolumeId": "vol-049df61146c4d7901",
    "State": "detaching",
    "Device": "/dev/sdb"
}
```
detach-vpn-gateway

The following code example shows how to use detach-vpn-gateway.

AWS CLI

To detach a virtual private gateway from your VPC

This example detaches the specified virtual private gateway from the specified VPC. If the command succeeds, no output is returned.

Command:

```
aws ec2 detach-vpn-gateway --vpn-gateway-id vgw-9a4cacf3 --vpc-id vpc-a01106c2
```

For API details, see DetachVpnGateway in AWS CLI Command Reference.

disable-address-transfer

The following code example shows how to use disable-address-transfer.

AWS CLI

To disable an Elastic IP address transfer

The following disable-address-transfer example disables Elastic IP address transfer for the specified Elastic IP address.

```
aws ec2 disable-address-transfer \
   --allocation-id eipalloc-09ad461b0d03f6aaf
```

Output:

```
{
   "AddressTransfer": {
      "PublicIp": "100.21.184.216",
      "AllocationId": "eipalloc-09ad461b0d03f6aaf",
```

"AddressTransferStatus": "disabled"
}
}

For more information, see Transfer Elastic IP addresses in the Amazon VPC User Guide.

- For API details, see DisableAddressTransfer in AWS CLI Command Reference.

disable-aws-network-performance-metric-subscription

The following code example shows how to use disable-aws-network-performance-metric-subscription.

**AWS CLI**

**To disable a metric subscription**

The following disable-aws-network-performance-metric-subscription example disables the monitoring of aggregate network latency between the specified source and destination Regions.

```bash
aws ec2 disable-aws-network-performance-metric-subscription \
   --source us-east-1 \
   --destination eu-west-1 \
   --metric aggregate-latency \
   --statistic p50
```

Output:

```json
{
   "Output": true
}
```

For more information, see Manage subscriptions in the Infrastructure Performance User Guide.

- For API details, see DisableAwsNetworkPerformanceMetricSubscription in AWS CLI Command Reference.

disable-ebs-encryption-by-default

The following code example shows how to use disable-ebs-encryption-by-default.

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**AWS CLI**

**To disable EBS encryption by default**

The following `disable-ebs-encryption-by-default` example disables EBS encryption by default for your AWS account in the current Region.

```bash
aws ec2 disable-ebs-encryption-by-default
```

Output:

```
{
    "EbsEncryptionByDefault": false
}
```

- For API details, see [DisableEbsEncryptionByDefault](https://docs.aws.amazon.com/cli/latest/reference/ec2/disable-ebs-encryption-by-default.html) in *AWS CLI Command Reference*.

**disable-fast-launch**

The following code example shows how to use `disable-fast-launch`.

**AWS CLI**

**To discontinue fast launching for an image**

The following `disable-fast-launch` example discontinues fast launching on the specified AMI, and cleans up existing pre-provisioned snapshots.

```bash
aws ec2 disable-fast-launch \
 --image-id ami-01234567890abcedf
```

Output:

```
{
    "ImageId": "ami-01234567890abcedf",
    "ResourceType": "snapshot",
    "SnapshotConfiguration": {},
    "LaunchTemplate": {
        "LaunchTemplateId": "lt-01234567890abcedf",
        "LaunchTemplateName": "EC2FastLaunchDefaultResourceCreation-a8c6215d-94e6-441b-9272-dbd1f87b07e2",
    }
}
```
"Version": "1",
"MaxParallelLaunches": 6,
"OwnerId": "0123456789123",
"State": "disabling",
"StateTransitionReason": "Client.UserInitiated",
"StateTransitionTime": "2022-01-27T22:47:29.265000+00:00"
}

For more information about configuring a Windows AMI for faster launching, see Configure your AMI for faster launching in the Amazon EC2 User Guide.

- For API details, see DisableFastLaunch in AWS CLI Command Reference.

disable-fast-snapshot-restores

The following code example shows how to use disable-fast-snapshot-restores.

AWS CLI

To disable fast snapshot restore

The following disable-fast-snapshot-restores example disables fast snapshot restore for the specified snapshot in the specified Availability Zone.

aws ec2 disable-fast-snapshot-restores \
  --availability-zones us-east-2a \
  --source-snapshot-ids snap-1234567890abcdef0

Output:

{"Successful": [
  {
    "SnapshotId": "snap-1234567890abcdef0",
    "AvailabilityZone": "us-east-2a",
    "State": "disabling",
    "StateTransitionReason": "Client.UserInitiated",
    "OwnerId": "123456789012",
    "EnablingTime": "2020-01-25T23:57:49.602Z"
  }
],}
"Unsuccessful": []
}

• For API details, see DisableFastSnapshotRestores in AWS CLI Command Reference.

disable-image

The following code example shows how to use disable-image.

AWS CLI

To disable an AMI

The following disable-image example disables the specified AMI.

```
aws ec2 disable-image \
   --image-id ami-1234567890abcdef0
```

Output:

```
{
   "Return": "true"
}
```

For more information, see Disable an AMI in the Amazon EC2 User Guide.

• For API details, see DisableImage in AWS CLI Command Reference.

disable-image-block-public-access

The following code example shows how to use disable-image-block-public-access.

AWS CLI

To disable block public access for AMIs in the specified Region

The following disable-image-block-public-access example disables block public access for AMIs at the account level in the specified Region.

```
aws ec2 disable-image-block-public-access \
   --region us-east-1
```
Output:

{
   "ImageBlockPublicAccessState": "unblocked"
}

For more information, see Block public access to your AMIs in the Amazon EC2 User Guide.

• For API details, see DisableImageBlockPublicAccess in AWS CLI Command Reference.

disable-image-deprecation

The following code example shows how to use disable-image-deprecation.

AWS CLI

To cancel the deprecation of an AMI

The following disable-image-deprecation example cancels the deprecation of an AMI, which removes the DeprecationTime field from the describe-images output. You must be the AMI owner to perform this procedure.

aws ec2 disable-image-deprecation \
   --image-id ami-1234567890abcdef0

Output:

{
   "RequestID": "11aabb229-4eac-35bd-99ed-be587EXAMPLE",
   "Return": "true"
}

For more information, see Deprecate an AMI <https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ami-deprecate.html#deprecate-ami> in the Amazon EC2 User Guide.

• For API details, see DisableImageDeprecation in AWS CLI Command Reference.

disable-serial-console-access

The following code example shows how to use disable-serial-console-access.
AWS CLI

To disable access to the EC2 serial console for your account

The following `disable-serial-console-access` example disables account access to the serial console.

```bash
aws ec2 disable-serial-console-access
```

Output:

```json
{
   "SerialConsoleAccessEnabled": false
}
```

For more information, see [EC2 Serial Console](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ec2-serial-console.html) in the *Amazon EC2 User Guide*.  
- For API details, see [DisableSerialConsoleAccess](https://docs.aws.amazon.com/cli/latest/reference/ec2/disable-serial-console-access.html) in *AWS CLI Command Reference*.

disable-transit-gateway-route-table-propagation

The following code example shows how to use `disable-transit-gateway-route-table-propagation`.

**AWS CLI**

To disable a transit gateway attachment to propagate routes to the specified propagation route table

The following `disable-transit-gateway-route-table-propagation` example disables the specified attachment to propagate routes to the specified propagation route table.

```bash
aws ec2 disable-transit-gateway-route-table-propagation \
   --transit-gateway-route-table-id tgw-rtb-0a823edbdeEXAMPLE \
   --transit-gateway-attachment-id tgw-attach-09b52ccdb5EXAMPLE
```

Output:

```json
{
   "Propagation": {
```

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For more information, see [Transit gateway route tables](#) in the *Transit Gateways Guide*.

- For API details, see [DisableTransitGatewayRouteTablePropagation](#) in *AWS CLI Command Reference*.

### disable-vgw-route-propagation

The following code example shows how to use `disable-vgw-route-propagation`.

#### AWS CLI

**To disable route propagation**

This example disables the specified virtual private gateway from propagating static routes to the specified route table. If the command succeeds, no output is returned.

Command:

```bash
aws ec2 disable-vgw-route-propagation --route-table-id rtb-22574640 --gateway-id vgw-9a4cacf3
```

- For API details, see [DisableVgwRoutePropagation](#) in *AWS CLI Command Reference*.

### disable-vpc-classic-link

The following code example shows how to use `disable-vpc-classic-link`.

#### AWS CLI

**To disable ClassicLink for a VPC**

This example disables ClassicLink for vpc-8888888.

Command:
disable-vpc-classic-link

```
aws ec2 disable-vpc-classic-link --vpc-id vpc-88888888
```

Output:

```
{
    "Return": true
}
```

- For API details, see [DisableVpcClassicLink](https://docs.aws.amazon.com/cli/latest/reference/ec2/disable-vpc-classic-link.html) in *AWS CLI Command Reference*.

**disable-vpc-classic-link-dns-support**

The following code example shows how to use disable-vpc-classic-link-dns-support.

**AWS CLI**

**To disable ClassicLink DNS support for a VPC**

This example disables ClassicLink DNS support for *vpc-88888888*.

Command:

```
aws ec2 disable-vpc-classic-link-dns-support --vpc-id vpc-88888888
```

Output:

```
{
    "Return": true
}
```

- For API details, see [DisableVpcClassicLinkDnsSupport](https://docs.aws.amazon.com/cli/latest/reference/ec2/disable-vpc-classic-link-dns-support.html) in *AWS CLI Command Reference*.

**disassociate-client-vpn-target-network**

The following code example shows how to use disassociate-client-vpn-target-network.

**AWS CLI**

**To disassociate a network from a Client VPN endpoint**
The following disassociate-client-vpn-target-network example disassociates the target network that's associated with the cvpn-assoc-12312312312312312 association ID for the specified Client VPN endpoint.

```bash
aws ec2 disassociate-client-vpn-target-network \
   --client-vpn-endpoint-id cvpn-endpoint-123456789123abcde \
   --association-id cvpn-assoc-12312312312312312
```

Output:

```json
{
   "AssociationId": "cvpn-assoc-12312312312312312",
   "Status": {
      "Code": "disassociating"
   }
}
```

For more information, see Target Networks in the AWS Client VPN Administrator Guide.

- For API details, see DisassociateClientVpnTargetNetwork in AWS CLI Command Reference.

disassociate-iam-instance-profile

The following code example shows how to use disassociate-iam-instance-profile.

**AWS CLI**

**To disassociate an IAM instance profile**

This example disassociates an IAM instance profile with the association ID iip-assoc-05020b59952902f5f.

**Command:**

```bash
aws ec2 disassociate-iam-instance-profile --association-id iip-assoc-05020b59952902f5f
```

**Output:**

```json
{
}
```
"IamInstanceProfileAssociation": {
    "InstanceId": "i-123456789abcde123",
    "State": "disassociating",
    "AssociationId": "iip-assoc-05020b59952902f5f",
    "IamInstanceProfile": {
        "Id": "AIPAI5IVHMFFYY2DKV5Y",
        "Arn": "arn:aws:iam::123456789012:instance-profile/admin-role"
    }
}

- For API details, see DisassociateIamInstanceProfile in AWS CLI Command Reference.

disassociate-instance-event-window

The following code example shows how to use disassociate-instance-event-window.

AWS CLI

Example 1: To disassociate one or more instances from an event window

The following disassociate-instance-event-window example disassociates one or more instances from an event window. Specify the instance-event-window-id parameter to specify the event window. To disassociate instances, specify the association-target parameter, and for the parameter values, specify one or more instance IDs.

```
aws ec2 disassociate-instance-event-window 
   --region us-east-1 
   --instance-event-window-id iew-0abcdef1234567890 
   --association-target "InstanceIds=i-1234567890abcdef0,i-0598c7d356eba48d7"
```

Output:

```
{
    "InstanceEventWindow": {
        "InstanceEventWindowId": "iew-0abcdef1234567890",
        "Name": "myEventWindowName",
        "CronExpression": "* 21-23 * * 2,3",
        "AssociationTarget": {
            "InstanceIds": [],
            "Tags": []
        }
    }
}
```
"DedicatedHostIds": [],
"State": "creating"
}

For event window constraints, see Considerations in the Scheduled Events section of the Amazon EC2 User Guide.

Example 2: To disassociate instance tags from an event window

The following disassociate-instance-event-window example disassociates instance tags from an event window. Specify the instance-event-window-id parameter to specify the event window. To disassociate instance tags, specify the association-target parameter, and for the parameter values, specify one or more tags.

```
aws ec2 disassociate-instance-event-window \
  --region us-east-1 \
  --instance-event-window-id iew-0abcdef1234567890 \
  --association-target "InstanceTags=([{Key=k2,Value=v2},{Key=k1,Value=v1}]"
```

Output:

```
{
  "InstanceEventWindow": {
    "InstanceEventWindowId": "iew-0abcdef1234567890",
    "Name": "myEventWindowName",
    "CronExpression": "* 21-23 * * 2,3",
    "AssociationTarget": {
      "InstanceIds": [],
      "Tags": [],
      "DedicatedHostIds": []
    },
    "State": "creating"
  }
}
```

For event window constraints, see Considerations in the Scheduled Events section of the Amazon EC2 User Guide.

Example 3: To disassociate a Dedicated Host from an event window
The following disassociate-instance-event-window example disassociates a Dedicated Host from an event window. Specify the instance-event-window-id parameter to specify the event window. To disassociate a Dedicated Host, specify the association-target parameter, and for the parameter values, specify one or more Dedicated Host IDs.

```bash
aws ec2 disassociate-instance-event-window \
   --region us-east-1 \
   --instance-event-window-id iew-0abcdef1234567890 \
   --association-target DedicatedHostIds=h-029fa35a02b99801d
```

Output:

```json
{
   "InstanceEventWindow": {
      "InstanceEventWindowId": "iew-0abcdef1234567890",
      "Name": "myEventWindowName",
      "CronExpression": "* 21-23 * * 2,3",
      "AssociationTarget": {
         "InstanceIds": [],
         "Tags": [],
         "DedicatedHostIds": []
      },
      "State": "creating"
   }
}
```

For event window constraints, see [Considerations](#) in the Scheduled Events section of the Amazon EC2 User Guide.

- For API details, see [DisassociateInstanceEventWindow](#) in AWS CLI Command Reference.

**disassociate-nat-gateway-address**

The following code example shows how to use disassociate-nat-gateway-address.

**AWS CLI**

To disassociate an Elastic IP address from a public NAT gateway

The following disassociate-nat-gateway-address example disassociates the specified Elastic IP address from the specified public NAT gateway.
aws ec2 disassociate-nat-gateway-address \
  --nat-gateway-id nat-1234567890abcdef0 \ 
  --association-ids eipassoc-0f96bdca17EXAMPLE

Output:

{
   "NatGatewayId": "nat-1234567890abcdef0",
   "NatGatewayAddresses": [
      {
         "AllocationId": "eipalloc-0be6ecac95EXAMPLE",
         "NetworkInterfaceId": "eni-09cc4b2558794f7f9",
         "PrivateIp": "10.0.0.74",
         "PublicIp": "3.211.231.218",
         "AssociationId": "eipassoc-0f96bdca17EXAMPLE",
         "IsPrimary": false,
         "Status": "disassociating"
      }
   ]
}

For more information, see [NAT gateways](https://docs.aws.amazon.com/vpc/latest/userguide/nat-gateways.html) in the *Amazon VPC User Guide*.

- For API details, see [DisassociateNatGatewayAddress](https://docs.aws.amazon.com/cli/latest/reference/ec2/disassociate-nat-gateway-address.html) in *AWS CLI Command Reference*.

### disassociate-route-table

The following code example shows how to use `disassociate-route-table`.

**AWS CLI**

**To disassociate a route table**

This example disassociates the specified route table from the specified subnet. If the command succeeds, no output is returned.

Command:

```bash
aws ec2 disassociate-route-table --association-id rtbassoc-781d0d1a
```

- For API details, see [DisassociateRouteTable](https://docs.aws.amazon.com/cli/latest/reference/ec2/disassociate-route-table.html) in *AWS CLI Command Reference*. 

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disassociate-subnet-cidr-block

The following code example shows how to use disassociate-subnet-cidr-block.

AWS CLI

To disassociate an IPv6 CIDR block from a subnet

This example disassociates an IPv6 CIDR block from a subnet using the association ID for the CIDR block.

Command:

```
aws ec2 disassociate-subnet-cidr-block --association-id subnet-cidr-assoc-3aa54053
```

Output:

```
{
    "SubnetId": "subnet-5f46ec3b",
    "Ipv6CidrBlockAssociation": {
        "Ipv6CidrBlock": "2001:db8:1234:1a00::/64",
        "AssociationId": "subnet-cidr-assoc-3aa54053",
        "Ipv6CidrBlockState": {
            "State": "disassociating"
        }
    }
}
```

- For API details, see DisassociateSubnetCidrBlock in AWS CLI Command Reference.

disassociate-transit-gateway-multicast-domain

The following code example shows how to use disassociate-transit-gateway-multicast-domain.

AWS CLI

To disassociate subnets from a multicast domain

The following disassociate-transit-gateway-multicast-domain example disassociates a subnet from the specified multicast domain.
aws ec2 disassociate-transit-gateway-multicast-domain \ 
  --transit-gateway-attachment-id tgw-attach-070e571cd1EXAMPLE \ 
  --subnet-id subnet-000de86e3bEXAMPLE \ 
  --transit-gateway-multicast-domain-id tgw-mcast-domain-0c4905cef7EXAMPLE

Output:

```
{
   "Associations": {
      "TransitGatewayMulticastDomainId": "tgw-mcast-domain-0c4905cef7EXAMPLE",
      "TransitGatewayAttachmentId": "tgw-attach-070e571cd1EXAMPLE",
      "ResourceId": "vpc-7EXAMPLE",
      "ResourceType": "vpc",
      "Subnets": [
         {
            "SubnetId": "subnet-000de86e3bEXAMPLE",
            "State": "disassociating"
         }
      ]
   }
}
```

For more information, see [Working with multicast](https://docs.aws.amazon.com/abbreviated-terms#multicast) in the *Transit Gateways Guide*.

- For API details, see [DisassociateTransitGatewayMulticastDomain](https://docs.aws.amazon.com/cli/latest/reference/ec2/disassociate-transit-gateway-multicast-domain.html) in *AWS CLI Command Reference*.

### disassociate-transit-gateway-route-table

The following code example shows how to use `disassociate-transit-gateway-route-table`.

**AWS CLI**

**To disassociate a transit gateway route table from a resource attachment**

The following `disassociate-transit-gateway-route-table` example disassociates the specified attachment from the transit gateway route table.

```
aws ec2 disassociate-transit-gateway-route-table \ 
  --transit-gateway-route-table-id tgw-rtb-002573ed1eEXAMPLE \ 
```
For more information, see "Transit gateway route tables" in the "Transit Gateways Guide".

- For API details, see "DisassociateTransitGatewayRouteTable" in "AWS CLI Command Reference".

### disassociate-vpc-cidr-block

The following code example shows how to use `disassociate-vpc-cidr-block`.

**AWS CLI**

*To disassociate an IPv6 CIDR block from a VPC*

This example disassociates an IPv6 CIDR block from a VPC using the association ID for the CIDR block.

**Command:**

```
aws ec2 disassociate-vpc-cidr-block --association-id vpc-cidr-assoc-eca54085
```

**Output:**

```
{
    "Ipv6CidrBlockAssociation": {
        "Ipv6CidrBlock": "2001:db8:1234:1a00::/56",
        "AssociationId": "vpc-cidr-assoc-eca54085",
        "Ipv6CidrBlockState": {
            "State": "disassociating"
        }
    }
}
```
To disassociate an IPv4 CIDR block from a VPC

This example disassociates an IPv4 CIDR block from a VPC.

Command:

```bash
aws ec2 disassociate-vpc-cidr-block --association-id vpc-cidr-assoc-0287ac6b
```

Output:

```json
{
    "CidrBlockAssociation": {
        "AssociationId": "vpc-cidr-assoc-0287ac6b",
        "CidrBlock": "172.18.0.0/16",
        "CidrBlockState": {
            "State": "disassociating"
        }
    },
    "VpcId": "vpc-27621243"
}
```

- For API details, see [DisassociateVpcCidrBlock](https://docs.aws.amazon.com/cli/latest/reference/ec2/disassociate-vpc-cidr-block.html) in AWS CLI Command Reference.

enable-address-transfer

The following code example shows how to use enable-address-transfer.

AWS CLI

To enable an Elastic IP address transfer

The following enable-address-transfer example enables Elastic IP address transfer for the specified Elastic IP address to the specified account.

```bash
aws ec2 enable-address-transfer \
    --allocation-id eipalloc-09ad461b0d03f6aaf \
```
AWS Command Line Interface

--transfer-account-id 123456789012

Output:

```json
{
    "AddressTransfer": {
        "PublicIp": "100.21.184.216",
        "AllocationId": "eipalloc-09ad461b0d03f6aaf",
        "TransferAccountId": "123456789012",
        "TransferOfferExpirationTimestamp": "2023-02-22T20:51:01.000Z",
        "AddressTransferStatus": "pending"
    }
}
```

For more information, see Transfer Elastic IP addresses in the Amazon VPC User Guide.

- For API details, see EnableAddressTransfer in AWS CLI Command Reference.

enable-aws-network-performance-metric-subscription

The following code example shows how to use enable-aws-network-performance-metric-subscription.

**AWS CLI**

To enable a metric subscription

The following enable-aws-network-performance-metric-subscription example enables the monitoring of aggregate network latency between the specified source and destination Regions.

```bash
aws ec2 enable-aws-network-performance-metric-subscription \
    --source us-east-1 \
    --destination eu-west-1 \
    --metric aggregate-latency \
    --statistic p50
```

Output:

```json
{
    "Output": true
}
```
For more information, see Manage subscriptions in the Infrastructure Performance User Guide.

- For API details, see EnableAwsNetworkPerformanceMetricSubscription in AWS CLI Command Reference.

**enable-ebs-encryption-by-default**

The following code example shows how to use enable-ebs-encryption-by-default.

**AWS CLI**

**To enable EBS encryption by default**

The following enable-ebs-encryption-by-default example enables EBS encryption by default for your AWS account in the current Region.

```
aws ec2 enable-ebs-encryption-by-default
```

Output:

```json
{
   "EbsEncryptionByDefault": true
}
```

- For API details, see EnableEbsEncryptionByDefault in AWS CLI Command Reference.

**enable-fast-launch**

The following code example shows how to use enable-fast-launch.

**AWS CLI**

**To start fast launching for an image**

The following enable-fast-launch example starts fast launching on the specified AMI and sets the maximum number of parallel instances to launch to 6. The type of resource to use to pre-provision the AMI is set to snapshot, which is also the default value.

```
aws ec2 enable-fast-launch \
```
Output:

```
{
    "ImageId": "ami-01234567890abcedf",
    "ResourceType": "snapshot",
    "SnapshotConfiguration": {
        "TargetResourceCount": 10
    },
    "LaunchTemplate": {},
    "MaxParallelLaunches": 6,
    "OwnerId": "0123456789123",
    "State": "enabling",
    "StateTransitionReason": "Client.UserInitiated",
    "StateTransitionTime": "2022-01-27T22:16:03.199000+00:00"
}
```

For more information about configuring a Windows AMI for faster launching, see Configure your AMI for faster launching in the Amazon EC2 User Guide.

- For API details, see EnableFastLaunch in AWS CLI Command Reference.

**enable-fast-snapshot-restores**

The following code example shows how to use enable-fast-snapshot-restores.

**AWS CLI**

**To enable fast snapshot restore**

The following enable-fast-snapshot-restores example enables fast snapshot restore for the specified snapshot in the specified Availability Zones.

```
aws ec2 enable-fast-snapshot-restores \
    --availability-zones us-east-2a us-east-2b \
    --source-snapshot-ids snap-1234567890abcdef0
```

Output:
For API details, see `EnableFastSnapshotRestores` in *AWS CLI Command Reference*.

**enable-image**

The following code example shows how to use `enable-image`.

**AWS CLI**

**To enable an AMI**

The following `enable-image` example enables the specified AMI.

```
aws ec2 enable-image \
  --image-id ami-1234567890abcdef0
```

**Output:**

```
{
  "Return": "true"
}
```
enable-image-block-public-access

The following code example shows how to use enable-image-block-public-access.

AWS CLI

To enable block public access for AMIs in the specified Region

The following enable-image-block-public-access example enables block public access for AMIs at the account level in the specified Region.

```
aws ec2 enable-image-block-public-access \
    --region us-east-1 \
    --image-block-public-access-state block-new-sharing
```

Output:

```
{
    "ImageBlockPublicAccessState": "block-new-sharing"
}
```

For more information, see Block public access to your AMIs in the Amazon EC2 User Guide.

- For API details, see EnableImageBlockPublicAccess in AWS CLI Command Reference.

enable-image-deprecation

The following code example shows how to use enable-image-deprecation.

AWS CLI

Example 1: To deprecate an AMI

The following enable-image-deprecation example deprecates an AMI on a specific date and time. If you specify a value for seconds, Amazon EC2 rounds the seconds to the nearest minute. You must be the AMI owner to perform this procedure.
aws ec2 enable-image-deprecation \
   --image-id ami-1234567890abcdef0 \
   --deprecate-at "2022-10-15T13:17:12.000Z"

Output:

```json
{
   "RequestID": "59dbff89-35bd-4eac-99ed-be587EXAMPLE",
   "Return": "true"
}
```

For more information, see Deprecate an AMI <https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ami-deprecate.html#deprecate-ami> in the Amazon EC2 User Guide.

- For API details, see EnableImageDeprecation in AWS CLI Command Reference.

---

enable-ipam-organization-admin-account

The following code example shows how to use enable-ipam-organization-admin-account.

**AWS CLI**

To integrate with AWS Organizations and delegate a member account as the IPAM account

The following enable-ipam-organization-admin-account example integrates IPAM with AWS Organizations and delegates a member account as the IPAM account.

aws ec2 enable-ipam-organization-admin-account \
   --delegated-admin-account-id 320805250157

Output:

```json
{
   "Success": true
}
```

For more information, see Integrate IPAM with AWS Organizations in the Amazon VPC IPAM User Guide.

- For API details, see EnableIpamOrganizationAdminAccount in AWS CLI Command Reference.
enable-reachability-analyzer-organization-sharing

The following code example shows how to use enable-reachability-analyzer-organization-sharing.

AWS CLI

To enable trusted access for Reachability Analyzer

The following enable-reachability-analyzer-organization-sharing example enables trusted access for Reachability Analyzer.

```bash
aws ec2 enable-reachability-analyzer-organization-sharing
```

This command produces no output.

For more information, see Cross-account analyses in the Reachability Analyzer User Guide.

- For API details, see EnableReachabilityAnalyzerOrganizationSharing in AWS CLI Command Reference.

enable-serial-console-access

The following code example shows how to use enable-serial-console-access.

AWS CLI

To enable access to the serial console for your account

The following enable-serial-console-access example enables account access to the serial console.

```bash
aws ec2 enable-serial-console-access
```

Output:

```json
{
   "SerialConsoleAccessEnabled": true
}
```
enable-transit-gateway-route-table-propagation

The following code example shows how to use enable-transit-gateway-route-table-propagation.

AWS CLI

To enable a transit gateway attachment to propagate routes to the specified propagation route table

The following enable-transit-gateway-route-table-propagation example enables the specified attachment to propagate routes to the specified propagation route table.

```bash
aws ec2 enable-transit-gateway-route-table-propagation \
   --transit-gateway-route-table-id tgw-rtb-0a823edbeEXAMPLE \ 
   --transit-gateway-attachment-id tgw-attach-09b52ccdb5EXAMPLE
```

Output:

```json
{
   "Propagation": {
      "TransitGatewayAttachmentId": "tgw-attach-09b52ccdb5EXAMPLE",
      "ResourceId": "vpc-4d7de228",
      "ResourceType": "vpc",
      "TransitGatewayRouteTableId": "tgw-rtb-0a823edbeEXAMPLE",
      "State": "disabled"
   }
}
```

For more information, see Transit gateway route tables in the Transit Gateways Guide.

• For API details, see EnableTransitGatewayRouteTablePropagation in AWS CLI Command Reference.

enable-vgw-route-propagation

The following code example shows how to use enable-vgw-route-propagation.
AWS CLI

To enable route propagation

This example enables the specified virtual private gateway to propagate static routes to the specified route table. If the command succeeds, no output is returned.

Command:

```
aws ec2 enable-vgw-route-propagation --route-table-id rtb-22574640 --gateway-id vgw-9a4cacf3
```

- For API details, see EnableVgwRoutePropagation in AWS CLI Command Reference.

enable-volume-io

The following code example shows how to use enable-volume-io.

AWS CLI

To enable I/O for a volume

This example enables I/O on volume vol-1234567890abcdef0.

Command:

```
aws ec2 enable-volume-io --volume-id vol-1234567890abcdef0
```

Output:

```
{
   "Return": true
}
```

- For API details, see EnableVolumeIo in AWS CLI Command Reference.

enable-vpc-classic-link

The following code example shows how to use enable-vpc-classic-link.
**AWS CLI**

**To enable a VPC for ClassicLink**

This example enables vpc-8888888 for ClassicLink.

Command:

```
aws ec2 enable-vpc-classic-link --vpc-id vpc-88888888
```

Output:

```
{
  "Return": true
}
```


**enable-vpc-classic-link-dns-support**

The following code example shows how to use enable-vpc-classic-link-dns-support.

**AWS CLI**

**To enable ClassicLink DNS support for a VPC**

This example enables ClassicLink DNS support for vpc-88888888.

Command:

```
aws ec2 enable-vpc-classic-link-dns-support --vpc-id vpc-88888888
```

Output:

```
{
  "Return": true
}
```

export-client-vpn-client-certificate-revocation-list

The following code example shows how to use `export-client-vpn-client-certificate-revocation-list`.

AWS CLI

To export a client certificate revocation list

The following `export-client-vpn-client-certificate-revocation-list` example exports the client certificate revocation list for the specified Client VPN endpoint. In this example, the output is returned in text format to make it easier to read.

```
aws ec2 export-client-vpn-client-certificate-revocation-list \
  --client-vpn-endpoint-id cvpn-endpoint-123456789123abcde \
  --output text
```

Output:

```
-----BEGIN X509 CRL-----
MIICiTCCAfICCQD6m7oRw0uXOjANBgkqhkiG9w0BAQUFADCBiDELMAkGA1UEBhMC
VVMxCzAJBgNVBAgTAldBMRAwDgYDVQQHEwdTZWF0dGwTDQYDVQQKEwZBbWF6b24xFD
ASBgNVBAsTC0lBTSBDb25zb2xlMRIwEAYDVQQDEwlUZXN0Q2lsYWMxHzAd
BgkqhkiG9w0BCQEWE5vb25lQGFtYXpbib5j20wHhcNMTEwMDA1MjM0MDEwMzIw
MTIwNDI0MjA0NTIxWhcNMTIwNDI0MjA0NTIxWjCBiDELMAkGA1UEBhMCVVMx
CzAJBgNVBAsTC0lBTSBDb25zb2xlMRIwEAYDVQQDEwlUZXN0Q2lsYWMxHzAd
YXpbib5j20wgZ8wDQYJkJcIhvcQEBQQADgY0AMIGJIoGBAMaK0dn+a4GmWIJW
21uUSwfEvySWelC2XADZ4nB+BLYgVIk6CpiwsZ3G93vUEI03fNoH/f0wYK8m9T
rDHudUZg3qX4waLG5M43q7Wgc/MbQITx0USQv7c7ugFFDzQGBzSzwY6786m86gpE
Ibb3OjhlNznvcQAAttHdAnWIMm2nrgAgMBAAEvDQYJKoZIhvcQEBQQADgYEAAC
nuHvVxYUntneD9+h8Mg96q+auNkYExzyLwax1Aoo7TJHidbtS4J51Nm2zXL0Fkb
FFbjVSpfJlJ0zZbhNYS5f6GuoEDmFj10zX8Hljnymp3780D8uTs7fLvjx79LjSTb
NYyitVbZPQUQ5Yaxu2jXnimw3rrszlaEXAMPLE=
-----END X509 CRL-----
STATUS pending
```


export-client-vpn-client-configuration

The following code example shows how to use `export-client-vpn-client-configuration`.

AWS CLI

To export the client configuration

The following `export-client-vpn-client-configuration` example exports the client configuration for the specified Client VPN endpoint. In this example, the output is returned in text format to make it easier to read.

```bash
aws ec2 export-client-vpn-client-configuration \
   --client-vpn-endpoint-id cvpn-endpoint-123456789123abcde \
   --output text
```

Output:

```
client
dev tun
proto udp
remote cvpn-endpoint-123456789123abcde.prod.clientvpn.ap-south-1.amazonaws.com 443
remote-random-hostname
resolv-retry infinite
nobind
persist-key
persist-tun
remote-cert-tls server
cipher AES-256-GCM
verb 3
<ca>
-----BEGIN CERTIFICATE-----
MIICiTCCAfICCQD6m7oRw0uX0jANBgkqhkiG9w0BAQUFADBciDELMAkGA1UEBhMCVVMxCzAJBgNVBAgTAldBMRAwDgYDVQQHEwdTZWF0dGxlMQ8wDQYDVQQKEwZBbWF6b24xFDASBgNVBAUAMjAOTIwEAYDVQQDEw1UZXN0Q2lsYWMxFTAdBgkqhkiG9w0BCQEUHkwYTAwNDEwNzAuMA0GCSqGSIb3DQEBCwUAMBwMBQGA1UdJQQWBgMBAgGA1UdIwQxMBAKAf
-----END CERTIFICATE-----
```

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For more information, see Client VPN Endpoints in the AWS Client VPN Administrator Guide.

- For API details, see ExportClientVpnClientConfiguration in AWS CLI Command Reference.

### export-image

The following code example shows how to use export-image.

#### AWS CLI

**To export a VM from an AMI**

The following export-image example exports the specified AMI to the specified bucket in the specified format.

```bash
aws ec2 export-image 
   --image-id ami-1234567890abcdef0 
   --disk-image-format VMDK 
   --s3-export-location S3Bucket=my-export-bucket,S3Prefix=exports/
```

**Output:**

```json
{
    "DiskImageFormat": "vmdk",
    "ExportImageTaskId": "export-ami-1234567890abcdef0"
    "ImageId": "ami-1234567890abcdef0",
    "RoleName": "vmimport",
    "Progress": "0",
    "S3ExportLocation": {
        "S3Bucket": "my-export-bucket",
        "S3Prefix": "exports/
    },
    "Status": "active",
    "StatusMessage": "validating"
}
```
• For API details, see ExportImage in AWS CLI Command Reference.

get-associated-ipv6-pool-cidrs

The following code example shows how to use get-associated-ipv6-pool-cidrs.

AWS CLI

To get the associations for an IPv6 address pool

The following get-associated-ipv6-pool-cidrs example gets the associations for the specified IPv6 address pool.

```bash
aws ec2 get-associated-ipv6-pool-cidrs \
    --pool-id ipv6pool-ec2-012345abc12345abc
```

Output:

```json
{
    "Ipv6CidrAssociations": [
        {
            "Ipv6Cidr": "2001:db8:1234:1a00::/56",
            "AssociatedResource": "vpc-11111222222333ab"
        }
    ]
}
```

• For API details, see GetAssociatedIpv6PoolCidrs in AWS CLI Command Reference.

get-aws-network-performance-data

The following code example shows how to use get-aws-network-performance-data.

AWS CLI

To get network performance data

The following get-aws-network-performance-data example retrieves data about the network performance between the specified Regions in the specified time period.
aws ec2 get-aws-network-performance-data \
   --start-time 2022-10-26T12:00:00.000Z \
   --end-time 2022-10-26T12:30:00.000Z \
   --data-queries Id=my-query,Source=us-east-1,Destination=eu-west-1,Metric=aggregate-latency,Statistic=p50,Period=five-minutes

Output:

```json
{
   "DataResponses": [
      {
         "Id": "my-query",
         "Source": "us-east-1",
         "Destination": "eu-west-1",
         "Metric": "aggregate-latency",
         "Statistic": "p50",
         "Period": "five-minutes",
         "MetricPoints": [
            {
               "StartDate": "2022-10-26T12:00:00+00:00",
               "EndDate": "2022-10-26T12:05:00+00:00",
               "Value": 62.44349,
               "Status": "OK"
            },
            {
               "StartDate": "2022-10-26T12:05:00+00:00",
               "EndDate": "2022-10-26T12:10:00+00:00",
               "Value": 62.483498,
               "Status": "OK"
            },
            {
               "StartDate": "2022-10-26T12:10:00+00:00",
               "EndDate": "2022-10-26T12:15:00+00:00",
               "Value": 62.51248,
               "Status": "OK"
            },
            {
               "StartDate": "2022-10-26T12:15:00+00:00",
               "EndDate": "2022-10-26T12:20:00+00:00",
               "Value": 62.635475,
               "Status": "OK"
            }
         ]
      }
   ]
}```


### get-capacity-reservation-usage

The following code example shows how to use `get-capacity-reservation-usage`.

**AWS CLI**

#### To view capacity reservation usage across AWS accounts

The following `get-capacity-reservation-usage` example displays usage information for the specified capacity reservation.

```bash
aws ec2 get-capacity-reservation-usage \
    --capacity-reservation-id cr-1234abcd56EXAMPLE
```

**Output:**
For more information, see [Viewing Shared Capacity Reservation Usage](#) in the *Amazon Elastic Compute Cloud User Guide for Linux Instances*.

- For API details, see [GetCapacityReservationUsage](#) in *AWS CLI Command Reference*.

### get-coip-pool-usage

The following code example shows how to use `get-coip-pool-usage`.

**AWS CLI**

**To get customer-owned IP address pool usage**

The following `get-coip-pool-usage` example gets the usage details for the specified customer-owned IP address pool.

```
aws ec2 get-coip-pool-usage
   --pool-id ipv4pool-coip-123a45678bEXAMPLE
```

**Output:**

```
{
   "CoipPoolId": "ipv4pool-coip-123a45678bEXAMPLE",
   "CoipAddressUsages": [
   {
      "CoIp": "0.0.0.0"
   },
```

For more information, see Customer-owned IP addresses in the AWS Outposts User Guide.

- For API details, see GetCoipPoolUsage in AWS CLI Command Reference.

**get-console-output**

The following code example shows how to use get-console-output.

**AWS CLI**

**Example 1: To get the console output**

The following get-console-output example gets the console output for the specified Linux instance.

```bash
aws ec2 get-console-output \
   --instance-id i-1234567890abcdef0
```

Output:

```json
{
   "InstanceId": "i-1234567890abcdef0",
   "Output": "..."
}
```

For more information, see Instance console output in the Amazon EC2 User Guide.
Example 2: To get the latest console output

The following get-console-output example gets the latest console output for the specified Linux instance.

```bash
aws ec2 get-console-output \
   --instance-id i-1234567890abcdef0 \
   --latest \
   --output text
```

Output:

```
i-1234567890abcdef0 [ 0.000000] Command line: root=LABEL=/ console=tty1
   console=ttyS0 selinux=0 nvme_core.io_timeout=4294967295
[ 0.000000] x86/fpu: Supporting XSAVE feature 0x001: 'x87 floating point
   registers'
[ 0.000000] x86/fpu: Supporting XSAVE feature 0x002: 'SSE registers'
[ 0.000000] x86/fpu: Supporting XSAVE feature 0x004: 'AVX registers'
...
Cloud-init v. 0.7.6 finished at Wed, 09 May 2018 19:01:13 +0000. Datasource
   DataSourceEc2. Up 21.50 seconds
Amazon Linux AMI release 2018.03
Kernel 4.14.26-46.32.amzn1.x
```

For more information, see Instance console output in the Amazon EC2 User Guide.

- For API details, see GetConsoleOutput in AWS CLI Command Reference.

get-console-screenshot

The following code example shows how to use get-console-screenshot.

AWS CLI

To retrieve a screenshot of a running instance

The following get-console-screenshot example retrieves a screenshot of the specified instance in .jpg format. The screenshot is returned as a Base64-encoded string.

```bash
aws ec2 get-console-screenshot \
   --instance-id i-1234567890abcdef0
```
Output:

```json
{
    "ImageData": "997987/8kgj49ikjhewkwe0008084EXAMPLE",
    "InstanceId": "i-1234567890abcdef0"
}
```

- For API details, see `GetConsoleScreenshot` in *AWS CLI Command Reference*.

### get-default-credit-specification

The following code example shows how to use `get-default-credit-specification`.

**AWS CLI**

**To describe the default credit option**

The following `get-default-credit-specification` example describes the default credit option for T2 instances.

```
aws ec2 get-default-credit-specification \
    --instance-family t2
```

**Output:**

```json
{
    "InstanceFamilyCreditSpecification": {
        "InstanceFamily": "t2",
        "CpuCredits": "standard"
    }
}
```

- For API details, see `GetDefaultCreditSpecification` in *AWS CLI Command Reference*.

### get-ebs-default-kms-key-id

The following code example shows how to use `get-ebs-default-kms-key-id`.

**AWS CLI**

**To describe your default CMK for EBS encryption**
The following `get-ebs-default-kms-key-id` example describes the default CMK for EBS encryption for your AWS account.

```bash
aws ec2 get-ebs-default-kms-key-id
```

The output shows the default CMK for EBS encryption, which is an AWS managed CMK with the alias `alias/aws/ebs`.

```
{
   "KmsKeyId": "alias/aws/ebs"
}
```

The following output shows a custom CMK for EBS encryption.

```
{
   "KmsKeyId": "arn:aws:kms:us-west-2:123456789012:key/0ea3fef3-80a7-4778-9d8c-1c0c6EXAMPLE"
}
```

- For API details, see [GetEbsDefaultKmsKeyId](https://docs.aws.amazon.com/cli/latest/reference/ec2/get-ebs-default-kms-key-id.html) in *AWS CLI Command Reference*.

### get-ebs-encryption-by-default

The following code example shows how to use `get-ebs-encryption-by-default`.

**AWS CLI**

**To describe whether EBS encryption by default is enabled**

The following `get-ebs-encryption-by-default` example indicates whether EBS encryption by default is enabled for your AWS account in the current Region.

```bash
aws ec2 get-ebs-encryption-by-default
```

The following output indicates that EBS encryption by default is disabled.

```
{
   "EbsEncryptionByDefault": false
}
```
The following output indicates that EBS encryption by default is enabled.

```json
{
    "EbsEncryptionByDefault": true
}
```

- For API details, see [GetEbsEncryptionByDefault](#) in AWS CLI Command Reference.

get-flow-logs-integration-template

The following code example shows how to use `get-flow-logs-integration-template`.

AWS CLI

**To create a CloudFormation template to automate the integration of VPC flow logs with Amazon Athena**

The following `get-flow-logs-integration-template` examples create a CloudFormation template to automate the integration of VPC flow logs with Amazon Athena.

**Linux:**

```bash
aws ec2 get-flow-logs-integration-template \
    --flow-log-id fl-1234567890abcdef0 \
    --config-delivery-s3-destination-arn arn:aws:s3:::DOC-EXAMPLE-BUCKET \
    --integrate-services
    AthenaIntegrations=['{{IntegrationResultS3DestinationArn=arn:aws:s3:::DOC-EXAMPLE-BUCKET,PartitionLoadFrequency=none,PartitionStartDate=2021-07-21T00:40:00,PartitionEndDate=2021-07-21T00:42:00},
    {IntegrationResultS3DestinationArn=arn:aws:s3:::DOC-EXAMPLE-BUCKET,PartitionLoadFrequency=none,PartitionStartDate=2021-07-21T00:40:00,PartitionEndDate=2021-07-21T00:42:00}}']
```

**Windows:**

```bash
aws ec2 get-flow-logs-integration-template ^
    --flow-log-id fl-1234567890abcdef0 ^
    --config-delivery-s3-destination-arn arn:aws:s3:::DOC-EXAMPLE-BUCKET ^
    --integrate-services
    AthenaIntegrations=['{{IntegrationResultS3DestinationArn=arn:aws:s3:::DOC-EXAMPLE-BUCKET,PartitionLoadFrequency=none,PartitionStartDate=2021-07-21T00:40:00,PartitionEndDate=2021-07-21T00:42:00},
    {IntegrationResultS3DestinationArn=arn:aws:s3:::DOC-EXAMPLE-BUCKET,PartitionLoadFrequency=none,PartitionStartDate=2021-07-21T00:40:00,PartitionEndDate=2021-07-21T00:42:00}}']
```
For information on using CloudFormation templates, see Working with AWS CloudFormation templates in the AWS CloudFormation User Guide.

For information on using Amazon Athena and flow logs, see Query flow logs using Amazon Athena in the Amazon Virtual Private Cloud User Guide.

For API details, see GetFlowLogsIntegrationTemplate in AWS CLI Command Reference.

get-groups-for-capacity-reservation

The following code example shows how to use get-groups-for-capacity-reservation.

AWS CLI

To list the resource groups with a Capacity Reservation

The following get-groups-for-capacity-reservation example lists the resource groups to which the specified Capacity Reservation was added.

aws ec2 get-groups-for-capacity-reservation \ 
  --capacity-reservation-id cr-1234abcd56EXAMPLE

Output:

```json
{
    "CapacityReservationsGroup": [
        {
            "OwnerId": "123456789012"
        }
    ]
}
```
For more information, see Working with Capacity Reservations in the Amazon Elastic Compute Cloud User Guide for Linux Instances.

- For API details, see GetGroupsForCapacityReservation in AWS CLI Command Reference.

**get-host-reservation-purchase-preview**

The following code example shows how to use get-host-reservation-purchase-preview.

**AWS CLI**

**To get a purchase preview for a Dedicated Host Reservation**

This example provides a preview of the costs for a specified Dedicated Host Reservation for the specified Dedicated Host in your account.

**Command:**

```bash
aws ec2 get-host-reservation-purchase-preview --offering-id hro-03f707bf363b6b324 --host-id-set h-013abcd2a00cbd123
```

**Output:**

```json
{
   "TotalHourlyPrice": "1.499",
   "Purchase": [
      {
         "HourlyPrice": "1.499",
         "InstanceFamily": "m4",
         "PaymentOption": "NoUpfront",
         "HostIdSet": [
            "h-013abcd2a00cbd123"
         ],
         "UpfrontPrice": "0.000",
         "Duration": 31536000
      }
   ],
   "TotalUpfrontPrice": "0.000"
}
```

- For API details, see GetHostReservationPurchasePreview in AWS CLI Command Reference.
get-image-block-public-access-state

The following code example shows how to use `get-image-block-public-access-state`.

AWS CLI

To get the block public access state for AMIs in the specified Region

The following `get-image-block-public-access-state` example gets the block public access state for AMIs at the account level in the specified Region.

```bash
aws ec2 get-image-block-public-access-state \
   --region us-east-1
```

Output:

```json
{
   "ImageBlockPublicAccessState": "block-new-sharing"
}
```

For more information, see [Block public access to your AMIs](https://docs.aws.amazon.com/AmazonEC2/latest/UserGuide/block-public-access-state.html) in the *Amazon EC2 User Guide*.


get-instance-types-from-instance-requirements

The following code example shows how to use `get-instance-types-from-instance-requirements`.

AWS CLI

To preview the instance types that match specified attributes

The following `get-instance-types-from-instance-requirements` example first generates a list of all of the possible attributes that can be specified using the `--generate-cli-skeleton` parameter, and saves the list to a JSON file. Then, the JSON file is used to customize the attributes for which to preview matched instance types.

To generate all possible attributes and save the output directly to a JSON file, use the following command.
aws ec2 get-instance-types-from-instance-requirements \
--region us-east-1 \
--generate-cli-skeleton input > attributes.json

Output:

```json
{
   "DryRun": true,
   "ArchitectureTypes": [
      "x86_64_mac"
   ],
   "VirtualizationTypes": [
      "paravirtual"
   ],
   "InstanceRequirements": {
      "VcpuCount": {
         "Min": 0,
         "Max": 0
      },
      "MemoryMiB": {
         "Min": 0,
         "Max": 0
      },
      "CpuManufacturers": [
         "intel"
      ],
      "MemoryGiBPerVCpu": {
         "Min": 0.0,
         "Max": 0.0
      },
      "ExcludedInstanceTypes": [
         ""
      ],
      "InstanceGenerations": [
         "current"
      ],
      "SpotMaxPricePercentageOverLowestPrice": 0,
      "OnDemandMaxPricePercentageOverLowestPrice": 0,
      "BareMetal": "included",
      "BurstablePerformance": "excluded",
      "RequireHibernateSupport": true,
      "NetworkInterfaceCount": {
         "Min": 0,
```
Configure the JSON file. You must provide values for `ArchitectureTypes`, `VirtualizationTypes`, `VCpuCount`, and `MemoryMiB`. You can omit the other attributes. When omitted, default values are used. For a description of each attribute and their default values, see get-instance-types-from-instance-requirements <https://docs.aws.amazon.com/cli/latest/reference/ec2/get-instance-types-from-instance-requirements.html>. 
Preview the instance types that have the attributes specified in attributes.json. Specify the name and path to your JSON file by using the --cli-input-json parameter. In the following request, the output is formatted as a table.

```
aws ec2 get-instance-types-from-instance-requirements \
   --cli-input-json file://attributes.json \
   --output table
```

Contents of attributes.json file:

```json
{
    "ArchitectureTypes": [
        "x86_64"
    ],
    "VirtualizationTypes": [
        "hvm"
    ],
    "InstanceRequirements": {
        "VCpuCount": {
            "Min": 4,
            "Max": 6
        },
        "MemoryMiB": {
            "Min": 2048
        },
        "InstanceGenerations": [
            "current"
        ]
    }
}
```

Output:

```
+----------------------------------------+------------------+
<table>
<thead>
<tr>
<th>GetInstanceTypesFromInstanceRequirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>InstanceTypes</td>
</tr>
<tr>
<td>----------------------------------------</td>
</tr>
<tr>
<td>c4.xlarge</td>
</tr>
</tbody>
</table>
```
For more information about attribute-based instance type selection, see [How attribute-based instance type selection works](#) in the *Amazon EC2 User Guide*.

- For API details, see [GetInstanceTypesFromInstanceRequirements](#) in *AWS CLI Command Reference*.

**get-instance-uefi-data**

The following code example shows how to use `get-instance-uefi-data`.

**AWS CLI**

**To retrieve UEFI data from an instance**

The following `get-instance-uefi-data` example retrieves UEFI data from an instance. If the output is empty, the instance does not contain UEFI data.

```bash
aws ec2 get-instance-uefi-data \
   --instance-id i-0123456789example
```

**Output:**

```json
{
   "InstanceId": "i-0123456789example",
   "UefiData": "QU1aTlVFRkkf+uLXAAAAAHj5a7fZ9+3dBzxXb/.
   <snipped>
   AAAAAAAAAAAAAAAAAAAAAAAB4L/J/A0Dshho="
}
```

For more information, see [UEFI Secure Boot](#) in the *Amazon EC2 User Guide*.

- For API details, see [GetInstanceUefiData](#) in *AWS CLI Command Reference*. 
get-ipam-address-history

The following code example shows how to use `get-ipam-address-history`.

**AWS CLI**

**To get the history of a CIDR**

The following `get-ipam-address-history` example gets the history of a CIDR.

(Linux):

```bash
aws ec2 get-ipam-address-history \
   --cidr 10.0.0.0/16 \
   --ipam-scope-id ipam-scope-02fc38cd4c48e7d38 \
   --start-time 2021-12-08T01:00:00.000Z \
   --end-time 2021-12-10T01:00:00.000Z
```

(Windows):

```bash
aws ec2 get-ipam-address-history ^
   --cidr 10.0.0.0/16 ^
   --ipam-scope-id ipam-scope-02fc38cd4c48e7d38 ^
   --start-time 2021-12-08T01:00:00.000Z ^
   --end-time 2021-12-10T01:00:00.000Z
```

Output:

```json
{
   "HistoryRecords": [
       {
           "ResourceOwnerId": "123456789012",
           "ResourceRegion": "us-west-1",
           "ResourceType": "vpc",
           "ResourceId": "vpc-06cbefa9ee907e1c0",
           "ResourceCidr": "10.0.0.0/16",
           "ResourceName": "Demo",
           "ResourceComplianceStatus": "unmanaged",
           "ResourceOverlapStatus": "overlapping",
           "VpcId": "vpc-06cbefa9ee907e1c0",
           "SampledStartTime": "2021-12-08T19:54:57.675000+00:00"
       }
   ]
}
```
For more information, see [View the history of IP addresses](https://aws.amazon.com/aws-sdk-for-python/v2/reference/AmazonVPCIPAM/APIReference.html) in the *Amazon VPC IPAM User Guide*.

- For API details, see [GetIpamAddressHistory](https://aws.amazon.com/aws-sdk-for-python/v2/reference/AmazonVPCIPAM/APIReference.html) in *AWS CLI Command Reference*.

### get-ipam-pool-allocations

The following code example shows how to use get-ipam-pool-allocations.

#### AWS CLI

**To get the CIDRs allocated from an IPAM pool**

The following get-ipam-pool-allocations example gets the CIDRs allocated from an IPAM pool.

(Linux):
aws ec2 get-ipam-pool-allocations \
   --ipam-pool-id ipam-pool-0533048da7d823723 \
   --filters Name=ipam-pool-allocation-id,Values=ipam-pool-alloc-0e6186d73999e47389266a5d6991e6220

(Windows):

aws ec2 get-ipam-pool-allocations ^
   --ipam-pool-id ipam-pool-0533048da7d823723 ^
   --filters Name=ipam-pool-allocation-id,Values=ipam-pool-alloc-0e6186d73999e47389266a5d6991e6220

Output:

```json
{
   "IpamPoolAllocations": [
      {
         "Cidr": "10.0.0.0/16",
         "IpamPoolAllocationId": "ipam-pool-alloc-0e6186d73999e47389266a5d6991e6220",
         "ResourceType": "custom",
         "ResourceOwner": "123456789012"
      }
   ]
}
```


### get-ipam-pool-cidrs

The following code example shows how to use `get-ipam-pool-cidrs`.

**AWS CLI**

**To get the CIDRs provisioned to an IPAM pool**

The following `get-ipam-pool-cidrs` example gets the CIDRs provisioned to an IPAM pool.

(Windows):

aws ec2 get-ipam-pool-cidrs \
   --ipam-pool-id ipam-pool-0533048da7d823723 \
   --filters Name=ipam-pool-allocation-id,Values=ipam-pool-alloc-0e6186d73999e47389266a5d6991e6220
For API details, see GetIpamPoolCidrs in AWS CLI Command Reference.

get-ipam-resource-cidrs

The following code example shows how to use get-ipam-resource-cidrs.

AWS CLI

To get the CIDRs allocated to a resource

The following get-ipam-resource-cidrs example gets the CIDRs allocated to a resource.

(Windows):

aws ec2 get-ipam-resource-cidrs ^
   --ipam-scope-id ipam-scope-02fc38cd4c48e7d38 ^
   --filters Name=management-state,Values=unmanaged
Output:

```json
{
   "IpamResourceCidrs": [
      {
         "IpamId": "ipam-08440e7a3acde3908",
         "IpamScopeId": "ipam-scope-02fc38cd4c48e7d38",
         "ResourceRegion": "us-east-2",
         "ResourceOwnerId": "123456789012",
         "ResourceId": "vpc-621b8709",
         "ResourceName": "Default AWS VPC",
         "ResourceCidr": "172.33.0.0/16",
         "ResourceType": "vpc",
         "ResourceTags": [
            {
               "Key": "Environment",
               "Value": "Test"
            },
            {
               "Key": "Name",
               "Value": "Default AWS VPC"
            }
         ],
         "IpUsage": 0.0039,
         "ComplianceStatus": "unmanaged",
         "ManagementState": "unmanaged",
         "OverlapStatus": "nonoverlapping",
         "VpcId": "vpc-621b8709"
      }
   ]
}
```

For more information, see [Monitor CIDR usage by resource](https://docs.aws.amazon.com/AmazonVPCIPAM/latest/userguide/ipam-monitor.html) in the *Amazon VPC IPAM User Guide*.


**get-launch-template-data**

The following code example shows how to use `get-launch-template-data`.

**AWS CLI**

To get instance data for a launch template
This example gets data about the specified instance and uses the --query option to return the contents in LaunchTemplateData. You can use the output as a base to create a new launch template or launch template version.

Command:

```bash
aws ec2 get-launch-template-data --instance-id i-0123d646e8048babc --query 'LaunchTemplateData'
```

Output:

```json
{
    "Monitoring": {},
    "ImageId": "ami-8c1be5f6",
    "BlockDeviceMappings": [
        {
            "DeviceName": "/dev/xvda",
            "Ebs": {
                "DeleteOnTermination": true
            }
        }
    ],
    "EbsOptimized": false,
    "Placement": {
        "Tenancy": "default",
        "GroupName": "",
        "AvailabilityZone": "us-east-1a"
    },
    "InstanceType": "t2.micro",
    "NetworkInterfaces": [
        {
            "Description": "",
            "NetworkInterfaceId": "eni-35306abc",
            "PrivateIpAddresses": [
                {
                    "Primary": true,
                    "PrivateIpAddress": "10.0.0.72"
                }
            ],
            "SubnetId": "subnet-7b16de0c",
            "Groups": [
                "sg-7c227019"
            ]
        }
    ]
}
```
"Ipv6Addresses": [ 
  { 
    "Ipv6Address": "2001:db8:1234:1a00::123"
  }
],
"PrivateIpAddress": "10.0.0.72"
] }

• For API details, see GetLaunchTemplateData in AWS CLI Command Reference.

get-managed-prefix-list-associations

The following code example shows how to use get-managed-prefix-list-associations.

AWS CLI

To get prefix list associations

The following get-managed-prefix-list-associations example gets the resources that are associated with the specified prefix list.

```
aws ec2 get-managed-prefix-list-associations \\
--prefix-list-id pl-0123456abcabcabc1
```

Output:

```
{
  "PrefixListAssociations": [ 
    { 
      "ResourceId": "sg-0abc123456abc12345",
      "ResourceOwner": "123456789012"
    }
  ]
}
```

For more information, see Managed prefix lists in the Amazon VPC User Guide.

• For API details, see GetManagedPrefixListAssociations in AWS CLI Command Reference.
get-managed-prefix-list-entries

The following code example shows how to use `get-managed-prefix-list-entries`.

AWS CLI

To get the entries for a prefix list

The following `get-managed-prefix-list-entries` gets the entries for the specified prefix list.

```bash
aws ec2 get-managed-prefix-list-entries --prefix-list-id pl-0123456abcabcabc1
```

Output:

```json
{
    "Entries": [
        {
            "Cidr": "10.0.0.0/16",
            "Description": "vpc-a"
        },
        {
            "Cidr": "10.2.0.0/16",
            "Description": "vpc-b"
        }
    ]
}
```

For more information, see Managed prefix lists in the Amazon VPC User Guide.

- For API details, see GetManagedPrefixListEntries in AWS CLI Command Reference.

get-network-insights-access-scope-analysis-findings

The following code example shows how to use `get-network-insights-access-scope-analysis-findings`.

AWS CLI

To get the findings of Network Insights access scope analysis
The following `get-network-insights-access-scope-analysis-findings` example gets the selected scope analysis findings in your AWS account.

```bash
aws ec2 get-network-insights-access-scope-analysis-findings 
  --region us-east-1 
  --network-insights-access-scope-analysis-id nis 
  --nis-123456789111
```

Output:

```json
{
  "NetworkInsightsAccessScopeAnalysisId": "nisa-123456789222",
  "AnalysisFindings": [
    {
      "NetworkInsightsAccessScopeAnalysisId": "nisa-123456789222",
      "NetworkInsightsAccessScopeId": "nis-123456789111",
      "FindingComponents": [
        {
          "SequenceNumber": 1,
          "Component": {
            "Id": "eni-02e3d42d5c6ca67d",
            "Arn": "arn:aws:ec2:us-east-1:9364596235:network-interface/eni-02e3d32d9c6ca67d"
          }
        }
      ],
      "OutboundHeader": {
        "DestinationAddresses": [
          "0.0.0.0/5",
          "11.0.0.0/8",
          "12.0.0.0/6",
          "128.0.0.0/3",
          "16.0.0.0/4",
          "160.0.0.0/5",
          "168.0.0.0/6",
          "172.0.0.0/12",
          "8.0.0.0/7"
        ],
        "DestinationPortRanges": [
          {
            "From": 0,
            "To": 65535
          }
        ],
        "Protocol": "6",
      }
    }
  ]
}
```
For more information, see Getting started with Network Access Analyzer using the AWS CLI in the Network Access Analyzer Guide.

- For API details, see GetNetworkInsightsAccessScopeAnalysisFindings in AWS CLI Command Reference.

get-network-insights-access-scope-content

The following code example shows how to use get-network-insights-access-scope-content.

**AWS CLI**

To get Network Insights access scope content

The following get-network-insights-access-scope-content example gets the content of the selected scope analysis ID in your AWS account.

```
aws ec2 get-network-insights-access-scope-content \
    --region us-east-1 \
    --network-insights-access-scope-id nis-123456789222
```

Output:

```
{
    "NetworkInsightsAccessScopeContent": {
"SourceAddresses": [ "10.0.2.253/32" ],
"SourcePortRanges": [ {
    "From": 0,
    "To": 65535

}, [etc]
}
}
```
"NetworkInsightsAccessScopeId": "nis-123456789222",
"MatchPaths": [
    {
        "Source": {
            "ResourceStatement": {
                "ResourceTypes": [
                    "AWS::EC2::NetworkInterface"
                ]
            }
        },
        "Destination": {
            "ResourceStatement": {
                "ResourceTypes": [
                    "AWS::EC2::InternetGateway"
                ]
            }
        }
    }
]
}

For more information, see Getting started with Network Access Analyzer using the AWS CLI in the Network Access Analyzer Guide.

• For API details, see GetNetworkInsightsAccessScopeContent in AWS CLI Command Reference.

get-password-data

The following code example shows how to use get-password-data.

AWS CLI

To get the encrypted password

This example gets the encrypted password.

Command:

```
aws ec2 get-password-data --instance-id i-1234567890abcdef0
```

Output:
To get the decrypted password

This example gets the decrypted password.

Command:

```
aws ec2 get-password-data --instance-id i-1234567890abcdef0 --priv-launch-key C:\Keys\MyKeyPair.pem
```

Output:

```
{
    "InstanceId": "i-1234567890abcdef0",
    "Timestamp": "2013-08-30T23:18:05.000Z",
    "PasswordData": "&ViJ652e*u"
}
```


get-reserved-instances-exchange-quote

The following code example shows how to use `get-reserved-instances-exchange-quote`.

AWS CLI

To get a quote for exchanging a Convertible Reserved Instance

This example gets the exchange information for the specified Convertible Reserved Instances.

Command:
aws ec2 get-reserved-instances-exchange-quote --reserved-instance-ids 7b8750c3-397e-4da4-bbcb-a45ebexample --target-configurations OfferingId=6fea5434-b379-434c-b07b-a7abexample

Output:

```json
{
  "CurrencyCode": "USD",
  "ReservedInstanceValueSet": [
    {
      "ReservedInstanceId": "7b8750c3-397e-4da4-bbcb-a45ebexample",
      "ReservationValue": {
        "RemainingUpfrontValue": "0.000000",
        "HourlyPrice": "0.027800",
        "RemainingTotalValue": "730.556200"
      }
    }
  ],
  "PaymentDue": "424.983828",
  "TargetConfigurationValueSet": [
    {
      "TargetConfiguration": {
        "InstanceCount": 5,
        "OfferingId": "6fea5434-b379-434c-b07b-a7abexample"
      },
      "ReservationValue": {
        "RemainingUpfrontValue": "424.983828",
        "HourlyPrice": "0.016000",
        "RemainingTotalValue": "845.447828"
      }
    }
  ],
  "IsValidExchange": true,
  "OutputReservedInstancesWillExpireAt": "2020-10-01T13:03:39Z",
  "ReservedInstanceValueRollup": {
    "RemainingUpfrontValue": "0.000000",
    "HourlyPrice": "0.027800",
    "RemainingTotalValue": "730.556200"
  },
  "TargetConfigurationValueRollup": {
    "RemainingUpfrontValue": "424.983828",
    "HourlyPrice": "0.016000",
    "RemainingTotalValue": "845.447828"
}
```
• For API details, see GetReservedInstancesExchangeQuote in AWS CLI Command Reference.

**get-serial-console-access-status**

The following code example shows how to use get-serial-console-access-status.

**AWS CLI**

To view the status of account access to the serial console

The following get-serial-console-access-status example determines whether serial console access is enabled for your account.

```
aws ec2 get-serial-console-access-status
```

Output:

```
{
  "SerialConsoleAccessEnabled": true
}
```

For more information, see EC2 Serial Console in the Amazon EC2 User Guide.

• For API details, see GetSerialConsoleAccessStatus in AWS CLI Command Reference.

**get-spot-placement-scores**

The following code example shows how to use get-spot-placement-scores.

**AWS CLI**

To calculate the Spot placement score for specified requirements

The following get-spot-placement-scores example first generates a list of all of the possible parameters that can be specified for the Spot placement score configuration using the --generate-cli-skeleton parameter, and saves the list to a JSON file. Then, the JSON file is used to configure the requirements to use to calculate the Spot placement score.
To generate all possible parameters that can be specified for the Spot placement score configuration, and save the output directly to a JSON file.

```
aws ec2 get-spot-placement-scores \
  --region us-east-1 \
  --generate-cli-skeleton input > attributes.json
```

Output:

```
{
  "InstanceTypes": [],
  "TargetCapacity": 0,
  "TargetCapacityUnitType": "vcpu",
  "SingleAvailabilityZone": true,
  "RegionNames": [],
  "InstanceRequirementsWithMetadata": {
    "ArchitectureTypes": [
      "x86_64_mac"
    ],
    "VirtualizationTypes": [
      "hvm"
    ],
    "InstanceRequirements": {
      "VCpuCount": {
        "Min": 0,
        "Max": 0
      },
      "MemoryMiB": {
        "Min": 0,
        "Max": 0
      },
      "CpuManufacturers": [
        "amd"
      ],
      "MemoryGiBPerVCpu": {
        "Min": 0.0,
        "Max": 0.0
      }
    },
    "ExcludedInstanceTypes": [
```
""
,
"InstanceGenerations": [
  "previous"
],
"SpotMaxPricePercentageOverLowestPrice": 0,
"OnDemandMaxPricePercentageOverLowestPrice": 0,
"BareMetal": "excluded",
"BurstablePerformance": "excluded",
"RequireHibernateSupport": true,
"NetworkInterfaceCount": {
  "Min": 0,
  "Max": 0
},
"LocalStorage": "included",
"LocalStorageTypes": [
  "hdd"
],
"TotalLocalStorageGB": {
  "Min": 0.0,
  "Max": 0.0
},
"BaselineEbsBandwidthMbps": {
  "Min": 0,
  "Max": 0
},
"AcceleratorTypes": [
  "fpga"
],
"AcceleratorCount": {
  "Min": 0,
  "Max": 0
},
"AcceleratorManufacturers": [
  "amd"
],
"AcceleratorNames": [
  "vu9p"
],
"AcceleratorTotalMemoryMiB": {
  "Min": 0,
  "Max": 0
}
}
Configure the JSON file. You must provide a value for TargetCapacity. For a description of each parameter and their default values, see Calculate the Spot placement score (AWS CLI) <https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/spot-placement-score.html#calculate-sps-cli>.

Calculate the Spot placement score for the requirements specified in attributes.json. Specify the name and path to your JSON file by using the --cli-input-json parameter.

```
aws ec2 get-spot-placement-scores \
   --region us-east-1 \
   --cli-input-json file://attributes.json
```

Output if SingleAvailabilityZone is set to false or omitted (if omitted, it defaults to false). A scored list of Regions is returned.

```
"Recommendation": [
   {
      "Region": "us-east-1",
      "Score": 7
   },
   {
      "Region": "us-west-1",
      "Score": 5
   },
   ...
```

Output if SingleAvailabilityZone is set to true. A scored list of SingleAvailability Zones is returned.

```
"Recommendation": [
   {
      "Region": "us-east-1",
      "AvailabilityZoneId": "use1-az1",
      "Score": 8
   },
```
For more information about calculating a Spot placement score, and for example configurations, see Calculate a Spot placement score in the Amazon EC2 User Guide.

- For API details, see GetSpotPlacementScores in AWS CLI Command Reference.

get-subnet-cidr-reservations

The following code example shows how to use get-subnet-cidr-reservations.

AWS CLI

To get information about a subnet CIDR reservation

The following get-subnet-cidr-reservations example displays information about the specified subnet CIDR reservation.

```bash
aws ec2 get-subnet-cidr-reservations \\   --subnet-id subnet-03c51e2e6cEXAMPLE
```

Output:

```json
{
   "SubnetIpv4CidrReservations": [
      {
         "SubnetCidrReservationId": "scr-044f977c4eEXAMPLE",
         "SubnetId": "subnet-03c51e2e6cEXAMPLE",
         "Cidr": "10.1.0.16/28",
         "ReservationType": "prefix",
         "OwnerId": "123456789012"
      }
   ],
   "SubnetIpv6CidrReservations": []
}
```

For more information, see Subnet CIDR reservations in the Amazon VPC User Guide.
get-transit-gateway-attachment-propagations

The following code example shows how to use get-transit-gateway-attachment-propagations.

AWS CLI

To list the route tables to which the specified resource attachment propagates routes

The following get-transit-gateway-attachment-propagations example lists the route table to which the specified resource attachment propagates routes.

```
aws ec2 get-transit-gateway-attachment-propagations
   --transit-gateway-attachment-id tgw-attach-09fbd47ddfEXAMPLE
```

Output:

```
{
   "TransitGatewayAttachmentPropagations": [
      {
         "TransitGatewayRouteTableId": "tgw-rtb-0882c61b97EXAMPLE",
         "State": "enabled"
      }
   ]
}
```

For more information, see Transit gateway route tables in the Transit Gateways Guide.

get-transit-gateway-multicast-domain-associations

The following code example shows how to use get-transit-gateway-multicast-domain-associations.

AWS CLI

To view the information about the transit gateway multicast domain associations

For API details, see GetTransitGatewayAttachmentPropagations in AWS CLI Command Reference.
The following `get-transit-gateway-multicast-domain-associations` example returns the associations for the specified multicast domain.

```bash
aws ec2 get-transit-gateway-multicast-domain-associations \
--transit-gateway-multicast-domain-id tgw-mcast-domain-0c4905cef7EXAMPLE
```

Output:

```json
{
  "MulticastDomainAssociations": [
    {
      "TransitGatewayAttachmentId": "tgw-attach-028c1dd0f8EXAMPLE",
      "ResourceId": "vpc-01128d2c24EXAMPLE",
      "ResourceType": "vpc",
      "Subnet": {
        "SubnetId": "subnet-000de86e3bEXAMPLE",
        "State": "associated"
      }
    },
    {
      "TransitGatewayAttachmentId": "tgw-attach-070e571cd1EXAMPLE",
      "ResourceId": "vpc-7EXAMPLE",
      "ResourceType": "vpc",
      "Subnet": {
        "SubnetId": "subnet-4EXAMPLE",
        "State": "associated"
      }
    },
    {
      "TransitGatewayAttachmentId": "tgw-attach-070e571cd1EXAMPLE",
      "ResourceId": "vpc-7EXAMPLE",
      "ResourceType": "vpc",
      "Subnet": {
        "SubnetId": "subnet-5EXAMPLE",
        "State": "associated"
      }
    },
    {
      "TransitGatewayAttachmentId": "tgw-attach-070e571cd1EXAMPLE",
      "ResourceId": "vpc-7EXAMPLE",
      "ResourceType": "vpc",
      "Subnet": {
        "SubnetId": "subnet-aEXAMPLE",
      }
    }
  ]
}
```
For more information, see Managing multicast domains in the Transit Gateways Guide.

- For API details, see GetTransitGatewayMulticastDomainAssociations in AWS CLI Command Reference.

get-transit-gateway-prefix-list-references

The following code example shows how to use get-transit-gateway-prefix-list-references.

AWS CLI

To get prefix list references in a transit gateway route table

The following get-transit-gateway-prefix-list-references example gets the prefix list references for the specified transit gateway route table, and filters by the ID of a specific prefix list.

```
aws ec2 get-transit-gateway-prefix-list-references \
    --transit-gateway-route-table-id tgw-rtb-0123456789abcd123 \
    --filters Name=prefix-list-id,Values=pl-11111122222222333
```

Output:

```
{
    "TransitGatewayPrefixListReferences": [
        {
```
get-transit-gateway-route-table-associations

The following code example shows how to use `get-transit-gateway-route-table-associations`.

AWS CLI

To get information about the associations for the specified transit gateway route table

The following `get-transit-gateway-route-table-associations` example displays information about the associations for the specified transit gateway route table.

```
aws ec2 get-transit-gateway-route-table-associations \    
  --transit-gateway-route-table-id tgw-rtb-0a823edbdeEXAMPLE
```

Output:

```
{
  "Associations": [
    {
      "TransitGatewayAttachmentId": "tgw-attach-09b52ccdb5EXAMPLE",
      "ResourceId": "vpc-4d7de228",
      "ResourceType": "vpc",
      "State": "associating"
    }
  ]
}
```
For more information, see Transit gateway route tables in the Transit Gateways Guide.

- For API details, see GetTransitGatewayRouteTableAssociations in AWS CLI Command Reference.

**get-transit-gateway-route-table-propagations**

The following code example shows how to use get-transit-gateway-route-table-propagations.

**AWS CLI**

To display information about the route table propagations for the specified transit gateway route table

The following get-transit-gateway-route-table-propagations example returns the route table propagations for the specified route table.

```
aws ec2 get-transit-gateway-route-table-propagations \
   --transit-gateway-route-table-id tgw-rtb-002573ed1eEXAMPLE
```

Output:

```json
{
   "TransitGatewayRouteTablePropagations": [
      {
         "TransitGatewayAttachmentId": "tgw-attach-01f8100bc7EXAMPLE",
         "ResourceId": "vpc-3EXAMPLE",
         "ResourceType": "vpc",
         "State": "enabled"
      },
      {
         "TransitGatewayAttachmentId": "tgw-attach-08e0bc912cEXAMPLE",
         "ResourceId": "11460968-4ac1-4fd3-bdb2-00599EXAMPLE",
         "ResourceType": "direct-connect-gateway",
         "State": "enabled"
      },
      {
         "TransitGatewayAttachmentId": "tgw-attach-0a89069f57EXAMPLE",
```
For more information, see [Transit gateway route tables](#) in the *Transit Gateways Guide*.

- For API details, see [GetTransitGatewayRouteTablePropagations](#) in *AWS CLI Command Reference*.

**get-verified-access-endpoint-policy**

The following code example shows how to use `get-verified-access-endpoint-policy`.

**AWS CLI**

To get the Verified Access policy of an endpoint

The following `get-verified-access-endpoint-policy` example gets the Verified Access policy of the specified endpoint.

```
aws ec2 get-verified-access-endpoint-policy \
    --verified-access-endpoint-id vae-066fac616d4d546f2
```

Output:

```
{
    "PolicyEnabled": true,
    "PolicyDocument": "permit(principal,action,resource)when
    {\n        context.identity.groups.contains("finance") &&
        context.identity.email_verified == true\n    };
}
```

For more information, see [Verified Access policies](#) in the *AWS Verified Access User Guide*.

- For API details, see [GetVerifiedAccessEndpointPolicy](#) in *AWS CLI Command Reference*.

**get-verified-access-group-policy**

The following code example shows how to use `get-verified-access-group-policy`.

Actions and scenarios
AWS CLI

To get the Verified Access policy of a group

The following `get-verified-access-group-policy` example gets the Verified Access policy of the specified group.

```
aws ec2 get-verified-access-group-policy \
   --verified-access-group-id vagr-0dbe967baf14b7235
```

Output:

```
{
   "PolicyEnabled": true,
   "PolicyDocument": "permit(principal,action,resource)\nwhen
   \n   context.identity.groups.contains("finance") &&
   context.identity.email_verified == true\n};"
}
```

For more information, see [Verified Access groups](#) in the *AWS Verified Access User Guide*.

- For API details, see [GetVerifiedAccessGroupPolicy](#) in *AWS CLI Command Reference*.

get-vpn-connection-device-sample-configuration

The following code example shows how to use `get-vpn-connection-device-sample-configuration`.

AWS CLI

To download a sample configuration file

The following `get-vpn-connection-device-sample-configuration` example downloads the specified sample configuration file. To list the gateway devices with a sample configuration file, call the `get-vpn-connection-device-types` command.

```
aws ec2 get-vpn-connection-device-sample-configuration \
   --vpn-connection-id vpn-123456789abc01234 \
   --vpn-connection-device-type-id 5fb390ba
```

Output:
For more information, see [Download the configuration file](#) in the *AWS Site-to-Site VPN User Guide*.

- For API details, see [GetVpnConnectionDeviceSampleConfiguration](#) in *AWS CLI Command Reference*.

### get-vpn-connection-device-types

The following code example shows how to use `get-vpn-connection-device-types`.

**AWS CLI**

**To list gateway devices with a sample configuration file**

The following `get-vpn-connection-device-types` example lists the gateway devices from Palo Alto Networks that have sample configuration files.

```bash
aws ec2 get-vpn-connection-device-types \
    --query "VpnConnectionDeviceTypes[?Vendor=='Palo Alto Networks']"
```

**Output:**

```json
[
    {
        "VpnConnectionDeviceTypeId": "754a6372",
        "Vendor": "Palo Alto Networks",
        "Platform": "PA Series",
        "Software": "PANOS 4.1.2+"
    },
    {
        "VpnConnectionDeviceTypeId": "9612cbed",
        "Vendor": "Palo Alto Networks",
        "Platform": "PA Series",
        "Software": "PANOS 4.1.2+ (GUI)"
    }
]
```
For more information, see [Download the configuration file](#) in the *AWS Site-to-Site VPN user Guide*.

- For API details, see [GetVpnConnectionDeviceTypes](#) in *AWS CLI Command Reference*.

### import-client-vpn-client-certificate-revocation-list

The following code example shows how to use `import-client-vpn-client-certificate-revocation-list`.

**AWS CLI**

**To import a client certificate revocation list**

The following `import-client-vpn-client-certificate-revocation-list` example imports a client certificate revocation list to the Client VPN endpoint by specifying the location of the file on the local computer.

```
aws ec2 import-client-vpn-client-certificate-revocation-list \
--certificate-revocation-list file:///path/to/crl.pem \
--client-vpn-endpoint-id cvpn-endpoint-123456789123abcde
```

**Output:**

```
{
   "Return": true
}
```

For more information, see [Client Certificate Revocation Lists](#) in the *AWS Client VPN Administrator Guide*.

- For API details, see [ImportClientVpnClientCertificateRevocationList](#) in *AWS CLI Command Reference*.
import-image

The following code example shows how to use import-image.

AWS CLI

To import a VM image file as an AMI

The following import-image example imports the specified OVA.

```bash
aws ec2 import-image \
    --disk-containers Format=ova,UserBucket="{S3Bucket=my-import-bucket,S3Key=vms/my-server-vm.ova}"
```

Output:

```json
{
    "ImportTaskId": "import-ami-1234567890abcdef0",
    "Progress": "2",
    "SnapshotDetails": [
        {
            "DiskImageSize": 0.0,
            "Format": "ova",
            "UserBucket": {
                "S3Bucket": "my-import-bucket",
                "S3Key": "vms/my-server-vm.ova"
            }
        }
    ],
    "Status": "active",
    "StatusMessage": "pending"
}
```

- For API details, see ImportImage in AWS CLI Command Reference.

import-key-pair

The following code example shows how to use import-key-pair.

AWS CLI

To import a public key
First, generate a key pair with the tool of your choice. For example, use this ssh-keygen command:

**Command:**

```
ssh-keygen -t rsa -C "my-key" -f ~/.ssh/my-key
```

**Output:**

```
Generating public/private rsa key pair.
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/ec2-user/.ssh/my-key.
Your public key has been saved in /home/ec2-user/.ssh/my-key.pub.
...
```

This example command imports the specified public key.

**Command:**

```
aws ec2 import-key-pair --key-name "my-key" --public-key-material fileb://~/.ssh/my-key.pub
```

**Output:**

```
{
   "KeyName": "my-key",
}
```

- For API details, see [ImportKeyPair](https://docs.aws.amazon.com/cli/latest/reference/ec2/import-key-pair.html) in *AWS CLI Command Reference*.

### import-snapshot

The following code example shows how to use `import-snapshot`.

**AWS CLI**

**To import a snapshot**

The following `import-snapshot` example imports the specified disk as a snapshot.
aws ec2 import-snapshot \
   --description "My server VMDK" \
   --disk-container Format=VMDK,UserBucket={S3Bucket=my-import-bucket,S3Key=vms/my-server-vm.vmdk}

Output:

{
   "Description": "My server VMDK",
   "ImportTaskId": "import-snap-1234567890abcdef0",
   "SnapshotTaskDetail": {
      "Description": "My server VMDK",
      "DiskImageSize": "0.0",
      "Format": "VMDK",
      "Progress": "3",
      "Status": "active",
      "StatusMessage": "pending"
      "UserBucket": {
         "S3Bucket": "my-import-bucket",
         "S3Key": "vms/my-server vm.vmdk"
      }
   }
}

- For API details, see ImportSnapshot in AWS CLI Command Reference.

list-images-in-recycle-bin

The following code example shows how to use list-images-in-recycle-bin.

AWS CLI

To list the images in the Recycle Bin

The following list-images-in-recycle-bin example lists all of the images that are currently retained in the Recycle Bin.

aws ec2 list-images-in-recycle-bin

Output:
For more information, see Recover AMIs from the Recycle Bin in the Amazon Elastic Compute Cloud User Guide.

- For API details, see ListImagesInRecycleBin in AWS CLI Command Reference.

**list-snapshots-in-recycle-bin**

The following code example shows how to use `list-snapshots-in-recycle-bin`.

**AWS CLI**

**To view snapshots in the Recycle Bin**

The following `list-snapshots-in-recycle-bin` example lists information about snapshots in the Recycle Bin, including the snapshot ID, a description of the snapshot, The ID of the volume from which the snapshot was created, the date and time when the snapshot was deleted and it entered the Recycle Bin, and the date and time when the retention period expires.

```bash
aws ec2 list-snapshots-in-recycle-bin \
   --snapshot-id snap-01234567890abcdef
```

**Output:**

```json
{
   "SnapshotRecycleBinInfo": [
      {
         "Description": "Monthly data backup snapshot",
         "RecycleBinEnterTime": "2022-12-01T13:00:00.000Z",
         "RecycleBinExitTime": "2022-12-15T13:00:00.000Z",
         "Name": "AMI_01",
         "ImageId": "ami-011122233444abcd"
      }
   ]
}
```
For more information about Recycle Bin for Amazon EBS, see Recover snapshots from the Recycle Bin in the Amazon EC2 User Guide.

- For API details, see ListSnapshotsInRecycleBin in AWS CLI Command Reference.

**modify-address-attribute**

The following code example shows how to use modify-address-attribute.

**AWS CLI**

To modify the domain name attribute associated with an elastic IP address

The following modify-address-attribute examples modify the domain name attribute of an elastic IP address.

Linux:

```
aws ec2 modify-address-attribute \\
--allocation-id eipalloc-abcdef01234567890 \\
--domain-name example.com
```

Windows:

```
aws ec2 modify-address-attribute ^
   --allocation-id eipalloc-abcdef01234567890 ^
   --domain-name example.com
```

Output:

```
{
   "Addresses": [
   {
      "PublicIp": "192.0.2.0",
      "AllocationId": "eipalloc-abcdef01234567890",
   }
   ]
}
```
To monitor the pending change and to view the modified attributes of an elastic IP address, see `describe-addresses-attribute` in the *AWS CLI Command Reference*.

- For API details, see `ModifyAddressAttribute` in *AWS CLI Command Reference*.

**modify-availability-zone-group**

The following code example shows how to use `modify-availability-zone-group`.

**AWS CLI**

**To enable a zone group**

The following `modify-availability-zone-group` example enables the specified zone group.

```bash
aws ec2 modify-availability-zone-group 
  --group-name us-west-2-lax-1 
  --opt-in-status opted-in
```

**Output:**

```json
{
    "Return": true
}
```

For more information, see [Regions and Zones](https://docs.aws.amazon.com/AmazonElasticComputeCloud/latest/UserGuide/regions-zones.html) in the *Amazon Elastic Compute Cloud User Guide for Linux Instances*.

- For API details, see `ModifyAvailabilityZoneGroup` in *AWS CLI Command Reference*.

**modify-capacity-reservation**

The following code example shows how to use `modify-capacity-reservation`.
Example 1: To change the number of instances reserved by an existing capacity reservation

The following modify-capacity-reservation example changes the number of instances for which the capacity reservation reserves capacity.

```
aws ec2 modify-capacity-reservation \
  --capacity-reservation-id cr-1234abcd56EXAMPLE \ 
  --instance-count 5
```

Output:

```
{  
  "Return": true
}
```

Example 2: To change the end date and time for an existing capacity reservation

The following modify-capacity-reservation example modifies an existing capacity reservation to end at the specified date and time.

```
aws ec2 modify-capacity-reservation \
  --capacity-reservation-id cr-1234abcd56EXAMPLE \ 
  --end-date-type limited \ 
  --end-date 2019-08-31T23:59:59Z
```

For more information, see Modifying a Capacity Reservation in the Amazon Elastic Compute Cloud User Guide for Linux Instances.

- For API details, see ModifyCapacityReservation in AWS CLI Command Reference.

modify-capacity-reservation-fleet

The following code example shows how to use modify-capacity-reservation-fleet.

AWS CLI

Example 1: To modify the total target capacity of a Capacity Reservation Fleet

The following modify-capacity-reservation-fleet example modifies the total target capacity of the specified Capacity Reservation Fleet. When you modify the total target capacity
of a Capacity Reservation Fleet, the Fleet automatically creates new Capacity Reservations, or modifies or cancels existing Capacity Reservations in the Fleet to meet the new total target capacity. You can't attempt additional modifications to a Fleet while it is in the modifying state.

```
aws ec2 modify-capacity-reservation-fleet \
   --capacity-reservation-fleet-id crf-01234567890abcedf \
   --total-target-capacity 160
```

Output:

```
{
   "Return": true
}
```

**Example 2: To modify the end date of a Capacity Reservation Fleet**

The following `modify-capacity-reservation-fleet` example modifies the end date of the specified Capacity Reservation Fleet. When you modify the end date for the Fleet, the end dates for all of the individual Capacity Reservations are updated accordingly. You can't attempt additional modifications to a Fleet while it is in the modifying state.

```
aws ec2 modify-capacity-reservation-fleet \
   --capacity-reservation-fleet-id crf-01234567890abcedf \
   --end-date 2022-07-04T23:59:59.000Z
```

Output:

```
{
   "Return": true
}
```

For more information about Capacity Reservation Fleets, see [Capacity Reservation Fleets](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/capacity-reservation-fleet.html) in the Amazon EC2 User Guide.


**modify-client-vpn-endpoint**

The following code example shows how to use `modify-client-vpn-endpoint`.

```
AWS CLI

To modify a Client VPN endpoint

The following modify-client-vpn-endpoint example enables client connection logging for the specified Client VPN endpoint.

```bash
aws ec2 modify-client-vpn-endpoint \
    --client-vpn-endpoint-id cvpn-endpoint-123456789123abcde \
    --connection-log-options Enabled=true,CloudwatchLogGroup=ClientVPNLogs
```

Output:

```
{
    "Return": true
}
```

For more information, see Client VPN Endpoints in the AWS Client VPN Administrator Guide.

- For API details, see ModifyClientVpnEndpoint in AWS CLI Command Reference.

modify-default-credit-specification

The following code example shows how to use modify-default-credit-specification.

AWS CLI

To modify the default credit option

The following modify-default-credit-specification example modifies the default credit option for T2 instances.

```bash
aws ec2 modify-default-credit-specification \
    --instance-family t2 \
    --cpu-credits unlimited
```

Output:

```
{
    "InstanceFamilyCreditSpecification": {
```
For API details, see `ModifyDefaultCreditSpecification` in AWS CLI Command Reference.

modify-ebs-default-kms-key-id

The following code example shows how to use `modify-ebs-default-kms-key-id`.

AWS CLI

**To set your default CMK for EBS encryption**

The following `modify-ebs-default-kms-key-id` example sets the specified CMK as the default CMK for EBS encryption for your AWS account in the current Region.

```bash
aws ec2 modify-ebs-default-kms-key-id \
  --kms-key-id alias/my-cmk
```

Output:

```json
{
  "KmsKeyId": "arn:aws:kms:us-west-2:123456789012:key/0ea3fef3-80a7-4778-9d8c-1c0c6EXAMPLE"
}
```

For API details, see `ModifyEbsDefaultKmsKeyId` in AWS CLI Command Reference.

modify-fleet

The following code example shows how to use `modify-fleet`.

AWS CLI

**To scale an EC2 Fleet**

The following `modify-fleet` example modifies the target capacity of the specified EC2 Fleet. If the specified value is greater than the current capacity, the EC2 Fleet launches additional
instances. If the specified value is less than the current capacity, the EC2 Fleet cancels any open requests and if the termination policy is `terminate`, the EC2 fleet terminates any instances that exceed the new target capacity.

```
aws ec2 modify-fleet
  --fleet-ids fleet-12a34b55-67cd-8ef9-ba9b-9208dEXAMPLE
  --target-capacity-specification TotalTargetCapacity=5
```

Output:

```
{
  "Return": true
}
```

For more information, see [Managing an EC2 Fleet](https://docs.aws.amazon.com/AmazonECS/latest/developerguide/ecs-manage.html) in the *Amazon Elastic Compute Cloud User Guide for Linux Instances*.

- For API details, see [ModifyFleet](https://docs.aws.amazon.com/cli/latest/reference/ec2/modify-fleet.html) in *AWS CLI Command Reference*.

### modify-fpga-image-attribute

The following code example shows how to use `modify-fpga-image-attribute`.

**AWS CLI**

**To modify the attributes of an Amazon FPGA image**

This example adds load permissions for account ID `123456789012` for the specified AFI.

Command:

```
aws ec2 modify-fpga-image-attribute --attribute loadPermission --fpga-image-id afi-0d123e123bfc85abc --load-permission Add=\{\{UserId=123456789012\}\]
```

Output:

```
{
  "FpgaImageAttribute": {
    "FpgaImageId": "afi-0d123e123bfc85abc",
    "LoadPermissions": [
```
modify-hosts

The following code example shows how to use modify-hosts.

AWS CLI

**Example 1: To enable auto-placement for a Dedicated Host**

The following modify-hosts example enables auto-placement for a Dedicated Host so that it accepts any untargeted instance launches that match its instance type configuration.

```bash
aws ec2 modify-hosts \
  --host-id h-06c2f189b4EXAMPLE \
  --auto-placement on
```

Output:

```json
{
  "Successful": [
    "h-06c2f189b4EXAMPLE"
  ],
  "Unsuccessful": []
}
```

**Example 2: To enable host recovery for a Dedicated Host**

The following modify-hosts example enables host recovery for the specified Dedicated Host.

```bash
aws ec2 modify-hosts \
  --host-id h-06c2f189b4EXAMPLE \
  --host-recovery on
```

• For API details, see [ModifyFpgaImageAttribute](#) in [AWS CLI Command Reference](#).
Output:

```
{
  "Successful": [
    "h-06c2f189b4EXAMPLE"
  ],
  "Unsuccessful": []
}
```

For more information, see Modifying Dedicated Host Auto-Placement in the Amazon Elastic Compute Cloud User Guide for Linux Instances.

- For API details, see ModifyHosts in AWS CLI Command Reference.

**modify-id-format**

The following code example shows how to use modify-id-format.

**AWS CLI**

**To enable the longer ID format for a resource**

The following modify-id-format example enables the longer ID format for the instance resource type.

```
aws ec2 modify-id-format \
  --resource instance \
  --use-long-ids
```

**To disable the longer ID format for a resource**

The following modify-id-format example disables the longer ID format for the instance resource type.

```
aws ec2 modify-id-format \
  --resource instance \
  --no-use-long-ids
```

The following modify-id-format example enables the longer ID format for all supported resource types that are within their opt-in period.
aws ec2 modify-id-format
        --resource all-current \    
        --use-long-ids

- For API details, see ModifyIdFormat in AWS CLI Command Reference.

modify-identity-id-format

The following code example shows how to use modify-identity-id-format.

**AWS CLI**

**To enable an IAM role to use longer IDs for a resource**

The following modify-identity-id-format example enables the IAM role EC2Role in your AWS account to use long ID format for the instance resource type.

```
aws ec2 modify-identity-id-format 
        --principal-arn arn:aws:iam::123456789012:role/EC2Role 
        --resource instance \    
        --use-long-ids
```

**To enable an IAM user to use longer IDs for a resource**

The following modify-identity-id-format example enables the IAM user AdminUser in your AWS account to use the longer ID format for the volume resource type.

```
aws ec2 modify-identity-id-format 
        --principal-arn arn:aws:iam::123456789012:user/AdminUser 
        --resource volume \    
        --use-long-ids
```

The following modify-identity-id-format example enables the IAM user AdminUser in your AWS account to use the longer ID format for all supported resource types that are within their opt-in period.

```
aws ec2 modify-identity-id-format 
        --principal-arn arn:aws:iam::123456789012:user/AdminUser \    
        --resource all-current \    
```

**Actions and scenarios**

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modify-image-attribute

The following code example shows how to use modify-image-attribute.

AWS CLI

**Example 1: To make an AMI public**

The following modify-instance-attribute example makes the specified AMI public.

```bash
aws ec2 modify-image-attribute \
    --image-id ami-5731123e \
    --launch-permission "Add=[[Group=all]]"
```

This command produces no output.

**Example 2: To make an AMI private**

The following modify-instance-attribute example makes the specified AMI private.

```bash
aws ec2 modify-image-attribute \
    --image-id ami-5731123e \
    --launch-permission "Remove=[[Group=all]]"
```

This command produces no output.

**Example 3: To grant launch permission to an AWS account**

The following modify-instance-attribute example grants launch permissions to the specified AWS account.

```bash
aws ec2 modify-image-attribute \
    --image-id ami-5731123e \
    --launch-permission "Add=[[UserId=123456789012]]"
```

This command produces no output.
Example 4: To remove launch permission from an AWS account

The following modify-instance-attribute example removes launch permissions from the specified AWS account.

```
aws ec2 modify-image-attribute 
   --image-id ami-5731123e 
   --launch-permission "Remove={[UserId=123456789012]}"
```

- For API details, see ModifyImageAttribute in AWS CLI Command Reference.

modify-instance-attribute

The following code example shows how to use modify-instance-attribute.

AWS CLI

Example 1: To modify the instance type

The following modify-instance-attribute example modifies the instance type of the specified instance. The instance must be in the stopped state.

```
aws ec2 modify-instance-attribute 
   --instance-id i-1234567890abcdef0 
   --instance-type 
   "{"Value": "m1.small"}"
```

This command produces no output.

Example 2: To enable enhanced networking on an instance

The following modify-instance-attribute example enables enhanced networking for the specified instance. The instance must be in the stopped state.

```
aws ec2 modify-instance-attribute 
   --instance-id i-1234567890abcdef0 
   --sriov-net-support simple
```

This command produces no output.

Example 3: To modify the sourceDestCheck attribute
The following `modify-instance-attribute` example sets the `sourceDestCheck` attribute of the specified instance to `true`. The instance must be in a VPC.

```
aws ec2 modify-instance-attribute --instance-id i-1234567890abcdef0 --source-dest-check "{"Value": true}"
```

This command produces no output.

**Example 4: To modify the `deleteOnTermination` attribute of the root volume**

The following `modify-instance-attribute` example sets the `deleteOnTermination` attribute for the root volume of the specified Amazon EBS-backed instance to `false`. By default, this attribute is `true` for the root volume.

Command:

```
aws ec2 modify-instance-attribute 
  --instance-id i-1234567890abcdef0 
  --block-device-mappings "[{"DeviceName": "/dev/sda1"},{"Ebs": 
  {"DeleteOnTermination":false}}]"
```

This command produces no output.

**Example 5: To modify the user data attached to an instance**

The following `modify-instance-attribute` example adds the contents of the file `UserData.txt` as the `UserData` for the specified instance.

Contents of original file `UserData.txt`:

```bash
#!/bin/bash
yum update -y
service httpd start
chkconfig httpd on
```

The contents of the file must be base64 encoded. The first command converts the text file to base64 and saves it as a new file.

Linux/macOS version of the command:

```
base64 UserData.txt > UserData.base64.txt
```
This command produces no output.

Windows version of the command:

certutil -encode UserData.txt tmp.b64 && findstr /v /c:- tmp.b64 > UserData.base64.txt

Output:

Input Length = 67
Output Length = 152
CertUtil: -encode command completed successfully.

Now you can reference that file in the CLI command that follows:

aws ec2 modify-instance-attribute \
   --instance-id=i-09b5a14dbca622e76 \
   --attribute userData --value file://UserData.base64.txt

This command produces no output.

For more information, see User Data and the AWS CLI in the EC2 User Guide.
- For API details, see ModifyInstanceAttribute in AWS CLI Command Reference.

modify-instance-capacity-reservation-attributes

The following code example shows how to use modify-instance-capacity-reservation-attributes.

AWS CLI

Example 1: To modify an instance's capacity reservation targeting settings

The following modify-instance-capacity-reservation-attributes example modifies a stopped instance to target a specific capacity reservation.

aws ec2 modify-instance-capacity-reservation-attributes \
   --instance-id i-EXAMPLE8765abcd4e \
   --capacity-reservation-specification \
   'CapacityReservationTarget={CapacityReservationId= cr-1234abcd56EXAMPLE }'
Example 2: To modify an instance's capacity reservation targeting settings

The following modify-instance-capacity-reservation-attributes example modifies a stopped instance that targets the specified capacity reservation to launch in any capacity reservation that has matching attributes (instance type, platform, Availability Zone) and that has open instance matching criteria.

```
aws ec2 modify-instance-capacity-reservation-attributes \
--instance-id i-EXAMPLE8765abcd4e \
--capacity-reservation-specification 'CapacityReservationPreference=open'
```

Output:

```
{
   "Return": true
}
```

For more information, see [Modifying an Instance's Capacity Reservation Settings](http://aws.amazon.com/documentation/ec2/content/modify-instance-capacity-reservation-attributes.html) in the Amazon Elastic Compute Cloud User Guide for Linux Instances.


modify-instance-credit-specification

The following code example shows how to use modify-instance-credit-specification.

**AWS CLI**

**To modify the credit option for CPU usage of an instance**

This example modifies the credit option for CPU usage of the specified instance in the specified region to "unlimited". Valid credit options are "standard" and "unlimited".

Command:
aws ec2 modify-instance-credit-specification --instance-credit-specification
"InstanceId=i-1234567890abcdef0,CpuCredits=unlimited"

Output:

```
{
    "SuccessfulInstanceCreditSpecifications": [
        {
            "InstanceId": "i-1234567890abcdef0"
        }
    ],
    "UnsuccessfulInstanceCreditSpecifications": []
}
```


modify-instance-event-start-time

The following code example shows how to use `modify-instance-event-start-time`.

**AWS CLI**

**To modify the event start time for an instance**

The following `modify-instance-event-start-time` command shows how to modify the event start time for the specified instance. Specify the event ID by using the `--instance-event-id` parameter. Specify the new date and time by using the `--not-before` parameter.

```
aws ec2 modify-instance-event-start-time --instance-id i-1234567890abcdef0
--instance-event-id instance-event-0abcdef1234567890 --not-before
2019-03-25T10:00:00.000
```

Output:

```
"Event": {
    "InstanceEventId": "instance-event-0abcdef1234567890",
    "Code": "system-reboot",
    "Description": "scheduled reboot",
    "NotAfter": "2019-03-25T12:00:00.000Z",
    "NotBefore": "2019-03-25T10:00:00.000Z",
```
modify-instance-event-window

The following code example shows how to use modify-instance-event-window.

AWS CLI

Example 1: To modify the time range of an event window

The following modify-instance-event-window example modifies the time range of an event window. Specify the time-range parameter to modify the time range. You can't also specify the cron-expression parameter.

```bash
aws ec2 modify-instance-event-window \
  --region us-east-1 \
  --instance-event-window-id iew-0abcdef1234567890 \
  --time-range StartWeekDay=monday,StartHour=2,EndWeekDay=wednesday,EndHour=8
```

Output:

```
{
   "InstanceEventWindow": {
      "InstanceEventWindowId": "iew-0abcdef1234567890",
      "TimeRanges": [
         {
            "StartWeekDay": "monday",
            "StartHour": 2,
            "EndWeekDay": "wednesday",
            "EndHour": 8
         }
      ],
      "Name": "myEventWindowName",
      "AssociationTarget": {
         "InstanceIds": [
```

For event window constraints, see Considerations in the Scheduled Events section of the Amazon EC2 User Guide.

Example 2: To modify a set of time ranges for an event window

The following modify-instance-event-window example modifies the time range of an event window. Specify the time-range parameter to modify the time range. You can't also specify the cron-expression parameter.

```
aws ec2 modify-instance-event-window \\
  --region us-east-1 \\
  --instance-event-window-id iew-0abcdef1234567890 \\
  --time-range '[{"StartWeekDay": "monday", "StartHour": 2, "EndWeekDay": "wednesday", "EndHour": 8}, \\
  {"StartWeekDay": "thursday", "StartHour": 2, "EndWeekDay": "friday", \\
  "EndHour": 8}]
```

Output:

```
{
  "InstanceEventWindow": {
    "InstanceEventWindowId": "iew-0abcdef1234567890", 
    "TimeRanges": [
      {
        "StartWeekDay": "monday", 
        "StartHour": 2, 
```
For event window constraints, see Considerations in the Scheduled Events section of the Amazon EC2 User Guide.

Example 3: To modify the cron expression of an event window

The following modify-instance-event-window example modifies the cron expression of an event window. Specify the cron-expression parameter to modify the cron expression. You can't also specify the time-range parameter.

```
aws ec2 modify-instance-event-window \
  --region us-east-1 \
  --instance-event-window-id iew-0abcdef1234567890 \
  --cron-expression "* 21-23 * * 2,3"
```
Output:

```
{
  "InstanceEventWindow": {
    "InstanceEventWindowId": "iew-0abcdef1234567890",
    "Name": "myEventWindowName",
    "CronExpression": "* 21-23 * * 2,3",
    "AssociationTarget": {
      "InstanceIds": [
        "i-0abcdef1234567890",
        "i-0be35f9acb8ba01f0"
      ],
      "Tags": [],
      "DedicatedHostIds": []
    },
    "State": "creating",
    "Tags": [
      {
        "Key": "K1",
        "Value": "V1"
      }
    ]
  }
}
```

For event window constraints, see Considerations in the Scheduled Events section of the Amazon EC2 User Guide.

- For API details, see ModifyInstanceEventWindow in AWS CLI Command Reference.

modify-instance-maintenance-options

The following code example shows how to use modify-instance-maintenance-options.

AWS CLI

**Example 1: To disable the recovery behavior of an instance**

The following modify-instance-maintenance-options example disables simplified automatic recovery for a running or stopped instance.

```
aws ec2 modify-instance-maintenance-options \
  --instance-id i-0abcdef1234567890 \
```
--auto-recovery disabled

Output:

```
{
    "InstanceId": "i-0abcdef1234567890",
    "AutoRecovery": "disabled"
}
```

For more information, see Recover your instance in the Amazon EC2 User Guide for Linux Instances.

**Example 2: To set the recovery behavior of an instance to default**

The following modify-instance-maintenance-options example sets the automatic recovery behavior to default which enables simplified automatic recovery for supported instance types.

```
aws ec2 modify-instance-maintenance-options \
    --instance-id i-0abcdef1234567890 \
    --auto-recovery default
```

Output:

```
{
    "InstanceId": "i-0abcdef1234567890",
    "AutoRecovery": "default"
}
```

For more information, see Recover your instance in the Amazon EC2 User Guide for Linux Instances.

- For API details, see ModifyInstanceMaintenanceOptions in AWS CLI Command Reference.

modify-instance-metadata-options

The following code example shows how to use modify-instance-metadata-options.

**AWS CLI**

**Example 1: To enable IMDSv2**
The following `modify-instance-metadata-options` example configures the use of IMDSv2 on the specified instance.

```bash
aws ec2 modify-instance-metadata-options \
  --instance-id i-1234567898abcdef0 \
  --http-tokens required \
  --http-endpoint enabled
```

Output:

```
{
  "InstanceId": "i-1234567898abcdef0",
  "InstanceMetadataOptions": {
    "State": "pending",
    "HttpTokens": "required",
    "HttpPutResponseHopLimit": 1,
    "HttpEndpoint": "enabled"
  }
}
```

For more information, see [Instance metadata and user data](https://docs.aws.amazon.com/AmazonElasticComputeCloud/latest/UserGuide/instance-metadata.html) in the *Amazon Elastic Compute Cloud User Guide for Linux Instances*.

**Example 2: To disable instance metadata**

The following `modify-instance-metadata-options` example disables the use of all versions of instance metadata on the specified instance.

```bash
aws ec2 modify-instance-metadata-options \
  --instance-id i-1234567898abcdef0 \
  --http-endpoint disabled
```

Output:

```
{
  "InstanceId": "i-1234567898abcdef0",
  "InstanceMetadataOptions": {
    "State": "pending",
    "HttpTokens": "required",
    "HttpPutResponseHopLimit": 1,
  }
}
```
For more information, see [Instance metadata and user data](#) in the *Amazon Elastic Compute Cloud User Guide for Linux Instances*.

**Example 3: To enable instance metadata IPv6 endpoint for your instance**

The following `modify-instance-metadata-options` example shows you how to turn on the IPv6 endpoint for the instance metadata service.

```bash
aws ec2 modify-instance-metadata-options \
   --instance-id i-123456789abcdef0 \
   --http-protocol-ipv6 enabled \
   --http-endpoint enabled
```

Output:

```json
{
   "InstanceId": "i-123456789abcdef0",
   "InstanceMetadataOptions": {
      "State": "pending",
      "HttpTokens": "required",
      "HttpPutResponseHopLimit": 1,
      "HttpEndpoint": "enabled",
      "HttpProtocolIpv6": "enabled"
   }
}
```

By default, the IPv6 endpoint is disabled. This is true even if you have launched an instance into an IPv6-only subnet. The IPv6 endpoint for IMDS is only accessible on instances built on the Nitro System. For more information, see [Instance metadata and user data](#) in the *Amazon Elastic Compute Cloud User Guide for Linux Instances*.

- For API details, see [ModifyInstanceMetadataOptions](#) in *AWS CLI Command Reference*.

**modify-instance-placement**

The following code example shows how to use `modify-instance-placement`.

---

**Actions and scenarios**

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**AWS CLI**

**Example 1: To remove an instance's affinity with a Dedicated Host**

The following `modify-instance-placement` example removes an instance's affinity with a Dedicated Host and enables it to launch on any available Dedicated Host in your account that supports its instance type.

```bash
aws ec2 modify-instance-placement \
  --instance-id i-0e6ddf6187EXAMPLE \
  --affinity default
```

**Output:**

```json
{
  "Return": true
}
```

**Example 2: To establish affinity between an instance and the specified Dedicated Host**

The following `modify-instance-placement` example establishes a launch relationship between an instance and a Dedicated Host. The instance is only able to run on the specified Dedicated Host.

```bash
aws ec2 modify-instance-placement \
  --instance-id i-0e6ddf6187EXAMPLE \
  --affinity host \ 
  --host-id i-0e6ddf6187EXAMPLE
```

**Output:**

```json
{
  "Return": true
}
```

For more information, see [Modifying Instance Tenancy and Affinity](#) in the *Amazon Elastic Compute Cloud User Guide for Linux Instances*.

**Example 3: To move an instance to a placement group**
The following `modify-instance-placement` example moves an instance to a placement group, stop the instance, modify the instance placement, and then restart the instance.

```bash
aws ec2 stop-instances \
   --instance-ids i-0123a456700123456

aws ec2 modify-instance-placement \
   --instance-id i-0123a456700123456 \
   --group-name MySpreadGroup

aws ec2 start-instances \
   --instance-ids i-0123a456700123456
```

For more information, see [Changing the Placement Group for an Instance](#) in the [Amazon Elastic Compute Cloud Users Guide](#).

**Example 4: To remove an instance from a placement group**

The following `modify-instance-placement` example removes an instance from a placement group by stopping the instance, modifying the instance placement, and then restarting the instance. The following example specifies an empty string (""") for the placement group name to indicate that the instance is not to be located in a placement group.

Stop the instance:

```bash
aws ec2 stop-instances \
   --instance-ids i-0123a456700123456
```

Modify the placement (Windows Command Prompt, Linux, and macOS):

```bash
aws ec2 modify-instance-placement \
   --instance-id i-0123a456700123456 \
   --group-name ""
```

Modify the placement (Windows PowerShell):

```bash
aws ec2 modify-instance-placement `\n   --instance-id i-0123a456700123456 `\n   --group-name """
```
Restart the instance:

```
aws ec2 start-instances \
   --instance-ids i-0123a456700123456
```

Output:

```
{
    "Return": true
}
```

For more information, see Modifying Instance Tenancy and Affinity in the Amazon Elastic Compute Cloud User Guide for Linux Instances.

- For API details, see ModifyInstancePlacement in AWS CLI Command Reference.

modify-ipam

The following code example shows how to use modify-ipam.

AWS CLI

**To modify an IPAM**

The following modify-ipam example modifies an IPAM by adding an Operating Region.

(Linux):

```
aws ec2 modify-ipam \
   --ipam-id ipam-08440e7a3acde3908 \
   --add-operating-regions RegionName=us-west-2
```

(Windows):

```
aws ec2 modify-ipam ^
   --ipam-id ipam-08440e7a3acde3908 ^
   --add-operating-regions RegionName=us-west-2
```
```json
{
    "Ipam": {
        "OwnerId": "123456789012",
        "IpamId": "ipam-08440e7a3acde3908",
        "IpamArn": "arn:aws:ec2::123456789012:ipam/ipam-08440e7a3acde3908",
        "IpamRegion": "us-east-1",
        "PublicDefaultScopeId": "ipam-scope-0b9eed026396dbc16",
        "PrivateDefaultScopeId": "ipam-scope-02fc38cd4c48e7d38",
        "ScopeCount": 3,
        "OperatingRegions": [
            {
                "RegionName": "us-east-1"
            },
            {
                "RegionName": "us-east-2"
            },
            {
                "RegionName": "us-west-1"
            },
            {
                "RegionName": "us-west-2"
            }
        ],
        "State": "modify-in-progress"
    }
}
```

- For API details, see [ModifyIpam](/aws/cli/command-reference) in *AWS CLI Command Reference*.

**modify-ipam-pool**

The following code example shows how to use `modify-ipam-pool`.

**AWS CLI**

**To modify an IPAM pool**

The following `modify-ipam-pool` example modifies an IPAM pool.

(Linux):

```bash
aws ec2 modify-ipam-pool
```
--ipam-pool-id ipam-pool-0533048da7d823723 \ 
--add-allocation-resource-tags "Key=Owner,Value=Build Team" \ 
--clear-allocation-default-netmask-length \ 
--allocation-min-netmask-length 14

(Windows):

```bash
aws ec2 modify-ipam-pool ^
   --ipam-pool-id ipam-pool-0533048da7d823723 ^
   --add-allocation-resource-tags "Key=Owner,Value=Build Team" ^
   --clear-allocation-default-netmask-length ^
   --allocation-min-netmask-length 14
```

Output:

```
{
   "IpamPool": {
      "OwnerId": "123456789012",
      "IpamPoolId": "ipam-pool-0533048da7d823723",
      "IpamPoolArn": "arn:aws:ec2::123456789012:ipam-pool/ipam-pool-0533048da7d823723",
      "IpamScopeArn": "arn:aws:ec2::123456789012:ipam-scope/ipam-scope-02fc38cd4c48e7d38",
      "IpamScopeType": "private",
      "IpamArn": "arn:aws:ec2::123456789012:ipam/08440e7a3acde3908",
      "IpamRegion": "us-east-1",
      "Locale": "None",
      "PoolDepth": 1,
      "State": "modify-complete",
      "AutoImport": true,
      "AddressFamily": "ipv4",
      "AllocationMinNetmaskLength": 14,
      "AllocationMaxNetmaskLength": 26,
      "AllocationResourceTags": [
         {
            "Key": "Environment",
            "Value": "Preprod"
         },
         {
            "Key": "Owner",
            "Value": "Build Team"
         }
      ]
   }
}
modify-ipam-resource-cidr

The following code example shows how to use modify-ipam-resource-cidr.

AWS CLI

To modify the CIDR allocated to a resource

The following modify-ipam-resource-cidr example modifies a resource CIDR.

(Linux):

```
aws ec2 modify-ipam-resource-cidr
   --current-ipam-scope-id ipam-scope-02fc38cd4c48e7d38
   --destination-ipam-scope-id ipam-scope-0da34c61fd189a141
   --resource-id vpc-010e1791024eb0af9
   --resource-cidr 10.0.1.0/24
   --resource-region us-east-1
   --monitored
```

(Windows):

```
aws ec2 modify-ipam-resource-cidr ^
   --current-ipam-scope-id ipam-scope-02fc38cd4c48e7d38 ^
   --destination-ipam-scope-id ipam-scope-0da34c61fd189a141 ^
   --resource-id vpc-010e1791024eb0af9 ^
   --resource-cidr 10.0.1.0/24 ^
   --resource-region us-east-1 ^
   --monitored
```

Output:

```
{
   "IpamResourceCidr": {
```
"IpamId": "ipam-08440e7a3acde3908",
"IpamScopeId": "ipam-scope-0da34c61fd189a141",
"IpamPoolId": "ipam-pool-0533048da7d823723",
"ResourceRegion": "us-east-1",
"ResourceOwnerId": "123456789012",
"ResourceId": "vpc-010e1791024eb0af9",
"ResourceCidr": "10.0.1.0/24",
"ResourceType": "vpc",
"ResourceTags": [
  {
    "Key": "Environment",
    "Value": "Preprod"
  },
  {
    "Key": "Owner",
    "Value": "Build Team"
  }
],
"IpUsage": 0.0,
"ComplianceStatus": "noncompliant",
"ManagementState": "managed",
"OverlapStatus": "overlapping",
"VpcId": "vpc-010e1791024eb0af9"
]
}

For more information on moving resources, see [Move resource CIDRs between scopes](#) in the [Amazon VPC IPAM User Guide](#).

For more information on changing monitoring states, see [Change the monitoring state of resource CIDRs](#) in the [Amazon VPC IPAM User Guide](#).

- For API details, see [ModifyIpamResourceCidr](#) in [AWS CLI Command Reference](#).

modify-launch-template

The following code example shows how to use modify-launch-template.

AWS CLI

To change the default launch template version

This example specifies version 2 of the specified launch template as the default version.
Command:

```bash
aws ec2 modify-launch-template --launch-template-id lt-0abcd290751193123 --default-version 2
```

Output:

```json
{
   "LaunchTemplate": {
      "LatestVersionNumber": 2,
      "LaunchTemplateId": "lt-0abcd290751193123",
      "LaunchTemplateName": "WebServers",
      "DefaultVersionNumber": 2,
      "CreatedBy": "arn:aws:iam::123456789012:root",
      "CreateTime": "2017-12-01T13:35:46.000Z"
   }
}
```

- For API details, see [ModifyLaunchTemplate](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/modify-launch-template.html) in *AWS CLI Command Reference*.

modify-managed-prefix-list

The following code example shows how to use `modify-managed-prefix-list`.

**AWS CLI**

**To modify a prefix list**

The following `modify-managed-prefix-list` example adds an entry to the specified prefix list.

```bash
aws ec2 modify-managed-prefix-list \
   --prefix-list-id pl-0123456abcabcabc1 \
   --add-entries Cidr=10.1.0.0/16,Description=vpc-c \
   --current-version 1
```

Output:

```json
{
   "PrefixList": {
      "PrefixListId": "pl-0123456abcabcabc1",
      "Entries": [
         {
            "Cidr": "10.1.0.0/16",
            "Description": "vpc-c"
         }
      
```
"AddressFamily": "IPv4",
"State": "modify-in-progress",
"PrefixListName": "vpc-cidrs",
"MaxEntries": 10,
"Version": 1,
"OwnerId": "123456789012"
}
}

For more information, see Managed prefix lists in the Amazon VPC User Guide.

- For API details, see ModifyManagedPrefixList in AWS CLI Command Reference.

**modify-network-interface-attribute**

The following code example shows how to use modify-network-interface-attribute.

**AWS CLI**

**To modify the attachment attribute of a network interface**

This example command modifies the attachment attribute of the specified network interface.

Command:

```
aws ec2 modify-network-interface-attribute --network-interface-id eni-686ea200 --attachment AttachmentId=eni-attach-43348162,DeleteOnTermination=false
```

**To modify the description attribute of a network interface**

This example command modifies the description attribute of the specified network interface.

Command:

```
aws ec2 modify-network-interface-attribute --network-interface-id eni-686ea200 --description "My description"
```

**To modify the groupSet attribute of a network interface**
This example command modifies the groupSet attribute of the specified network interface.

Command:

```bash
aws ec2 modify-network-interface-attribute --network-interface-id eni-686ea200 --groups sg-903004f8 sg-1a2b3c4d
```

**To modify the sourceDestCheck attribute of a network interface**

This example command modifies the sourceDestCheck attribute of the specified network interface.

Command:

```bash
```

- For API details, see [ModifyNetworkInterfaceAttribute](https://docs.aws.amazon.com/AWSCommandLineReference/latest/APIReference/API_ModifyNetworkInterfaceAttribute.html) in *AWS CLI Command Reference*.

modify-private-dns-name-options

The following code example shows how to use modify-private-dns-name-options.

**AWS CLI**

**To modify the options for instance hostnames**

The following modify-private-dns-name-options example disables the option to respond to DNS queries for instance hostnames with DNS A records.

```bash
aws ec2 modify-private-dns-name-options \
   --instance-id i-1234567890abcdef0 \
   --no-enable-resource-name-dns-a-record
```

Output:

```json
{
   "Return": true
}
```
modify-reserved-instances

The following code example shows how to use modify-reserved-instances.

AWS CLI

To modify Reserved Instances

This example command moves a Reserved Instance to another Availability Zone in the same region.

Command:

```bash
aws ec2 modify-reserved-instances --reserved-instances-ids b847fa93-e282-4f55-b59a-1342f5bd7c02 --target-configurations AvailabilityZone=us-west-1c,Platform=EC2-Classic,InstanceCount=10
```

Output:

```json
{
   "ReservedInstancesModificationId": "rimod-d3ed4335-b1d3-4de6-ab31-0f13aaf46687"
}
```

To modify the network platform of Reserved Instances

This example command converts EC2-Classic Reserved Instances to EC2-VPC.

Command:

```bash
aws ec2 modify-reserved-instances --reserved-instances-ids f127bd27-edb7-44c9-a0eb-0d7e09259af0 --target-configurations AvailabilityZone=us-west-1c,Platform=EC2-VPC,InstanceCount=5
```

Output:

```json
{
   "ReservedInstancesModificationId": "rimod-82fa9020-668f-4fb6-945d-61537009d291"
}
```
For more information, see Modifying Your Reserved Instances in the *Amazon EC2 User Guide*.

**To modify the instance size of Reserved Instances**

This example command modifies a Reserved Instance that has 10 m1.small Linux/UNIX instances in us-west-1c so that 8 m1.small instances become 2 m1.large instances, and the remaining 2 m1.small become 1 m1.medium instance in the same Availability Zone. Command:

```
aws ec2 modify-reserved-instances --reserved-instances-ids 1ba8e2e3-3556-4264-949e-63ee671405a9 --target-configurations AvailabilityZone=us-west-1c,Platform=EC2-Classic,InstanceCount=2,InstanceType=m1.large AvailabilityZone=us-west-1c,Platform=EC2-Classic,InstanceCount=1,InstanceType=m1.medium
```

Output:

```
{
  "ReservedInstancesModificationId": "rimod-acc5f240-080d-4717-b3e3-1c6b11fa00b6"
}
```

For more information, see Modifying the Instance Size of Your Reservations in the *Amazon EC2 User Guide*.

- For API details, see [ModifyReservedInstances](https://docs.aws.amazon.com/cli/latest/reference/ec2/modify-reserved-instances.html) in *AWS CLI Command Reference*.

**modify-security-group-rules**

The following code example shows how to use `modify-security-group-rules`.

**AWS CLI**

To modify a security group rules to update the rule description, the IP protocol, and the CidrIpv4 address range

The following `modify-security-group-rules` example updates the description, the IP protocol, and the IPV4 CIDR range of a specified security group rule. Use the `security-group-rules` parameter to enter the updates for the specified security group rules. `-1` specifies all protocols.
aws ec2 modify-security-group-rules \
  --group-id sg-1234567890abcdef0 \
  --security-group-rules SecurityGroupRuleId=sgr-abcdef01234567890,SecurityGroupRule='{Description=test,IpProtocol=-1,CidrIpv4=0.0.0.0/0}"

Output:

```
{
  "Return": true
}
```

For more information about security group rules, see [Security group rules](#) in the Amazon EC2 User Guide.

- For API details, see [ModifySecurityGroupRules](#) in AWS CLI Command Reference.

modify-snapshot-attribute

The following code example shows how to use modify-snapshot-attribute.

**AWS CLI**

**Example 1: To modify a snapshot attribute**

The following modify-snapshot-attribute example updates the createVolumePermission attribute for the specified snapshot, removing volume permissions for the specified user.

```
aws ec2 modify-snapshot-attribute \
  --snapshot-id snap-1234567890abcdef0 \
  --attribute createVolumePermission \
  --operation-type remove \
  --user-ids 123456789012
```

**Example 2: To make a snapshot public**

The following modify-snapshot-attribute example makes the specified snapshot public.

```
aws ec2 modify-snapshot-attribute \
  --snapshot-id snap-1234567890abcdef0 \
  --attribute createVolumePermission \
```
modify-snapshot-tier

The following code example shows how to use modify-snapshot-tier.

**AWS CLI**

**Example 1: To archive a snapshot**

The following `modify-snapshot-tier` example archives the specified snapshot.

```
aws ec2 modify-snapshot-tier \
   --snapshot-id snap-01234567890abcedf \
   --storage-tier archive
```

**Output:**

```
{
   "SnapshotId": "snap-01234567890abcedf",
   "TieringStartTime": "2021-09-15T16:44:37.574Z"
}
```

The `TieringStartTime` response parameter indicates the date and time at which the archive process was started, in UTC time format (YYYY-MM-DDTHH:MM:SSZ).

For more information about snapshot archiving, see [Archive Amazon EBS snapshots](#) in the Amazon EC2 User Guide.

- For API details, see [ModifySnapshotAttribute](#) in AWS CLI Command Reference.

modify-spot-fleet-request

The following code example shows how to use modify-spot-fleet-request.

**AWS CLI**

**To modify a Spot fleet request**
This example command updates the target capacity of the specified Spot fleet request.

Command:

```bash
aws ec2 modify-spot-fleet-request --target-capacity 20 --spot-fleet-request-id sfr-73fbd2ce-aa30-494c-8788-1cee4EXAMPLE
```

Output:

```json
{
   "Return": true
}
```

This example command decreases the target capacity of the specified Spot fleet request without terminating any Spot Instances as a result.

Command:

```bash
aws ec2 modify-spot-fleet-request --target-capacity 10 --excess-capacity-termination-policy NoTermination --spot-fleet-request-ids sfr-73fbd2ce-aa30-494c-8788-1cee4EXAMPLE
```

Output:

```json
{
   "Return": true
}
```

- For API details, see [ModifySpotFleetRequest](https://docs.aws.amazon.com/cli/latest/reference/ec2/modify-spot-fleet-request.html) in *AWS CLI Command Reference*.

**modify-subnet-attribute**

The following code example shows how to use `modify-subnet-attribute`.

**AWS CLI**

**To change a subnet's public IPv4 addressing behavior**

This example modifies subnet-1a2b3c4d to specify that all instances launched into this subnet are assigned a public IPv4 address. If the command succeeds, no output is returned.
Command:

```
aws ec2 modify-subnet-attribute --subnet-id subnet-1a2b3c4d --map-public-ip-on-launch
```

**To change a subnet's IPv6 addressing behavior**

This example modifies subnet-1a2b3c4d to specify that all instances launched into this subnet are assigned an IPv6 address from the range of the subnet.

Command:

```
aws ec2 modify-subnet-attribute --subnet-id subnet-1a2b3c4d --assign-ipv6-address-on-creation
```

For more information, see IP Addressing in Your VPC in the *AWS Virtual Private Cloud User Guide*.

- For API details, see [ModifySubnetAttribute](https://docs.aws.amazon.com/cli/latest/reference/ec2/modify-subnet-attribute.html) in *AWS CLI Command Reference*.

modify-traffic-mirror-filter-network-services

The following code example shows how to use `modify-traffic-mirror-filter-network-services`.

**AWS CLI**

**To add network services to a Traffic Mirror filter**

The following `modify-traffic-mirror-filter-network-services` example adds the Amazon DNS network services to the specified filter.

```
aws ec2 modify-traffic-mirror-filter-network-services \
    --traffic-mirror-filter-id tmf-04812ff784EXAMPLE \
    --add-network-service amazon-dns
```

Output:

```
{
```
"TrafficMirrorFilter": {
   "Tags": [
      {
         "Key": "Name",
         "Value": "Production"
      }
   ],
   "EgressFilterRules": [],
   "NetworkServices": [
      "amazon-dns"
   ],
   "TrafficMirrorFilterId": "tmf-04812ff784EXAMPLE",
   "IngressFilterRules": [
      {
         "SourceCidrBlock": "0.0.0.0/0",
         "RuleNumber": 1,
         "DestinationCidrBlock": "0.0.0.0/0",
         "Description": "TCP Rule",
         "Protocol": 6,
         "TrafficDirection": "ingress",
         "TrafficMirrorFilterId": "tmf-04812ff784EXAMPLE",
         "RuleAction": "accept",
         "TrafficMirrorFilterRuleId": "tmf-04812ff784EXAMPLE"
      }
   ]
}

For more information, see [Modify Traffic Mirror Filter Network Services](https://aws.amazon.com/documentation/traffic-mirroring/) in the *AWS Traffic Mirroring Guide*.

- For API details, see [ModifyTrafficMirrorFilterNetworkServices](https://docs.aws.amazon.com/cli/latest/reference/traffic-mirroring/modify-traffic-mirror-filter-network-services.html) in *AWS CLI Command Reference*.

### modify-traffic-mirror-filter-rule

The following code example shows how to use modify-traffic-mirror-filter-rule.

**AWS CLI**

**To modify a traffic mirror filter rule**

The following modify-traffic-mirror-filter-rule example modifies the description of the specified traffic mirror filter rule.
aws ec2 modify-traffic-mirror-filter-rule \
--traffic-mirror-filter-rule-id tmfr-0ca76e0e08EXAMPLE \
--description "TCP Rule"

Output:

```
{
    "TrafficMirrorFilterRule": {
        "TrafficMirrorFilterRuleId": "tmfr-0ca76e0e08EXAMPLE",
        "TrafficMirrorFilterId": "tmf-0293f26e86EXAMPLE",
        "TrafficDirection": "ingress",
        "RuleNumber": 100,
        "RuleAction": "accept",
        "Protocol": 6,
        "DestinationCidrBlock": "10.0.0.0/24",
        "SourceCidrBlock": "10.0.0.0/24",
        "Description": "TCP Rule"
    }
}
```

For more information, see [Modify Your Traffic Mirror Filter Rules](https://docs.aws.amazon.com/traffic-mirroring/latest/guide/modify-traffic-mirror-filter-rule.html) in the *AWS Traffic Mirroring Guide*.

- For API details, see [ModifyTrafficMirrorFilterRule](https://docs.aws.amazon.com/cli/latest/reference/ec2/modify-traffic-mirror-filter-rule.html) in *AWS CLI Command Reference*.

modify-traffic-mirror-session

The following code example shows how to use `modify-traffic-mirror-session`.

**AWS CLI**

**To modify a traffic mirror session**

The following modify-traffic-mirror-session example changes the traffic mirror session description and the number of packets to mirror.

```
aws ec2 modify-traffic-mirror-session \
--description "Change packet length" \
--traffic-mirror-session-id tms-08a33b1214EXAMPLE \
--remove-fields "packet-length"
```
For more information, see Modify your traffic mirror session in the Traffic Mirroring Guide.

- For API details, see ModifyTrafficMirrorSession in AWS CLI Command Reference.

modify-transit-gateway

The following code example shows how to use modify-transit-gateway.

AWS CLI

To modify a transit gateway

The following modify-transit-gateway example modifies the specified transit gateway by enabling ECMP support for VPN attachments.

```
aws ec2 modify-transit-gateway \
   --transit-gateway-id tgw-111111222222aaaaa \
   --options VpnEcmpSupport=enable
```

Output:

```
{
  "TransitGateway": {
    "TransitGatewayId": "tgw-111111222222aaaaa",
    "TransitGatewayArn": "64512",
  }
}
```
"State": "modifying",
"OwnerId": "123456789012",
"CreationTime": "2020-04-30T08:41:37.000Z",
"Options": {
    "AmazonSideAsn": 64512,
    "AutoAcceptSharedAttachments": "disable",
    "DefaultRouteTableAssociation": "enable",
    "AssociationDefaultRouteTableId": "tgw-rtb-0123456789abcd123",
    "DefaultRouteTablePropagation": "enable",
    "PropagationDefaultRouteTableId": "tgw-rtb-0123456789abcd123",
    "VpnEcmpSupport": "enable",
    "DnsSupport": "enable"
}

For more information, see Transit gateways in the Transit Gateways Guide.

- For API details, see ModifyTransitGateway in AWS CLI Command Reference.

modify-transit-gateway-prefix-list-reference

The following code example shows how to use modify-transit-gateway-prefix-list-reference.

**AWS CLI**

**To modify a reference to a prefix list**

The following modify-transit-gateway-prefix-list-reference example modifies the prefix list reference in the specified route table by changing the attachment to which traffic is routed.

```bash
aws ec2 modify-transit-gateway-prefix-list-reference \
    --transit-gateway-route-table-id tgw-rtb-0123456789abcd123 \
    --prefix-list-id pl-11111112222222333 \
    --transit-gateway-attachment-id tgw-attach-aabbccdaabbccaaab
```

Output:

```
{
    "TransitGatewayPrefixListReference": {
```
"TransitGatewayRouteTableId": "tgw-rtb-0123456789abcd123",
"PrefixListId": "pl-1111112222222333",
"PrefixListOwnerId": "123456789012",
"State": "modifying",
"Blackhole": false,
"TransitGatewayAttachment": {
  "TransitGatewayAttachmentId": "tgw-attach-aabbccddaabbccaab",
  "ResourceType": "vpc",
  "ResourceId": "vpc-112233445566aabbcc"
}
}

For more information, see Prefix list references in the Transit Gateways Guide.

- For API details, see ModifyTransitGatewayPrefixListReference in AWS CLI Command Reference.

modify-transit-gateway-vpc-attachment

The following code example shows how to use modify-transit-gateway-vpc-attachment.

AWS CLI

To modify a transit gateway VPC attachment

The following modify-transit-gateway-vpc-attachment example adds a subnet to the specified transit gateway VPC attachment.

aws ec2 modify-transit-gateway-vpc-attachment \
  --transit-gateway-attachment-id tgw-attach-09fbd47ddfEXAMPLE \ 
  --add-subnet-ids subnet-0e51f45802EXAMPLE

Output:

{
  "TransitGatewayVpcAttachment": {
    "TransitGatewayAttachmentId": "tgw-attach-09fbd47ddfEXAMPLE",
    "TransitGatewayId": "tgw-0560315ccfEXAMPLE",
    "VpcId": "vpc-5ecce927",
    "VpcOwnerId": "111122223333",
    "State": "modifying",
    "SubnetIds": [
    ]
  }
}
modify-verified-access-endpoint

The following code example shows how to use modify-verified-access-endpoint.

AWS CLI

To modify the configuration of a Verified Access endpoint

The following modify-verified-access-endpoint example adds the specified description to the specified Verified Access endpoint.

```bash
aws ec2 modify-verified-access-endpoint \
   --verified-access-endpoint-id vae-066fac616d4d546f2 \
   --description "Testing Verified Access"
```

Output:

```json
{
   "VerifiedAccessEndpoint": {
      "VerifiedAccessInstanceId": "vai-0ce000c0b7643abea",
      "VerifiedAccessGroupId": "vagr-0dbe967baf14b7235",
      "VerifiedAccessEndpointId": "vae-066fac616d4d546f2",
      "ApplicationDomain": "example.com",
      "EndpointType": "network-interface",
      "AttachmentType": "vpc",
      "DomainCertificateArn": "arn:aws:acm:us-east-2:123456789012:certificate/eb065ea0-26f9-4e75-a6ce-0a1a7EXAMPLE",
```

For more information, see [Transit gateway attachments to a VPC](https://docs.aws.amazon.com/transit-gateways/latest/userguide/attachments.html) in the [Transit Gateways Guide](https://docs.aws.amazon.com/transit-gateways/latest/userguide/).

"EndpointDomain": "my-ava-app.edge-00c3372d53b1540bb.vai-0ce000c0b7643abea.prod.verified-access.us-east-2.amazonaws.com",
  "SecurityGroupIds": [
    "sg-004915970c4c8f13a"
  ],
  "NetworkInterfaceOptions": {
    "NetworkInterfaceId": "eni-0a0e70418c8d87a0f",
    "Protocol": "https",
    "Port": 443
  },
  "Status": {
    "Code": "updating"
  },
  "Description": "Testing Verified Access",
  "CreationTime": "2023-08-25T20:54:43",
  "LastUpdatedTime": "2023-08-25T22:46:32"
}
}

For more information, see [Verified Access endpoints](#) in the [AWS Verified Access User Guide](#).

- For API details, see [ModifyVerifiedAccessEndpoint](#) in [AWS CLI Command Reference](#).

modify-verified-access-endpoint-policy

The following code example shows how to use modify-verified-access-endpoint-policy.

**AWS CLI**

**To configure the Verified Access policy for an endpoint**

The following modify-verified-access-endpoint-policy example adds the specified Verified Access policy to the specified Verified Access endpoint.

```
aws ec2 modify-verified-access-endpoint-policy \
  --verified-access-endpoint-id vae-066fac616d4d546f2 \
  --policy-enabled \
  --policy-document file://policy.txt
```

**Contents of policy.txt:**

```
permit(principal,action,resource)
```
when {
    context.identity.groups.contains("finance")
    && context.identity.email_verified == true
};

Output:

{
    "PolicyEnabled": true,
    "PolicyDocument": "permit(principal,action,resource)\nwhen {
    context.identity.groups.contains("finance") &&
    context.identity.email_verified == true\n};"}

For more information, see [Verified Access policies](#) in the *AWS Verified Access User Guide*.

- For API details, see [ModifyVerifiedAccessEndpointPolicy](#) in *AWS CLI Command Reference*.

modify-verified-access-group

The following code example shows how to use `modify-verified-access-group`.

AWS CLI

**To modify the configuration of a Verified Access group**

The following `modify-verified-access-group` example adds the specified description to the specified Verified Access group.

```
aws ec2 modify-verified-access-group \
    --verified-access-group-id vagr-0dbe967baf14b7235 \ 
    --description "Testing Verified Access"
```

Output:

```
{
    "VerifiedAccessGroup": {
        "VerifiedAccessGroupId": "vagr-0dbe967baf14b7235",
        "VerifiedAccessInstanceId": "vai-0ce000c0b7643abea",
        "Description": "Testing Verified Access",
        "Owner": "123456789012",
    }
}
```
For more information, see [Verified Access groups](#) in the [AWS Verified Access User Guide](#).

- For API details, see [ModifyVerifiedAccessGroup](#) in [AWS CLI Command Reference](#).

### modify-verified-access-group-policy

The following code example shows how to use `modify-verified-access-group-policy`.

**AWS CLI**

**To configure a Verified Access policy for a group**

The following `modify-verified-access-group-policy` example adds the specified Verified Access policy to the specified Verified Access group.

```bash
aws ec2 modify-verified-access-group-policy \
    --verified-access-group-id vagr-0dbe967baf14b7235 \
    --policy-enabled \
    --policy-document file://policy.txt
```

Contents of `policy.txt`:

```plaintext
permit(principal,action,resource)
when {
    context.identity.groups.contains("finance") &&
    context.identity.email_verified == true
};
```

Output:

```json
{
    "PolicyEnabled": true,
    "PolicyDocument": "permit(principal,action,resource)\nwhen {
    context.identity.groups.contains("finance") &&
    context.identity.email_verified == true\n};"
}
```
modify-verified-access-instance

The following code example shows how to use modify-verified-access-instance.

AWS CLI

To modify the configuration of a Verified Access instance

The following modify-verified-access-instance example adds the specified description to the specified Verified Access instance.

```
aws ec2 modify-verified-access-instance \\
   --verified-access-instance-id vai-0ce000c0b7643abea \\
   --description "Testing Verified Access"
```

Output:

```
{
   "VerifiedAccessInstance": {
      "VerifiedAccessInstanceId": "vai-0ce000c0b7643abea",
      "Description": "Testing Verified Access",
      "VerifiedAccessTrustProviders": [
         {
            "VerifiedAccessTrustProviderId": "vatp-0bb32de759a3e19e7",
            "TrustProviderType": "user",
            "UserTrustProviderType": "iam-identity-center"
         }
      ],
      "CreationTime": "2023-08-25T18:27:56",
      "LastUpdatedTime": "2023-08-25T22:41:04"
   }
}
```

For more information, see Verified Access instances in the AWS Verified Access User Guide.

- For API details, see ModifyVerifiedAccessInstance in AWS CLI Command Reference.
modify-verified-access-instance-logging-configuration

The following code example shows how to use modify-verified-access-instance-logging-configuration.

AWS CLI

To enable logging for a Verified Access instance

The following modify-verified-access-instance-logging-configuration example enables access logging for the specified Verified Access instance. The logs will be delivered to the specified CloudWatch Logs log group.

```bash
aws ec2 modify-verified-access-instance-logging-configuration \
   --verified-access-instance-id vai-0ce000c0b7643abea \
   --access-logs CloudWatchLogs={Enabled=true,LogGroup=my-log-group}
```

Output:

```
{
   "LoggingConfiguration": {
      "VerifiedAccessInstanceId": "vai-0ce000c0b7643abea",
      "AccessLogs": {
         "S3": {
            "Enabled": false
         },
         "CloudWatchLogs": {
            "Enabled": true,
            "DeliveryStatus": {
               "Code": "success"
            },
            "LogGroup": "my-log-group"
         },
         "KinesisDataFirehose": {
            "Enabled": false
         },
         "LogVersion": "ocsf-1.0.0-rc.2",
         "IncludeTrustContext": false
      }
   }
}
```

For more information, see [Verified Access logs](https://docs.aws.amazon.com/verified-access/latest/userguide/verified-access-logs.html) in the *AWS Verified Access User Guide*.
modify-verified-access-trust-provider

The following code example shows how to use modify-verified-access-trust-provider.

**AWS CLI**

To modify the configuration of a Verified Access trust provider

The following modify-verified-access-trust-provider example adds the specified description to the specified Verified Access trust provider.

```bash
aws ec2 modify-verified-access-trust-provider \
   --verified-access-trust-provider-id vatp-0bb32de759a3e19e7 \ 
   --description "Testing Verified Access"
```

Output:

```json
{
   "VerifiedAccessTrustProvider": {
      "VerifiedAccessTrustProviderId": "vatp-0bb32de759a3e19e7",
      "Description": "Testing Verified Access",
      "TrustProviderType": "user",
      "UserTrustProviderType": "iam-identity-center",
      "PolicyReferenceName": "idc",
      "CreationTime": "2023-08-25T19:00:38",
      "LastUpdatedTime": "2023-08-25T19:18:21"
   }
}
```

For more information, see Trust providers for Verified Access in the AWS Verified Access User Guide.


modify-volume

The following code example shows how to use modify-volume.
Example 1: To modify a volume by changing its size

The following modify-volume example changes the size of the specified volume to 150GB.

Command:

```bash
aws ec2 modify-volume --size 150 --volume-id vol-1234567890abcdef0
```

Output:

```
{
   "VolumeModification": {
       "TargetSize": 150,
       "TargetVolumeType": "io1",
       "ModificationState": "modifying",
       "VolumeId": " vol-1234567890abcdef0",
       "TargetIops": 100,
       "StartTime": "2019-05-17T11:27:19.000Z",
       "Progress": 0,
       "OriginalVolumeType": "io1",
       "OriginalIops": 100,
       "OriginalSize": 100
   }
}
```

Example 2: To modify a volume by changing its type, size, and IOPS value

The following modify-volume example changes the volume type to Provisioned IOPS SSD, sets the target IOPS rate to 10000, and sets the volume size to 350GB.

```bash
aws ec2 modify-volume \
   --volume-type io1 \
   --iops 10000 \ 
   --size 350 \ 
   --volume-id vol-1234567890abcdef0
```

Output:

```
{
   "VolumeModification": {
   
   }
}
```
modify-volume-attribute

The following code example shows how to use modify-volume-attribute.

AWS CLI

To modify a volume attribute

This example sets the autoEnableIo attribute of the volume with the ID vol-1234567890abcdef0 to true. If the command succeeds, no output is returned.

Command:

```bash
aws ec2 modify-volume-attribute --volume-id vol-1234567890abcdef0 --auto-enable-io
```

modify-vpc-attribute

The following code example shows how to use modify-vpc-attribute.

AWS CLI

To modify the enableDnsSupport attribute

This example modifies the enableDnsSupport attribute. This attribute indicates whether DNS resolution is enabled for the VPC. If this attribute is true, the Amazon DNS server resolves DNS

• For API details, see ModifyVolumeAttribute in AWS CLI Command Reference.
hostnames for your instances to their corresponding IP addresses; otherwise, it does not. If the command succeeds, no output is returned.

Command:

```
aws ec2 modify-vpc-attribute --vpc-id vpc-a01106c2 --enable-dns-support "{"Value ":false}"
```

To modify the enableDnsHostnames attribute

This example modifies the enableDnsHostnames attribute. This attribute indicates whether instances launched in the VPC get DNS hostnames. If this attribute is `true`, instances in the VPC get DNS hostnames; otherwise, they do not. If the command succeeds, no output is returned.

Command:

```
aws ec2 modify-vpc-attribute --vpc-id vpc-a01106c2 --enable-dns-hostnames "{"Value ":false}"
```

• For API details, see [ModifyVpcAttribute](https://docs.aws.amazon.com/AWS_CLI/latest/CLI-Reference/Commands/modify-vpc-attribute.html) in [AWS CLI Command Reference](https://docs.aws.amazon.com/AWS_CLI/latest/CLI-Reference/).  

modify-vpc-endpoint

The following code example shows how to use `modify-vpc-endpoint`.

**AWS CLI**

**To modify a gateway endpoint**

This example modifies gateway endpoint `vpce-1a2b3c4d` by associating route table `rtb-aaa222bb` with the endpoint, and resetting the policy document.

Command:

```
aws ec2 modify-vpc-endpoint --vpc-endpoint-id vpce-1a2b3c4d --add-route-table-ids rtb-aaa222bb --reset-policy
```

Output:

```
{
    "Return": true
}
```
To modify an interface endpoint

This example modifies interface endpoint `vpce-0fe5b17a0707d6fa5` by adding subnet `subnet-d6fcaa8d` to the endpoint.

Command:

```bash
aws ec2 modify-vpc-endpoint --vpc-endpoint-id vpce-0fe5b17a0707d6fa5 --add-subnet-id subnet-d6fcaa8d
```

Output:

```json
{
   "Return": true
}
```


modify-vpc-endpoint-connection-notification

The following code example shows how to use `modify-vpc-endpoint-connection-notification`.

AWS CLI

To modify an endpoint connection notification

This example changes the SNS topic for the specified endpoint connection notification.

Command:

```bash
```

Output:

```json
{
   "ReturnValue": true
}
```
modify-vpc-endpoint-service-configuration

The following code example shows how to use `modify-vpc-endpoint-service-configuration`.

**AWS CLI**

**To modify an endpoint service configuration**

This example changes the acceptance requirement for the specified endpoint service.

Command:

```
aws ec2 modify-vpc-endpoint-service-configuration --service-id vpce-svc-09222513e6e77dc86 --no-acceptance-required
```

Output:

```
{
   "ReturnValue": true
}
```

For API details, see [ModifyVpcEndpointServiceConfiguration](https://docs.aws.amazon.com/cli/latest/reference/ec2/modify-vpc-endpoint-service-configuration.html) in *AWS CLI Command Reference*.

modify-vpc-endpoint-service-payer-responsibility

The following code example shows how to use `modify-vpc-endpoint-service-payer-responsibility`.

**AWS CLI**

**To modify the payer responsibility**

The following `modify-vpc-endpoint-service-payer-responsibility` example modifies the payer responsibility of the specified endpoint service.
This command produces no output.

- For API details, see [ModifyVpcEndpointServicePayerResponsibility](#) in AWS CLI Command Reference.

modify-vpc-endpoint-service-permissions

The following code example shows how to use modify-vpc-endpoint-service-permissions.

**AWS CLI**

**To modify endpoint service permissions**

This example adds permission for an AWS account to connect to the specified endpoint service.

Command:

```
aws ec2 modify-vpc-endpoint-service-permissions --service-id vpce-svc-03d5ebb7d9579a2b3 --add-allowed-principals '["arn:aws:iam::123456789012:root"]'
```

Output:

```
{
   "ReturnValue": true
}
```

This example adds permission for a specific IAM user (admin) to connect to the specified endpoint service.

Command:

```
aws ec2 modify-vpc-endpoint-service-permissions --service-id vpce-svc-03d5ebb7d9579a2b3 --add-allowed-principals '["arn:aws:iam::123456789012:user/admin"]'
```

- For API details, see [ModifyVpcEndpointServicePermissions](#) in AWS CLI Command Reference.
modify-vpc-peering-connection-options

The following code example shows how to use modify-vpc-peering-connection-options.

AWS CLI

To enable communication over a VPC peering connection from your local ClassicLink connection

In this example, for peering connection pcx-aaaabbb, the owner of the requester VPC modifies the VPC peering connection options to enable a local ClassicLink connection to communicate with the peer VPC.

Command:

```bash
aws ec2 modify-vpc-peering-connection-options --vpc-peering-connection-id pcx-aaaabbbb --requester-peering-connection-options
   AllowEgressFromLocalClassicLinkToRemoteVpc=true
```

Output:

```
{
   "RequesterPeeringConnectionOptions": {
      "AllowEgressFromLocalClassicLinkToRemoteVpc": true
   }
}
```

To enable communication over a VPC peering connection from your local VPC to a remote ClassicLink connection

In this example, the owner of the accepter VPC modifies the VPC peering connection options to enable the local VPC to communicate with the ClassicLink connection in the peer VPC.

Command:

```bash
aws ec2 modify-vpc-peering-connection-options --vpc-peering-connection-id pcx-aaaabbbb --accepter-peering-connection-options
   AllowEgressFromLocalVpcToRemoteClassicLink=true
```

Output:
To enable DNS resolution support for the VPC peering connection

In this example, the owner of the requester VPC modifies the VPC peering connection options for `pcx-aaaabbbb` to enable the local VPC to resolve public DNS hostnames to private IP addresses when queried from instances in the peer VPC.

Command:

```
```

Output:

```
{
   "RequesterPeeringConnectionOptions": {
      "AllowDnsResolutionFromRemoteVpc": true
   }
}
```

- For API details, see [ModifyVpcPeeringConnectionOptions](#) in *AWS CLI Command Reference*.

### modify-vpc-tenancy

The following code example shows how to use `modify-vpc-tenancy`.

**AWS CLI**

To modify the tenancy of a VPC

This example modifies the tenancy of VPC `vpc-1a2b3c4d` to default.

Command:

```
aws ec2 modify-vpc-tenancy --vpc-id vpc-1a2b3c4d --instance-tenancy default
```
modify-vpn-connection

The following code example shows how to use modify-vpn-connection.

AWS CLI

To modify a VPN connection

The following modify-vpn-connection example changes the target gateway for VPN connection vpn-12345678901234567 to virtual private gateway vgw-11223344556677889:

```bash
aws ec2 modify-vpn-connection \
    --vpn-connection-id vpn-12345678901234567 \
    --vpn-gateway-id vgw-11223344556677889
```

Output:

```json
{
    "VpnConnection": {
        "CustomerGatewayConfiguration": "...configuration information...",
        "CustomerGatewayId": "cgw-aabbccdde1122334",
        "Category": "VPN",
        "State": "modifying",
        "Type": "ipsec.1",
        "VpnConnectionId": "vpn-12345678901234567",
        "VpnGatewayId": "vgw-11223344556677889",
        "Options": {
            "StaticRoutesOnly": false
        },
        "VgwTelemetry": [
            {
                "AcceptedRouteCount": 0,
                "LastStatusChange": "2019-07-17T07:34:00.000Z",
                "OutsideIpAddress": "18.210.3.222",
            }
        ]
    }
}
```
The following code example shows how to use `modify-vpn-connection-options`.

### AWS CLI

**To modify your VPN connection options**

The following `modify-vpn-connection-options` example modifies the local IPv4 CIDR on the customer gateway side of the specified VPN connection.

```
aws ec2 modify-vpn-connection-options \\
  --vpn-connection-id vpn-1122334455aabbcccd \\
  --local-ipv4-network-cidr 10.0.0.0/16
```

**Output:**

```
{
  "VpnConnections": [
    {
      "CustomerGatewayConfiguration": "...configuration information...",
      "CustomerGatewayId": "cgw-01234567abcde1234",
      "Category": "VPN",
      "State": "modifying",
      "Type": "ipsec.1",
      "VpnConnectionId": "vpn-1122334455aabbcccd",
    }
  ]
}
```
"TransitGatewayId": "tgw-00112233445566aab",
"Options": {
  "EnableAcceleration": false,
  "StaticRoutesOnly": true,
  "LocalIpv4NetworkCidr": "10.0.0.0/16",
  "RemoteIpv4NetworkCidr": "0.0.0.0/0",
  "TunnelInsideIpVersion": "ipv4"
},
"Routes": [],
"Tags": [
  {
    "Key": "Name",
    "Value": "CanadaVPN"
  }
],
"VgwTelemetry": [
  {
    "AcceptedRouteCount": 0,
    "LastStatusChange": "2020-07-29T10:35:11.000Z",
    "OutsideIpAddress": "203.0.113.3",
    "Status": "DOWN",
    "StatusMessage":"
  },
  {
    "AcceptedRouteCount": 0,
    "LastStatusChange": "2020-09-02T09:09:33.000Z",
    "OutsideIpAddress": "203.0.113.5",
    "Status": "UP",
    "StatusMessage":"
  }
]
]
}

For more information, see Modifying Site-to-Site VPN connection options in the AWS Site-to-Site VPN User Guide.

- For API details, see ModifyVpnConnectionOptions in AWS CLI Command Reference.

modify-vpn-tunnel-certificate

The following code example shows how to use modify-vpn-tunnel-certificate.
AWS CLI

To rotate a VPN tunnel certificate

The following `modify-vpn-tunnel-certificate` example rotates the certificate for the specified tunnel for a VPN connection

```
aws ec2 modify-vpn-tunnel-certificate \
  --vpn-tunnel-outside-ip-address 203.0.113.17 \
  --vpn-connection-id vpn-12345678901234567
```

Output:

```
{
  "VpnConnection": {
    "CustomerGatewayConfiguration": ...configuration information..., 
    "CustomerGatewayId": "cgw-aabbccddeee1122334", 
    "Category": "VPN", 
    "State": "modifying", 
    "Type": "ipsec.1", 
    "VpnConnectionId": "vpn-12345678901234567", 
    "VpnGatewayId": "vgw-11223344556677889", 
    "Options": {
      "StaticRoutesOnly": false
    },
    "VgwTelemetry": [
      {
        "AcceptedRouteCount": 0,
        "LastStatusChange": "2019-09-11T17:27:14.000Z",
        "OutsideIpAddress": "203.0.113.17",
        "Status": "DOWN",
        "StatusMessage": "IPSEC IS DOWN",
        "CertificateArn": "arn:aws:acm:us-east-1:123456789101:certificate/c544d8ce-20b8-4fff-98b0-example"
      },
      {
        "AcceptedRouteCount": 0,
        "LastStatusChange": "2019-09-11T17:26:47.000Z",
        "OutsideIpAddress": "203.0.114.18",
        "Status": "DOWN",
        "StatusMessage": "IPSEC IS DOWN",
        "CertificateArn": "arn:aws:acm:us-east-1:123456789101:certificate/5ab64566-761b-4ad3-b259-example"
      }
    ]
  }
}
```
modify-vpn-tunnel-options

The following code example shows how to use modify-vpn-tunnel-options.

**AWS CLI**

To modify the tunnel options for a VPN connection

The following modify-vpn-tunnel-options example updates the Diffie-Hellman groups that are permitted for the specified tunnel and VPN connection.

```bash
aws ec2 modify-vpn-tunnel-options \
   --vpn-connection-id vpn-12345678901234567 \
   --vpn-tunnel-outside-ip-address 203.0.113.17 \
   --tunnel-options Phase1DHGroupNumbers=[{Value=14},{Value=15},{Value=16}, {Value=17},{Value=18}],Phase2DHGroupNumbers=[{Value=14},{Value=15},{Value=16}, {Value=17},{Value=18}]
```

Output:

```json
{
   "VpnConnection": {
      "CustomerGatewayConfiguration": "...configuration information...",
      "CustomerGatewayId": "cgw-aabbccddeee1122334",
      "Category": "VPN",
      "State": "available",
      "Type": "ipsec.1",
      "VpnConnectionId": "vpn-12345678901234567",
      "VpnGatewayId": "vgw-11223344556677889",
      "Options": {
         "StaticRoutesOnly": false,
         "TunnelOptions": [
            {
               "OutsideIpAddress": "203.0.113.17",
               "Phase1DHGroupNumbers": ["14","15","16","17","18""]
            }
         ]
      }
   }
}
```
For API details, see [ModifyVpnTunnelOptions](https://docs.aws.amazon.com/cli/latest/reference/ec2/modify-vpn-tunnel-options.html) in *AWS CLI Command Reference*.

### move-address-to-vpc

The following code example shows how to use move-address-to-vpc.

**AWS CLI**

**To move an address to EC2-VPC**

This example moves Elastic IP address 54.123.4.56 to the EC2-VPC platform.

**Command:**

```bash
aws ec2 move-address-to-vpc --public-ip 54.123.4.56
```

**Output:**

```json
{
   "Status": "MoveInProgress"
}
```

For API details, see [MoveAddressToVpc](https://docs.aws.amazon.com/cli/latest/reference/ec2/move-address-to-vpc.html) in *AWS CLI Command Reference*.

### move-byoip-cidr-to-ipam

The following code example shows how to use move-byoip-cidr-to-ipam.
AWS CLI

To transfer a BYOIP CIDR to IPAM

The following `move-byoip-cidr-to-ipam` example transfers a BYOIP CIDR to IPAM.

(Linux):

```
aws ec2 move-byoip-cidr-to-ipam \
  --region us-west-2 \
  --ipam-pool-id ipam-pool-0a03d430ca3f5c035 \
  --ipam-pool-owner 111111111111 \
  --cidr 130.137.249.0/24
```

(Windows):

```
aws ec2 move-byoip-cidr-to-ipam ^
  --region us-west-2 ^
  --ipam-pool-id ipam-pool-0a03d430ca3f5c035 ^
  --ipam-pool-owner 111111111111 ^
  --cidr 130.137.249.0/24
```

Output:

```json
{
  "ByoipCidr": {
    "Cidr": "130.137.249.0/24",
    "State": "pending-transfer"
  }
}
```

For more information, see Tutorial: Transfer an existing BYOIP IPv4 CIDR to IPAM in the Amazon VPC IPAM User Guide.

- For API details, see MoveByoipCidrToIpam in AWS CLI Command Reference.

network-insights-access-scope

The following code example shows how to use `network-insights-access-scope`.

AWS CLI

To create Network Insights access scopes
The following `create-network-insights-access-scope` example creates a network insights access scope in your AWS account.

```bash
aws ec2 create-network-insights-access-scope
  --cli-input-json file://access-scope-file.json
```

Contents of `access-scope-file.json`:

```json
{
  
  "MatchPaths": [
    {
      "Source": {
        "ResourceStatement": {
          "Resources": [
            "vpc-abcd12e3"
          ]
        }
      }
    }
  ],

  "ExcludePaths": [
    {
      "Source": {
        "ResourceStatement": {
          "ResourceTypes": [
            "AWS::EC2::InternetGateway"
          ]
        }
      }
    }
  ]
}
```

Output:

```json
{
  "NetworkInsightsAccessScopeAnalysisId": "nisa-123456789111"
}
{
  "NetworkInsightsAccessScope": {
    "NetworkInsightsAccessScopeId": "nis-123456789222",
    
```
For more information, see Getting started with Network Access Analyzer using the AWS CLI in the Network Access Analyzer Guide.

- For API details, see NetworkInsightsAccessScope in AWS CLI Command Reference.

provision-byoip-cidr

The following code example shows how to use provision-byoip-cidr.
AWS CLI

To provision an address range

The following provision-byoip-cidr example provisions a public IP address range for use with AWS.

```bash
aws ec2 provision-byoip-cidr \
  --cidr 203.0.113.25/24 \
  --cidr-authorization-context Message="$text_message",Signature="$signed_message"
```

Output:

```json
{
  "ByoipCidr": {
    "Cidr": "203.0.113.25/24",
    "State": "pending-provision"
  }
}
```

For more information about creating the messages strings for the authorization context, see Bring Your Own IP Addresses in the Amazon EC2 User Guide.

- For API details, see ProvisionByoipCidr in AWS CLI Command Reference.

provision-ipam-pool-cidr

The following code example shows how to use provision-ipam-pool-cidr.

AWS CLI

To provision a CIDR to an IPAM pool

The following provision-ipam-pool-cidr example provisions a CIDR to an IPAM pool.

(Linux):

```bash
aws ec2 provision-ipam-pool-cidr \
  --ipam-pool-id ipam-pool-0533048da7d823723 \
  --cidr 10.0.0.0/24
```

(Windows):
aws ec2 provision-ipam-pool-cidr ^
--ipam-pool-id ipam-pool-0533048da7d823723 ^
--cidr 10.0.0.0/24

Output:

```json
{
   "IpamPoolCidr": {
      "Cidr": "10.0.0.0/24",
      "State": "pending-provision"
   }
}
```

For more information, see [Provision CIDRs to a pool](https://docs.aws.amazon.com/AmazonVPCIPAM/latest/UserGuide/provision-cidrs-to-a-pool.html) in the Amazon VPC IPAM User Guide.


**purchase-host-reservation**

The following code example shows how to use `purchase-host-reservation`.

**AWS CLI**

**To purchase a Dedicated Host Reservation**

This example purchases the specified Dedicated Host Reservation offering for the specified Dedicated Host in your account.

**Command:**

```sh
cmd
aws ec2 purchase-host-reservation --offering-id hro-03f707bf363b6b324 --host-id-set h-013abcd2a00cbd123
```

**Output:**

```json
{
   "TotalHourlyPrice": "1.499",
   "Purchase": [
      {
         "HourlyPrice": "1.499",
         "InstanceFamily": "m4",
         "State": "pending"
      }
   ]
}
```
"PaymentOption": "NoUpfront",
  "HostIdSet": [
    "h-013abcd2a00cbd123"
  ],
  "HostReservationId": "hr-0d418a3a4ff669ae",
  "UpfrontPrice": "0.000",
  "Duration": 31536000
}
],
"TotalUpfrontPrice": "0.000"
}

- For API details, see PurchaseHostReservation in AWS CLI Command Reference.

**purchase-reserved-instances-offering**

The following code example shows how to use `purchase-reserved-instances-offering`.

**AWS CLI**

**To purchase a Reserved Instance offering**

This example command illustrates a purchase of a Reserved Instances offering, specifying an offering ID and instance count.

Command:

```bash
aws ec2 purchase-reserved-instances-offering --reserved-instances-offering-id ec06327e-dd07-46ee-9398-75b5fexample --instance-count 3
```

Output:

```json
{
  "ReservedInstancesId": "af9f760e-6f91-4559-85f7-4980eexample"
}
```

- For API details, see PurchaseReservedInstancesOffering in AWS CLI Command Reference.

**purchase-scheduled-instances**

The following code example shows how to use `purchase-scheduled-instances`.
AWS CLI

To purchase a Scheduled Instance

This example purchases a Scheduled Instance.

Command:

```bash
aws ec2 purchase-scheduled-instances --purchase-requests file://purchase-request.json
```

Purchase-request.json:

```json
[
  {
    "PurchaseToken": "eyJ2IjoiMSIsInMiOjEsImMiOi...",
    "InstanceCount": 1
  }
]
```

Output:

```json
{
  "ScheduledInstanceSet": [
    {
      "AvailabilityZone": "us-west-2b",
      "ScheduledInstanceId": "sci-1234-1234-1234-1234-123456789012",
      "HourlyPrice": "0.095",
      "CreateDate": "2016-01-25T21:43:38.612Z",
      "Recurrence": {
        "OccurrenceDaySet": [1],
        "Interval": 1,
        "Frequency": "Weekly",
        "OccurrenceRelativeToEnd": false,
        "OccurrenceUnit": ""
      },
      "Platform": "Linux/UNIX",
      "TermEndDate": "2017-01-31T09:00:00Z",
      "InstanceCount": 1,
      "SlotDurationInHours": 32,
      "TermStartDate": "2016-01-31T09:00:00Z",
    }
  ]
}```
For API details, see PurchaseScheduledInstances in AWS CLI Command Reference.

**register-image**

The following code example shows how to use register-image.

**AWS CLI**

**Example 1: To register an AMI using a manifest file**

The following register-image example registers an AMI using the specified manifest file in Amazon S3.

```bash
aws ec2 register-image \
   --name my-image \
   --image-location my-s3-bucket/myimage/image.manifest.xml
```

Output:

```json
{
   "ImageId": "ami-1234567890EXAMPLE"
}
```

For more information, see Amazon Machine Images (AMI) in the Amazon EC2 User Guide.

**Example 2: To register an AMI using a snapshot of a root device**

The following register-image example registers an AMI using the specified snapshot of an EBS root volume as device /dev/xvda. The block device mapping also includes an empty 100 GiB EBS volume as device /dev/xvdf.

```bash
aws ec2 register-image \
   --name my-image \
   --image-snapshot my-ebs-snapshot
```

Actions and scenarios
--root-device-name /dev/xvda \
--block-device-mappings DeviceName=/dev/xvda,Ebs={SnapshotId=snap-0db2cf683925d191f} DeviceName=/dev/xvdf,Ebs={VolumeSize=100}

Output:

```
{
   "ImageId": "ami-1a2b3c4d5eEXAMPLE"
}
```

For more information, see Amazon Machine Images (AMI) in the Amazon EC2 User Guide.

- For API details, see RegisterImage in AWS CLI Command Reference.

register-instance-event-notification-attributes

The following code example shows how to use register-instance-event-notification-attributes.

**AWS CLI**

**Example 1: To include all tags in event notifications**

The following register-instance-event-notification-attributes example includes all tags in event notifications.

```
aws ec2 register-instance-event-notification-attributes \
   --instance-tag-attribute IncludeAllTagsOfInstance=true
```

Output:

```
{
   "InstanceTagAttribute": {
      "InstanceTagKeys": [],
      "IncludeAllTagsOfInstance": true
   }
}
```

For more information, see Scheduled events for your instances in the Amazon Elastic Compute Cloud User Guide for Linux Instances.
Example 2: To include specific tags in event notifications

The following register-instance-event-notification-attributes example includes the specified tags in event notifications. You cannot specify tags if IncludeAllTagsOfInstance is true.

```
aws ec2 register-instance-event-notification-attributes \
    --instance-tag-attribute InstanceTagKeys="tag-key1","tag-key2"
```

Output:

```
{
    "InstanceTagAttribute": {
        "InstanceTagKeys": [
            "tag-key1",
            "tag-key2"
        ],
        "IncludeAllTagsOfInstance": false
    }
}
```

For more information, see Scheduled events for your instances in the Amazon Elastic Compute Cloud User Guide for Linux Instances.

- For API details, see RegisterInstanceEventNotificationAttributes in AWS CLI Command Reference.

register-transit-gateway-multicast-group-sources

The following code example shows how to use register-transit-gateway-multicast-group-sources.

**AWS CLI**

**To register a source with a transit gateway multicast group.**

The following register-transit-gateway-multicast-group-sources example registers the specified network interface group source with a multicast group.

```
aws ec2 register-transit-gateway-multicast-group-sources \
    --transit-gateway-multicast-domain-id tgw-mcast-domain-0c4905cef79d6e597 \
```
Output:

```
{
    "RegisteredMulticastGroupSources": {
        "TransitGatewayMulticastDomainId": "tgw-mcast-domain-0c4905cef79d6e597",
        "RegisteredNetworkInterfaceIds": [
            "eni-07f290fc3c090cbae"
        ],
        "GroupIpAddress": "224.0.1.0"
    }
}
```

For more information, see [Register Sources with a Multicast Group](https://docs.aws.amazon.com/igs/latest/ntgw/registerSourcesMulticastGroup.html) in the *AWS Transit Gateways User Guide*.

- For API details, see [RegisterTransitGatewayMulticastGroupSources](https://docs.aws.amazon.com/cli/latest/reference/ec2/register-transit-gateway-multicast-group-members.html) in *AWS CLI Command Reference*.

**register-transit-gateway-multicast-group-members**

The following code example shows how to use `register-transit-gateway-multicast-group-members`.

### AWS CLI

**To view the information about the transit gateway multicast domain associations**

The following `register-transit-gateway-multicast-group-members` example returns the associations for the specified multicast domain.

```
aws ec2 register-transit-gateway-multicast-group-members \
    --transit-gateway-multicast-domain-id tgw-mcast-domain-0c4905cef79d6e597 \
    --group-ip-address 224.0.1.0 \
    --network-interface-ids eni-0e246d32695012e81
```

Output:

```
{
}
```
"RegisteredMulticastGroupMembers": {
    "TransitGatewayMulticastDomainId": "tgw-mcast-domain-0c4905cef79d6e597",
    "RegisteredNetworkInterfaceIds": [
        "eni-0e246d32695012e81"
    ],
    "GroupIpAddress": "224.0.1.0"
}

For more information, see Managing multicast domains in the Transit Gateways User Guide.

- For API details, see RegisterTransitGatewayMulticastGroupMembers in AWS CLI Command Reference.

**register-transit-gateway-multicast-group-sources**

The following code example shows how to use register-transit-gateway-multicast-group-sources.

**AWS CLI**

To register a source with a transit gateway multicast group.

The following register-transit-gateway-multicast-group-sources example registers the specified network interface group source with a multicast group.

```bash
aws ec2 register-transit-gateway-multicast-group-sources \
    --transit-gateway-multicast-domain-id tgw-mcast-domain-0c4905cef79d6e597 \
    --group-ip-address 224.0.1.0 \
    --network-interface-ids eni-07f290fc3c090cbae
```

Output:

```json
{
    "RegisteredMulticastGroupSources": {
        "TransitGatewayMulticastDomainId": "tgw-mcast-domain-0c4905cef79d6e597",
        "RegisteredNetworkInterfaceIds": [
            "eni-07f290fc3c090cbae"
        ],
        "GroupIpAddress": "224.0.1.0"
    }
}
```
For more information, see Managing multicast domains in the Transit Gateways Guide.

- For API details, see `RegisterTransitGatewayMulticastGroupSources` in AWS CLI Command Reference.

reject-transit-gateway-peering-attachment

The following code example shows how to use `reject-transit-gateway-peering-attachment`.

**AWS CLI**

To reject a transit gateway peering attachment

The following `reject-transit-gateway-peering-attachment` example rejects the specified transit gateway peering attachment request. The `--region` parameter specifies the Region that the accepter transit gateway is located in.

```
aws ec2 reject-transit-gateway-peering-attachment \
    --transit-gateway-attachment-id tgw-attach-4455667788aabbcccd \
    --region us-east-2
```

Output:

```
{
    "TransitGatewayPeeringAttachment": {
        "TransitGatewayAttachmentId": "tgw-attach-4455667788aabbcccd",
        "RequesterTgwInfo": {
            "TransitGatewayId": "tgw-123abc05e04123abc",
            "OwnerId": "123456789012",
            "Region": "us-west-2"
        },
        "AccepterTgwInfo": {
            "TransitGatewayId": "tgw-11223344aabbcc112",
            "OwnerId": "123456789012",
            "Region": "us-east-2"
        },
        "State": "rejecting",
        "CreationTime": "2019-12-09T11:50:31.000Z"
    }
}
```
reject-transit-gateway-vpc-attachment

The following code example shows how to use `reject-transit-gateway-vpc-attachment`.

AWS CLI

To reject a transit gateway VPC attachment

The following `reject-transit-gateway-vpc-attachment` example rejects the specified transit gateway VPC attachment.

```bash
aws ec2 reject-transit-gateway-vpc-attachment \
    --transit-gateway-attachment-id tgw-attach-0a34fe6b4fEXAMPLE
```

Output:

```json
{
    "TransitGatewayVpcAttachment": {
        "TransitGatewayAttachmentId": "tgw-attach-0a34fe6b4fEXAMPLE",
        "TransitGatewayId": "tgw-0262a0e521EXAMPLE",
        "VpcId": "vpc-07e8ff0d50fEXAMPLE",
        "VpcOwnerId": "111122223333",
        "State": "pending",
        "SubnetIds": [
            "subnet-0752213d59EXAMPLE"
        ],
        "CreationTime": "2019-07-10T17:33:46.000Z",
        "Options": {
            "DnsSupport": "enable",
            "Ipv6Support": "disable"
        }
    }
}
```

For more information, see [Transit gateway attachments to a VPC](https://docs.aws.amazon.com/TransitGateways/latest/userguide/TransitGatewayAttachments.html) in the *Transit Gateways Guide*.

- For API details, see [RejectTransitGatewayVpcAttachment](https://docs.aws.amazon.com/AWSEC2/latest/APIReference/API_RejectTransitGatewayVpcAttachment.html) in *AWS CLI Command Reference*. 
reject-transit-gateway-vpc-attachments

The following code example shows how to use reject-transit-gateway-vpc-attachments.

AWS CLI

To reject a transit gateway VPC attachment

The following reject-transit-gateway-vpc-attachment example rejects the specified transit gateway VPC attachment.

```
aws ec2 reject-transit-gateway-vpc-attachment \
    --transit-gateway-attachment-id tgw-attach-0a34fe6b4fEXAMPLE
```

Output:

```
{
    "TransitGatewayVpcAttachment": {
        "TransitGatewayAttachmentId": "tgw-attach-0a34fe6b4fEXAMPLE",
        "TransitGatewayId": "tgw-0262a0e521EXAMPLE",
        "VpcId": "vpc-07e8fffd50fEXAMPLE",
        "VpcOwnerId": "111122223333",
        "State": "pending",
        "SubnetIds": [
            "subnet-0752213d59EXAMPLE"
        ],
        "CreationTime": "2019-07-10T17:33:46.000Z",
        "Options": {
            "DnsSupport": "enable",
            "Ipv6Support": "disable"
        }
    }
}
```

For more information, see Transit gateway attachments to a VPC in the Transit Gateways Guide.

- For API details, see RejectTransitGatewayVpcAttachments in AWS CLI Command Reference.

reject-vpc-endpoint-connections

The following code example shows how to use reject-vpc-endpoint-connections.
AWS CLI

To reject an interface endpoint connection request

This example rejects the specified endpoint connection request for the specified endpoint service.

Command:

```
aws ec2 reject-vpc-endpoint-connections --service-id vpce-svc-03d5ebb7d9579a2b3 --vpc-endpoint-ids vpce-0c1308d7312217abc
```

Output:

```
{}
```

- For API details, see [RejectVpcEndpointConnections](#) in *AWS CLI Command Reference*.

reject-vpc-peering-connection

The following code example shows how to use `reject-vpc-peering-connection`.

AWS CLI

To reject a VPC peering connection

This example rejects the specified VPC peering connection request.

Command:

```
aws ec2 reject-vpc-peering-connection --vpc-peering-connection-id pcx-1a2b3c4d
```

Output:

```
{}
```

- For API details, see [RejectVpcPeeringConnection](#) in *AWS CLI Command Reference*.
**release-hosts**

The following code example shows how to use `release-hosts`.

**AWS CLI**

**To release a Dedicated host from your account**

To release a Dedicated host from your account. Instances that are on the host must be stopped or terminated before the host can be released.

**Command:**

```
aws ec2 release-hosts --host-id=h-0029d6e3cacfb3da
```

**Output:**

```
{
    "Successful": [
        "h-0029d6e3cacfb3da"
    ],
    "Unsuccessful": []
}
```

- For API details, see [ReleaseHosts](#) in *AWS CLI Command Reference*.

**replace-network-acl-association**

The following code example shows how to use `replace-network-acl-association`.

**AWS CLI**

**To replace the network ACL associated with a subnet**

This example associates the specified network ACL with the subnet for the specified network ACL association.

**Command:**

```
aws ec2 replace-network-acl-association --association-id aclassoc-e5b95c8c --network-acl-id acl-5fb85d36
```
Output:

```json
{
    "NewAssociationId": "aclassoc-3999875b"
}
```

- For API details, see [ReplaceNetworkAclAssociation](#) in *AWS CLI Command Reference*.

**replace-network-acl-entry**

The following code example shows how to use `replace-network-acl-entry`.

**AWS CLI**

**To replace a network ACL entry**

This example replaces an entry for the specified network ACL. The new rule 100 allows ingress traffic from 203.0.113.12/24 on UDP port 53 (DNS) into any associated subnet.

Command:

```
aws ec2 replace-network-acl-entry --network-acl-id acl-5fb85d36 --ingress --rule-number 100 --protocol udp --port-range From=53,To=53 --cidr-block 203.0.113.12/24 --rule-action allow
```

- For API details, see [ReplaceNetworkAclEntry](#) in *AWS CLI Command Reference*.

**replace-route**

The following code example shows how to use `replace-route`.

**AWS CLI**

**To replace a route**

This example replaces the specified route in the specified route table. The new route matches the specified CIDR and sends the traffic to the specified virtual private gateway. If the command succeeds, no output is returned.

Command:
aws ec2 replace-route --route-table-id rtb-22574640 --destination-cidr-block 10.0.0.0/16 --gateway-id vgw-9a4cacf3

- For API details, see ReplaceRoute in AWS CLI Command Reference.

replace-route-table-association

The following code example shows how to use replace-route-table-association.

AWS CLI

To replace the route table associated with a subnet

This example associates the specified route table with the subnet for the specified route table association.

Command:

```
aws ec2 replace-route-table-association --association-id rtbassoc-781d0d1a --route-table-id rtb-22574640
```

Output:

```
{
   "NewAssociationId": "rtbassoc-3a1f0f58"
}
```

- For API details, see ReplaceRouteTableAssociation in AWS CLI Command Reference.

replace-transit-gateway-route

The following code example shows how to use replace-transit-gateway-route.

AWS CLI

To replace the specified route in the specified transit gateway route table

The following replace-transit-gateway-route example replaces the route in the specified transit gateway route table.
aws ec2 replace-transit-gateway-route \ 
   --destination-cidr-block 10.0.2.0/24 \ 
   --transit-gateway-attachment-id tgw-attach-09b52ccdb5EXAMPLE \ 
   --transit-gateway-route-table-id tgw-rtb-0a823edbeEXAMPLE

Output:

```json
{
   "Route": {
      "DestinationCidrBlock": "10.0.2.0/24",
      "TransitGatewayAttachments": [
         {
            "ResourceId": "vpc-4EXAMPLE",
            "TransitGatewayAttachmentId": "tgw-attach-09b52ccdb5EXAMPLE",
            "ResourceType": "vpc"
         }
      ],
      "Type": "static",
      "State": "active"
   }
}
```

For more information, see [Transit gateway route tables](https://docs.aws.amazon.com/TransitGateways/latest/APIReference/TransitGatewayRouteTables.html) in the *Transit Gateways Guide*.

- For API details, see [ReplaceTransitGatewayRoute](https://docs.aws.amazon.com/cli/latest/reference/ec2/replace-transit-gateway-route.html) in *AWS CLI Command Reference*.

---

**report-instance-status**

The following code example shows how to use `report-instance-status`.

**AWS CLI**

**To report status feedback for an instance**

This example command reports status feedback for the specified instance.

**Command:**

```
aws ec2 report-instance-status --instances i-1234567890abcdef0 --status impaired --reason-codes unresponsive
```

- For API details, see [ReportInstanceStatus](https://docs.aws.amazon.com/cli/latest/reference/ec2/report-instance-status.html) in *AWS CLI Command Reference*. 
**request-spot-fleet**

The following code example shows how to use `request-spot-fleet`.

**AWS CLI**

**To request a Spot fleet in the subnet with the lowest price**

This example command creates a Spot fleet request with two launch specifications that differ only by subnet. The Spot fleet launches the instances in the specified subnet with the lowest price. If the instances are launched in a default VPC, they receive a public IP address by default. If the instances are launched in a nondefault VPC, they do not receive a public IP address by default.

Note that you can't specify different subnets from the same Availability Zone in a Spot fleet request.

Command:

```
aws ec2 request-spot-fleet --spot-fleet-request-config file://config.json
```

**Config.json:**

```json
{
    "SpotPrice": "0.04",
    "TargetCapacity": 2,
    "IamFleetRole": "arn:aws:iam::123456789012:role/my-spot-fleet-role",
    "LaunchSpecifications": [
        {
            "ImageId": "ami-1a2b3c4d",
            "KeyName": "my-key-pair",
            "SecurityGroups": [
                {
                    "GroupId": "sg-1a2b3c4d"
                }
            ],
            "InstanceType": "m3.medium",
            "SubnetId": "subnet-1a2b3c4d, subnet-3c4d5e6f",
            "IamInstanceProfile": {
                "Arn": "arn:aws:iam::123456789012:instance-profile/my-iam-role"
            }
        }
    ]
}
```
To request a Spot fleet in the Availability Zone with the lowest price

This example command creates a Spot fleet request with two launch specifications that differ only by Availability Zone. The Spot fleet launches the instances in the specified Availability Zone with the lowest price. If your account supports EC2-VPC only, Amazon EC2 launches the Spot instances in the default subnet of the Availability Zone. If your account supports EC2-Classic, Amazon EC2 launches the instances in EC2-Classic in the Availability Zone.

Command:

```bash
aws ec2 request-spot-fleet --spot-fleet-request-config file://config.json
```

Config.json:

```json
{
   "SpotPrice": "0.04",
   "TargetCapacity": 2,
   "IamFleetRole": "arn:aws:iam::123456789012:role/my-spot-fleet-role",
   "LaunchSpecifications": [
      {
         "ImageId": "ami-1a2b3c4d",
         "KeyName": "my-key-pair",
         "SecurityGroups": [
            {
               "GroupId": "sg-1a2b3c4d"
            }
         ],
         "InstanceType": "m3.medium",
         "Placement": {
            "AvailabilityZone": "us-west-2a, us-west-2b"
         },
         "IamInstanceProfile": {
            "Arn": "arn:aws:iam::123456789012:instance-profile/my-iam-role"
         }
      }
   ]
}
```
To launch Spot instances in a subnet and assign them public IP addresses

This example command assigns public addresses to instances launched in a nondefault VPC. Note that when you specify a network interface, you must include the subnet ID and security group ID using the network interface.

Command:

```
aws ec2 request-spot-fleet --spot-fleet-request-config file://config.json
```

Config.json:

```json
{
   "SpotPrice": "0.04",
   "TargetCapacity": 2,
   "IamFleetRole": "arn:aws:iam::123456789012:role/my-spot-fleet-role",
   "LaunchSpecifications": [
      {
         "ImageId": "ami-1a2b3c4d",
         "KeyName": "my-key-pair",
         "InstanceType": "m3.medium",
         "NetworkInterfaces": [
            {
               "DeviceIndex": 0,
               "SubnetId": "subnet-1a2b3c4d",
               "Groups": [ "sg-1a2b3c4d" ],
               "AssociatePublicIpAddress": true
            }
         ],
         "IamInstanceProfile": {
            "Arn": "arn:aws:iam::880185128111:instance-profile/my-iam-role"
         }
      }
   ]
}
```

To request a Spot fleet using the diversified allocation strategy
This example command creates a Spot fleet request that launches 30 instances using the diversified allocation strategy. The launch specifications differ by instance type. The Spot fleet distributes the instances across the launch specifications such that there are 10 instances of each type.

Command:

```
aws ec2 request-spot-fleet --spot-fleet-request-config file://config.json
```

Config.json:

```
{
    "SpotPrice": "0.70",
    "TargetCapacity": 30,
    "AllocationStrategy": "diversified",
    "IamFleetRole": "arn:aws:iam::123456789012:role/my-spot-fleet-role",
    "LaunchSpecifications": [
        {
            "ImageId": "ami-1a2b3c4d",
            "InstanceType": "c4.2xlarge",
            "SubnetId": "subnet-1a2b3c4d"
        },
        {
            "ImageId": "ami-1a2b3c4d",
            "InstanceType": "m3.2xlarge",
            "SubnetId": "subnet-1a2b3c4d"
        },
        {
            "ImageId": "ami-1a2b3c4d",
            "InstanceType": "r3.2xlarge",
            "SubnetId": "subnet-1a2b3c4d"
        }
    ]
}
```

For more information, see Spot Fleet Requests in the Amazon Elastic Compute Cloud User Guide.

- For API details, see RequestSpotFleet in AWS CLI Command Reference.

`request-spot-instances`

The following code example shows how to use request-spot-instances.
To request Spot Instances

This example command creates a one-time Spot Instance request for five instances in the specified Availability Zone. If your account supports EC2-VPC only, Amazon EC2 launches the instances in the default subnet of the specified Availability Zone. If your account supports EC2-Classic, Amazon EC2 launches the instances in EC2-Classic in the specified Availability Zone.

Command:

```
aws ec2 request-spot-instances --spot-price "0.03" --instance-count 5 --type "one-time" --launch-specification file://specification.json
```

Specification.json:

```json
{
  "ImageId": "ami-1a2b3c4d",
  "KeyName": "my-key-pair",
  "SecurityGroupIds": [ "sg-1a2b3c4d" ],
  "InstanceType": "m3.medium",
  "Placement": {
    "AvailabilityZone": "us-west-2a"
  },
  "IamInstanceProfile": {
    "Arn": "arn:aws:iam::123456789012:instance-profile/my-iam-role"
  }
}
```

Output:

```json
{
  "SpotInstanceRequests": [
    {
      "Status": {
        "UpdateTime": "2014-03-25T20:54:21.000Z",
        "Code": "pending-evaluation",
        "Message": "Your Spot request has been submitted for review, and is pending evaluation."
      },
      "ProductDescription": "Linux/UNIX",
      "SpotInstanceRequestId": "sir-df6f405d"
    }
  ]
}```
This example command creates a one-time Spot Instance request for five instances in the specified subnet. Amazon EC2 launches the instances in the specified subnet. If the VPC is a nondefault VPC, the instances do not receive a public IP address by default.

Command:

```bash
aws ec2 request-spot-instances --spot-price "0.050" --instance-count 5 --type "one-time" --launch-specification file://specification.json
```

Specification.json:

```json
{
   "ImageId": "ami-1a2b3c4d",
   "InstanceType": "m3.medium",
   "SpotPrice": "0.050000"
}
```
"SecurityGroupIds": [ "sg-1a2b3c4d" ],
"InstanceType": "m3.medium",
"SubnetId": "subnet-1a2b3c4d",
"IamInstanceProfile": {
  "Arn": "arn:aws:iam::123456789012:instance-profile/my-iam-role"
}
}

Output:

{
  "SpotInstanceRequests": [
    {
      "Status": {
        "UpdateTime": "2014-03-25T22:21:58.000Z",
        "Code": "pending-evaluation",
        "Message": "Your Spot request has been submitted for review, and is pending evaluation."
      },
      "ProductDescription": "Linux/UNIX",
      "SpotInstanceRequestId": "sir-df6f405d",
      "State": "open",
      "LaunchSpecification": {
        "Placement": {
          "AvailabilityZone": "us-west-2a"
        },
        "ImageId": "ami-1a2b3c4d",
        "SecurityGroups": [
          {
            "GroupName": "my-security-group",
            "GroupId": "sg-1a2b3c4d"
          }
        ],
        "SubnetId": "subnet-1a2b3c4d",
        "Monitoring": {
          "Enabled": false
        },
        "IamInstanceProfile": {
          "Arn": "arn:aws:iam::123456789012:instance-profile/my-iam-role"
        },
        "InstanceType": "m3.medium",
      },
      "Type": "one-time",
    }
  ]
}
This example assigns a public IP address to the Spot Instances that you launch in a nondefault VPC. Note that when you specify a network interface, you must include the subnet ID and security group ID using the network interface.

Command:

```
aws ec2 request-spot-instances --spot-price "0.050" --instance-count 1 --type "one-time" --launch-specification file://specification.json
```

Specification.json:

```
{
    "ImageId": "ami-1a2b3c4d",
    "KeyName": "my-key-pair",
    "InstanceType": "m3.medium",
    "NetworkInterfaces": [
        {
            "DeviceIndex": 0,
            "SubnetId": "subnet-1a2b3c4d",
            "Groups": [ "sg-1a2b3c4d" ],
            "AssociatePublicIpAddress": true
        }
    ],
    "IamInstanceProfile": {
        "Arn": "arn:aws:iam::123456789012:instance-profile/my-iam-role"
    }
}
```

- For API details, see RequestSpotInstances in AWS CLI Command Reference.

reset-address-attribute

The following code example shows how to use reset-address-attribute.
AWS CLI

**To reset the domain name attribute associated with an elastic IP address**

The following `reset-address-attribute` examples reset the domain name attribute of an elastic IP address.

Linux:

```
aws ec2 reset-address-attribute \
   --allocation-id eipalloc-abcdef01234567890 \
   --attribute domain-name
```

Windows:

```
aws ec2 reset-address-attribute ^
   --allocation-id eipalloc-abcdef01234567890 ^
   --attribute domain-name
```

Output:

```json
{
   "Addresses": [
      {
         "PublicIp": "192.0.2.0",
         "AllocationId": "eipalloc-abcdef01234567890",
         "PtrRecord": "example.com."
         "PtrRecordUpdate": {
            "Value": "example.net.",
            "Status": "PENDING"
         }
      }
   ]
}
```

To monitor the pending change, see [describe-addresses-attribute](#) in the AWS CLI Command Reference.

- For API details, see [ResetAddressAttribute](#) in AWS CLI Command Reference.

**reset-ebs-default-kms-key-id**

The following code example shows how to use `reset-ebs-default-kms-key-id`.

Actions and scenarios
AWS CLI

To reset your default CMK for EBS encryption

The following `reset-ebs-default-kms-key-id` example resets the default CMK for EBS encryption for your AWS account in the current Region.

```
aws ec2 reset-ebs-default-kms-key-id
```

Output:

```json
{
   "KmsKeyId": "arn:aws:kms:us-west-2:123456789012:key/8c5b2c63-b9bc-45a3-a87a-5513eEXAMPLE"
}
```

For API details, see `ResetEbsDefaultKmsKeyId` in AWS CLI Command Reference.

reset-fpga-image-attribute

The following code example shows how to use `reset-fpga-image-attribute`.

AWS CLI

To reset the attributes of an Amazon FPGA image

This example resets the load permissions for the specified AFI.

Command:

```
aws ec2 reset-fpga-image-attribute --fpga-image-id afi-0d123e123bfc85abc --attribute loadPermission
```

Output:

```json
{
   "Return": true
}
```

For API details, see `ResetFpgaImageAttribute` in AWS CLI Command Reference.
reset-image-attribute

The following code example shows how to use reset-image-attribute.

AWS CLI

To reset the launchPermission attribute

This example resets the launchPermission attribute for the specified AMI to its default value. By default, AMIs are private. If the command succeeds, no output is returned.

Command:

```bash
aws ec2 reset-image-attribute --image-id ami-5731123e --attribute launchPermission
```

For API details, see ResetImageAttribute in AWS CLI Command Reference.

reset-instance-attribute

The following code example shows how to use reset-instance-attribute.

AWS CLI

To reset the sourceDestCheck attribute

This example resets the sourceDestCheck attribute of the specified instance. The instance must be in a VPC. If the command succeeds, no output is returned.

Command:

```bash
aws ec2 reset-instance-attribute --instance-id i-1234567890abcdef0 --attribute sourceDestCheck
```

To reset the kernel attribute

This example resets the kernel attribute of the specified instance. The instance must be in the stopped state. If the command succeeds, no output is returned.

Command:

```bash
aws ec2 reset-instance-attribute --instance-id i-1234567890abcdef0 --attribute kernel
```
To reset the ramdisk attribute

This example resets the ramdisk attribute of the specified instance. The instance must be in the stopped state. If the command succeeds, no output is returned.

Command:

```bash
aws ec2 reset-instance-attribute --instance-id i-1234567890abcdef0 --attribute ramdisk
```

- For API details, see `ResetInstanceAttribute` in *AWS CLI Command Reference*.

reset-network-interface-attribute

The following code example shows how to use `reset-network-interface-attribute`.

**AWS CLI**

To reset a network interface attribute

The following `reset-network-interface-attribute` example resets the value of the source/destination checking attribute to `true`.

```bash
aws ec2 reset-network-interface-attribute \
   --network-interface-id eni-686ea200 \
   --source-dest-check
```

This command produces no output.

- For API details, see `ResetNetworkInterfaceAttribute` in *AWS CLI Command Reference*.

reset-snapshot-attribute

The following code example shows how to use `reset-snapshot-attribute`.

**AWS CLI**

To reset a snapshot attribute

This example resets the create volume permissions for snapshot snap-1234567890abcdef0. If the command succeeds, no output is returned.
**Command:**

```
aws ec2 reset-snapshot-attribute --snapshot-id snap-1234567890abcdef0 --attribute createVolumePermission
```

- For API details, see [ResetSnapshotAttribute](#) in *AWS CLI Command Reference*.

**restore-address-to-classic**

The following code example shows how to use `restore-address-to-classic`.

**AWS CLI**

**To restore an address to EC2-Classic**

This example restores Elastic IP address 198.51.100.0 to the EC2-Classic platform.

**Command:**

```
aws ec2 restore-address-to-classic --public-ip 198.51.100.0
```

**Output:**

```
{
    "Status": "MoveInProgress",
    "PublicIp": "198.51.100.0"
}
```

- For API details, see [RestoreAddressToClassic](#) in *AWS CLI Command Reference*.

**restore-image-from-recycle-bin**

The following code example shows how to use `restore-image-from-recycle-bin`.

**AWS CLI**

**To restore an image from the Recycle Bin**

The following `restore-image-from-recycle-bin` example restores AMI ami-0111222333444abcd from the Recycle Bin.
aws ec2 restore-image-from-recycle-bin \
--image-id ami-011222333444abcd

Output:

```json
{
   "Return": true
}
```

For more information, see [Recover AMIs from the Recycle Bin](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/amazon-ec2-recover-amis.html) in the *Amazon Elastic Compute Cloud User Guide*.

- For API details, see [RestoreImageFromRecycleBin](https://docs.aws.amazon.com/cli/latest/reference/ec2/restore-image-from-recycle-bin.html) in *AWS CLI Command Reference*.

**restore-managed-prefix-list-version**

The following code example shows how to use `restore-managed-prefix-list-version`.

**AWS CLI**

```bash
us-west-2**To restore a prefix list version**
```

The following `restore-managed-prefix-list-version` restores the entries from version 1 of the specified prefix list.

```bash
aws ec2 restore-managed-prefix-list-version \
--prefix-list-id pl-0123456abcabcabc1 \
--current-version 2 \n--previous-version 1
```

Output:

```json
{
   "PrefixList": {
      "PrefixListId": "pl-0123456abcabcabc1",
      "AddressFamily": "IPv4",
      "State": "restore-in-progress",
      "PrefixListName": "vpc-cidrs",
      "MaxEntries": 10,
      ...
For more information, see Managed prefix lists in the Amazon VPC User Guide.

• For API details, see RestoreManagedPrefixListVersion in AWS CLI Command Reference.

restore-snapshot-from-recycle-bin

The following code example shows how to use restore-snapshot-from-recycle-bin.

AWS CLI

To restore snapshots from the Recycle Bin

The following restore-snapshot-from-recycle-bin example restores a snapshot from the Recycle Bin. When you restore a snapshot from the Recycle Bin, the snapshot is immediately available for use, and it is removed from the Recycle Bin. You can use a restored snapshot in the same way that you use any other snapshot in your account.

```bash
aws ec2 restore-snapshot-from-recycle-bin 
   --snapshot-id snap-01234567890abcdef
```

This command produces no output.

For more information about Recycle Bin for Amazon EBS, see Recover snapshots from the Recycle Bin in the Amazon EC2 User Guide.

• For API details, see RestoreSnapshotFromRecycleBin in AWS CLI Command Reference.

restore-snapshot-tier

The following code example shows how to use restore-snapshot-tier.

AWS CLI

Example 1: To permanently restore an archived snapshot

The following restore-snapshot-tier example permanently restores the specified snapshot. Specify the --snapshot-id and include the permanent-restore option.
aws ec2 restore-snapshot-tier \
   --snapshot-id snap-01234567890abcedf \
   --permanent-restore

Output:

{
   "SnapshotId": "snap-01234567890abcedf",
   "IsPermanentRestore": true
}

For more information about snapshot archiving, see Archive Amazon EBS snapshots <https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/snapshot-archive.html> in the Amazon EC2 User Guide.

**Example 2: To temporarily restore an archived snapshot**

The following `restore-snapshot-tier` example temporarily restores the specified snapshot. Omit the `--permanent-restore` option. Specify the `--snapshot-id` and, for `temporary-restore-days`, specify the number of days for which to restore the snapshot. `temporary-restore-days` must be specified in days. The allowed range is 1 to 180. If you do not specify a value, it defaults to 1 day.

aws ec2 restore-snapshot-tier \
   --snapshot-id snap-01234567890abcedf \
   --temporary-restore-days 5

Output:

{
   "SnapshotId": "snap-01234567890abcedf",
   "RestoreDuration": 5,
   "IsPermanentRestore": false
}

For more information about snapshot archiving, see Archive Amazon EBS snapshots <https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/snapshot-archive.html> in the Amazon EC2 User Guide.

**Example 3: To modify the restore period**
The following `restore-snapshot-tier` example changes the restore period for the specified snapshot to 10 days.

```bash
aws ec2 restore-snapshot-tier \
--snapshot-id snap-01234567890abcedf \
--temporary-restore-days 10
```

Output:

```
{
    "SnapshotId": "snap-01234567890abcedf",
    "RestoreDuration": 10,
    "IsPermanentRestore": false
}
```


**Example 4: To modify the restore type**

The following `restore-snapshot-tier` example changes the restore type for the specified snapshot from temporary to permanent.

```bash
aws ec2 restore-snapshot-tier \
--snapshot-id snap-01234567890abcedf \
--permanent-restore
```

Output:

```
{
    "SnapshotId": "snap-01234567890abcedf",
    "IsPermanentRestore": true
}
```


- For API details, see [RestoreSnapshotTier](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/snapshot-archive.html) in *AWS CLI Command Reference*. 
**revoke-client-vpn-ingress**

The following code example shows how to use `revoke-client-vpn-ingress`.

**AWS CLI**

To revoke an authorization rule for a Client VPN endpoint

The following `revoke-client-vpn-ingress` example revokes a rule for internet access (0.0.0.0/0) for all groups.

```bash
aws ec2 revoke-client-vpn-ingress \
  --client-vpn-endpoint-id cvpn-endpoint-123456789123abcde \
  --target-network-cidr 0.0.0.0/0 --revoke-all-groups
```

Output:

```json
{
  "Status": {
    "Code": "revoking"
  }
}
```

For more information, see [Authorization Rules](https://docs.aws.amazon.com/client-vpn/latest/admin-guide/authorization-rules.html) in the *AWS Client VPN Administrator Guide*.

- For API details, see [RevokeClientVpnIngress](https://docs.aws.amazon.com/cli/latest/reference/ec2/revoke-client-vpn-ingress.html) in *AWS CLI Command Reference*.

**revoke-security-group-egress**

The following code example shows how to use `revoke-security-group-egress`.

**AWS CLI**

**Example 1: To remove the rule that allows outbound traffic to a specific address range**

The following `revoke-security-group-egress` example command removes the rule that grants access to the specified address ranges on TCP port 80.

```bash
aws ec2 revoke-security-group-egress \
  --group-id sg-026c12253ce15eff7 \
```
--ip-permissions

{{IpProtocol=tcp,FromPort=80,ToPort=80,IpRanges=[[CidrIp=10.0.0.0/16]]

This command produces no output.

For more information, see Security groups in the Amazon EC2 User Guide.

Example 2: To remove the rule that allows outbound traffic to a specific security group

The following revoke-security-group-egress example command removes the rule that grants access to the specified security group on TCP port 80.

aws ec2 revoke-security-group-egress \
   --group-id sg-026c12253ce15eff7 \
   --ip-permissions '[["IpProtocol": "tcp", "FromPort": 443, "ToPort": 443,"UserIdGroupPairs": [["GroupId": "sg-06df23a01ff2df86d"]]]

This command produces no output.

For more information, see Security groups in the Amazon EC2 User Guide.

• For API details, see RevokeSecurityGroupEgress in AWS CLI Command Reference.

revoke-security-group-ingress

The following code example shows how to use revoke-security-group-ingress.

AWS CLI

Example 1: To remove a rule from a security group

The following revoke-security-group-ingress example removes TCP port 22 access for the 203.0.113.0/24 address range from the specified security group for a default VPC.

aws ec2 revoke-security-group-ingress \
   --group-name mySecurityGroup \
   --protocol tcp \
   --port 22 \
   --cidr 203.0.113.0/24

This command produces no output if it succeeds.
For more information, see Security groups in the Amazon EC2 User Guide.

Example 2: To remove a rule using the IP permissions set

The following revoke-security-group-ingress example uses the ip-permissions parameter to remove an inbound rule that allows the ICMP message Destination Unreachable: Fragmentation Needed and Don't Fragment was Set (Type 3, Code 4).

```
aws ec2 revoke-security-group-ingress \
  --group-id sg-026c12253ce15eff7 \
  --ip-permissions IpProtocol=icmp,FromPort=3,ToPort=4,IpRanges=[{CidrIp=0.0.0.0/0}]
```

This command produces no output if it succeeds.

For more information, see Security groups in the Amazon EC2 User Guide.

- For API details, see RevokeSecurityGroupIngress in AWS CLI Command Reference.

run-scheduled-instances

The following code example shows how to use run-scheduled-instances.

AWS CLI

To launch a Scheduled Instance

This example launches the specified Scheduled Instance in a VPC.

Command:

```
aws ec2 run-scheduled-instances --scheduled-instance-id sci-1234-1234-1234-1234-123456789012 --instance-count 1 --launch-specification file://launch-specification.json
```

Launch-specification.json:

```
{
  "ImageId": "ami-12345678",
```
"KeyName": "my-key-pair",
"InstanceType": "c4.large",
"NetworkInterfaces": [
    {
        "DeviceIndex": 0,
        "SubnetId": "subnet-12345678",
        "AssociatePublicIpAddress": true,
        "Groups": ["sg-12345678"]
    }
],
"IamInstanceProfile": {
    "Name": "my-iam-role"
}
}

Output:

{
    "InstanceIdSet": [
        "i-1234567890abcdef0"
    ]
}

This example launches the specified Scheduled Instance in EC2-Classic.

Command:

```
aws ec2 run-scheduled-instances --scheduled-instance-id sci-1234-1234-1234-1234-123456789012 --instance-count 1 --launchSpecification file://launch-specification.json
```

Launch-specification.json:

```json
{
    "ImageId": "ami-12345678",
    "KeyName": "my-key-pair",
    "SecurityGroupIds": ["sg-12345678"],
    "InstanceType": "c4.large",
    "Placement": {
        "AvailabilityZone": "us-west-2b"
    }
    "IamInstanceProfile": {
```
"Name": "my-iam-role"
}
}

Output:

{
    "InstanceIdSet": [
        "i-1234567890abcdef0"
    ]
}

- For API details, see RunScheduledInstances in AWS CLI Command Reference.

search-local-gateway-routes

The following code example shows how to use search-local-gateway-routes.

AWS CLI

To search for routes in a local gateway route table

The following search-local-gateway-routes example searches for static routes in the specified local gateway route table.

```
aws ec2 search-local-gateway-routes \
    --local-gateway-route-table-id lgw-rtb-059615ef7dEXAMPLE \ 
    --filters "Name=type,Values=static"
```

Output:

```
{
    "Route": {
        "DestinationCidrBlock": "0.0.0.0/0",
        "LocalGatewayVirtualInterfaceGroupId": "lgw-vif-grp-07145b276bEXAMPLE",
        "Type": "static",
        "State": "deleted",
        "LocalGatewayRouteTableId": "lgw-rtb-059615ef7EXAMPLE"
    }
}
```
search-transit-gateway-multicast-groups

The following code example shows how to use search-transit-gateway-multicast-groups.

AWS CLI

To search one or more transit gateway multicast groups and return the group membership information

The following search-transit-gateway-multicast-groups example returns the group membership of the specified multicast group.

```bash
aws ec2 search-transit-gateway-multicast-groups \
   --transit-gateway-multicast-domain-id tgw-mcast-domain-000fb24d04EXAMPLE
```

Output:

```json
{
   "MulticastGroups": [
       {
           "GroupIpAddress": "224.0.1.0",
           "TransitGatewayAttachmentId": "tgw-attach-0372e72386EXAMPLE",
           "SubnetId": "subnet-0187aff814EXAMPLE",
           "ResourceId": "vpc-0065acced4EXAMPLE",
           "ResourceType": "vpc",
           "NetworkInterfaceId": "eni-03847706f6EXAMPLE",
           "GroupMember": false,
           "GroupSource": true,
           "SourceType": "static"
       }
   ]
}
```

For more information, see Managing multicast groups in the Transit Gateways Guide.

• For API details, see SearchTransitGatewayMulticastGroups in AWS CLI Command Reference.

search-transit-gateway-routes

The following code example shows how to use search-transit-gateway-routes.
AWS CLI

To search for routes in the specified transit gateway route table

The following search-transit-gateway-routes example returns all the routes that are of type static in the specified route table.

```bash
aws ec2 search-transit-gateway-routes \
   --transit-gateway-route-table-id tgw-rtb-0a823edbddeEXAMPLE \
   --filters "Name=type,Values=static"
```

Output:

```
{
   "Routes": [
    {
      "DestinationCidrBlock": "10.0.2.0/24",
      "TransitGatewayAttachments": [
       {
        "ResourceId": "vpc-4EXAMPLE",
        "TransitGatewayAttachmentId": "tgw-attach-09b52ccdb5EXAMPLE",
        "ResourceType": "vpc"
       }
      ],
      "Type": "static",
      "State": "active"
    },
    {
      "DestinationCidrBlock": "10.1.0.0/24",
      "TransitGatewayAttachments": [
       {
        "ResourceId": "vpc-4EXAMPLE",
        "TransitGatewayAttachmentId": "tgw-attach-09b52ccdb5EXAMPLE",
        "ResourceType": "vpc"
       }
      ],
      "Type": "static",
      "State": "active"
    }
   ],
   "AdditionalRoutesAvailable": false
}
For more information, see Transit gateway route tables in the Transit Gateways Guide.

- For API details, see SearchTransitGatewayRoutes in AWS CLI Command Reference.

send-diagnostic-interrupt

The following code example shows how to use send-diagnostic-interrupt.

**AWS CLI**

**To send a diagnostic interrupt**

The following send-diagnostic-interrupt example sends a diagnostic interrupt to the specified instance.

```
aws ec2 send-diagnostic-interrupt \
  --instance-id i-1234567890abcdef0
```

This command produces no output.

- For API details, see SendDiagnosticInterrupt in AWS CLI Command Reference.

start-network-insights-access-scope-analysis

The following code example shows how to use start-network-insights-access-scope-analysis.

**AWS CLI**

**To start a Network Insights access scope analysis**

The following start-network-insights-access-scope-analysis example starts the scope analysis in your AWS account.

```
aws ec2 start-network-insights-access-scope-analysis \
  --region us-east-1 \ 
  --network-insights-access-scope-id nis-123456789111
```

Output:

```
{
```
"NetworkInsightsAccessScopeAnalysis": {
    "NetworkInsightsAccessScopeAnalysisId": "nisa-123456789222",
    "NetworkInsightsAccessScopeId": "nis-123456789111",
    "Status": "running",
    "StartDate": "2022-01-26T00:47:06.814000+00:00"
}
}

For more information, see [Getting started with Network Access Analyzer using the AWS CLI](http://aws.amazon.com/getting-started/) in the [Network Access Analyzer Guide](http://aws.amazon.com/network-access-analyzer/).

- For API details, see [StartNetworkInsightsAccessScopeAnalysis](http://aws.amazon.com/documentation/cli/) in [AWS CLI Command Reference](http://aws.amazon.com/documentation/cli/).

### start-network-insights-analysis

The following code example shows how to use `start-network-insights-analysis`.

#### AWS CLI

**To analyze a path**

The following `start-network-insights-analysis` example analyzes the path between the source and destination. To view the results of the path analysis, use the `describe-network-insights-analyses` command.

```bash
aws ec2 start-network-insights-analysis \
  --network-insights-path-id nip-0b26f224f1d131fa8
```

**Output:**

```
{
    "NetworkInsightsAnalysis": {
        "NetworkInsightsAnalysisId": "nia-02207aa13eb480c7a",
        "NetworkInsightsPathId": "nip-0b26f224f1d131fa8",
        "StartDate": "2021-01-20T22:58:37.495Z",
        "Status": "running"
    }
}
```
For more information, see [Getting started using the AWS CLI](#) in the *Reachability Analyzer Guide*.

- For API details, see [StartNetworkInsightsAnalysis](#) in *AWS CLI Command Reference*.

### start-vpc-endpoint-service-private-dns-verification

The following code example shows how to use `start-vpc-endpoint-service-private-dns-verification`.

**AWS CLI**

**To initiate the DNS verification process**

The following `start-vpc-endpoint-service-private-dns-verification` example initiates the DNS verification process for the specified endpoint service.

```bash
aws ec2 start-vpc-endpoint-service-private-dns-verification \
   --service-id vpce-svc-071afff70666e61e0
```

This command produces no output.

For more information, see [Manage DNS names](#) in the *AWS PrivateLink User Guide*.

- For API details, see [StartVpcEndpointServicePrivateDnsVerification](#) in *AWS CLI Command Reference*.

### terminate-client-vpn-connections

The following code example shows how to use `terminate-client-vpn-connections`.

**AWS CLI**

**To terminate a connection to a Client VPN endpoint**

The following `terminate-client-vpn-connections` example terminates the specified connection to the Client VPN endpoint.

```bash
aws ec2 terminate-client-vpn-connections \
   --client-vpn-endpoint-id vpn-endpoint-123456789123abcde \
```

Actions and scenarios
For more information, see Client Connections in the AWS Client VPN Administrator Guide.

For API details, see TerminateClientVpnConnections in AWS CLI Command Reference.

**unassign-ipv6-addresses**

The following code example shows how to use unassign-ipv6-addresses.

**AWS CLI**

**To unassign an IPv6 address from a network interface**

This example unassigns the specified IPv6 address from the specified network interface.

**Command:**

```
aws ec2 unassign-ipv6-addresses --ipv6-addresses
2001:db8:1234:1a00:3304:8879:34cf:4071 --network-interface-id eni-23c49b68
```

**Output:**

```
{
  "ClientVpnEndpointId": "vpn-endpoint-123456789123abcde",
  "ConnectionStatuses": [
    {
      "ConnectionId": "cvpn-connection-04edd76f5201e0cb8",
      "PreviousStatus": {
        "Code": "active"
      },
      "CurrentStatus": {
        "Code": "terminating"
      }
    }
  ]
}
```
unassign-private-ip-addresses

The following code example shows how to use `unassign-private-ip-addresses`.

**AWS CLI**

**To unassign a secondary private IP address from a network interface**

This example unassigns the specified private IP address from the specified network interface. If the command succeeds, no output is returned.

Command:

```
aws ec2 unassign-private-ip-addresses --network-interface-id eni-e5aa89a3 --private-ip-addresses 10.0.0.82
```

• For API details, see [UnassignPrivateIpAddresses](#) in *AWS CLI Command Reference*.

unassign-private-nat-gateway-address

The following code example shows how to use `unassign-private-nat-gateway-address`.

**AWS CLI**

**To unassign a private IP address from your private NAT gateway**

The following `unassign-private-nat-gateway-address` example unassigns the specified IP address from the specified private NAT gateway.

```
aws ec2 unassign-private-nat-gateway-address \ 
   --nat-gateway-id nat-1234567890abcdef0 \ 
   --private-ip-addresses 10.0.20.197
```
Output:

```
{
   "NatGatewayId": "nat-0ee3edd182361f662",
   "NatGatewayAddresses": [
   {
      "NetworkInterfaceId": "eni-0065a61b324d1897a",
      "PrivateIp": "10.0.20.197",
      "IsPrimary": false,
      "Status": "unassigning"
   }
   ]
}
```

For more information, see [NAT gateways](https://docs.aws.amazon.com/vpc/latest/UserGuide/nat-gateways.html) in the Amazon VPC User Guide.


**update-security-group-rule-descriptions-egress**

The following code example shows how to use `update-security-group-rule-descriptions-egress`.

**AWS CLI**

To update the description of an outbound security group rule

The following `update-security-group-rule-descriptions-egress` example updates the description for the security group rule for the specified port and IPv4 address range. The description 'Outbound HTTP access to server 2' replaces any existing description for the rule.

```
aws ec2 update-security-group-rule-descriptions-egress \\
    --group-id sg-02f0d35a850ba727f \\
    --ip-permissions
    IpProtocol=tcp,FromPort=80,ToPort=80,IpRanges=[{CidrIp=203.0.113.0/24,Description="Outbound HTTP access to server 2"}]
```

Output:

```
{

}
For more information, see Security group rules in the Amazon EC2 User Guide.

- For API details, see UpdateSecurityGroupRuleDescriptionsEgress in AWS CLI Command Reference.

**update-security-group-rule-descriptions-ingress**

The following code example shows how to use update-security-group-rule-descriptions-ingress.

**AWS CLI**

**Example 1: To update the description of an inbound security group rule with a CIDR source**

The following update-security-group-rule-descriptions-ingress example updates the description for the security group rule for the specified port and IPv4 address range. The description 'SSH access from ABC office' replaces any existing description for the rule.

```bash
aws ec2 update-security-group-rule-descriptions-ingress \
  --group-id sg-02f0d35a850ba727f \
  --ip-permissions
  IpProtocol=tcp,FromPort=22,ToPort=22,IpRanges='[{CidrIp=203.0.113.0/16,Description="SSH access from corpnet"}]
```

Output:

```json
{
  "Return": true
}
```

For more information, see Security group rules in the Amazon EC2 User Guide.

**Example 2: To update the description of an inbound security group rule with a prefix list source**

The following update-security-group-rule-descriptions-ingress example updates the description for the security group rule for the specified port and prefix list. The description 'SSH access from ABC office' replaces any existing description for the rule.
aws ec2 update-security-group-rule-descriptions-ingress \
   --group-id sg-02f0d35a850ba727f \
   --ip-permissions
   IpProtocol=tcp,FromPort=22,ToPort=22,PrefixListIds='[{{PrefixListId=pl-12345678,Description="SSH access from corpnet"}}]'

Output:

{    "Return": true }  

For more information, see Security group rules in the Amazon EC2 User Guide.

- For API details, see UpdateSecurityGroupRuleDescriptionsIngress in AWS CLI Command Reference.

withdraw-byoip-cidr

The following code example shows how to use withdraw-byoip-cidr.

AWS CLI

To stop advertising an address range

The following withdraw-byoip-cidr example stops advertising the specified address range.

aws ec2 withdraw-byoip-cidr \
   --cidr 203.0.113.25/24

Output:

{    "ByoipCidr": {        "Cidr": "203.0.113.25/24",        "StatusMessage": "ipv4pool-ec2-1234567890abcdef0",        "State": "advertised"    } }  

- For API details, see WithdrawByoipCidr in AWS CLI Command Reference.
Amazon EC2 Instance Connect examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon EC2 Instance Connect.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- **Actions**

**Actions**

**send-ssh-public-key**

The following code example shows how to use `send-ssh-public-key`.

**AWS CLI**

**To send a an SSH public key to an instance**

The following `send-ssh-public-key` example sends the specified SSH public key to the specified instance. The key is used to authenticate the specified user.

```
aws ec2-instance-connect send-ssh-public-key \
  --instance-id i-1234567890abcdef0 \
  --instance-os-user ec2-user \
  --availability-zone us-east-2b \
  --ssh-public-key file://path/my-rsa-key.pub
```

This command produces no output.

- For API details, see [SendSshPublicKey](#) in *AWS CLI Command Reference*. 

Amazon ECR examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon ECR.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics

- Actions

Actions

List the image IDs

The following code example shows how to list the image IDs for a repository.

AWS CLI

To list the images in a repository

The following list-images example displays a list of the images in the cluster-autoscaler repository.

```
aws ecr list-images \
   --repository-name cluster-autoscaler
```

Output:

```
{
   "imageIds": [
      {
        "imageDigest": "sha256:99c6fb4377e9a420a1eb3b410a951c9f464eff3b7dbc76c65e434e39b94b6570",
```
• For API details, see ListImages in AWS CLI Command Reference.

List your repositories

The following code example shows how to list your repositories.

AWS CLI

To describe the repositories in a registry

This example describes the repositories in the default registry for an account.

Command:

```bash
aws ecr describe-repositories
```

Output:

```json
{
   "repositories": [
   {
   "registryId": "012345678910",
   "repositoryName": "ubuntu",
   "repositoryArn": "arn:aws:ecr:us-west-2:012345678910:repository/ubuntu"
   },
   {
   "registryId": "012345678910",
   "repositoryName": "test",
   "repositoryArn": "arn:aws:ecr:us-west-2:012345678910:repository/test"
   }
   ]
}
```
For API details, see DescribeRepositories in AWS CLI Command Reference.

**batch-check-layer-availability**

The following code example shows how to use batch-check-layer-availability.

**AWS CLI**

To check the availability of a layer

The following batch-check-layer-availability example checks the availability of a layer with the digest sha256:6171c7451a50945f8ddd72f7732cc04d7a0d1f48138a426b2e64387fdeb834ed in the cluster-autoscaler repository.

```
aws ecr batch-check-layer-availability \
    --repository-name cluster-autoscaler \
    --layer-digests sha256:6171c7451a50945f8ddd72f7732cc04d7a0d1f48138a426b2e64387fdeb834ed
```

Output:

```
{
    "layers": [
    {
        "layerDigest": "sha256:6171c7451a50945f8ddd72f7732cc04d7a0d1f48138a426b2e64387fdeb834ed",
        "layerAvailability": "AVAILABLE",
        "layerSize": 2777,
        "mediaType": "application/vnd.docker.container.image.v1+json"
    },
    ["failures": []
    ]
}
```

For API details, see BatchCheckLayerAvailability in AWS CLI Command Reference.
batch-delete-image

The following code example shows how to use `batch-delete-image`.

AWS CLI

**Example 1: To delete an image**

The following `batch-delete-image` example deletes an image with the tag `precise` in the specified repository in the default registry for an account.

```bash
aws ecr batch-delete-image \
   --repository-name ubuntu \n   --image-ids imageTag=precise
```

Output:

```json
{
   "failures": [],
   "imageIds": [
      {
         "imageTag": "precise",
         "imageDigest": "sha256:19665f1e6d1e504117a1743c0a3d3753086354a38375961f2e665416ef4b1b2f"
      }
   ]
}
```

**Example 2: To delete multiple images**

The following `batch-delete-image` example deletes all images tagged with `prod` and `team1` in the specified repository.

```bash
aws ecr batch-delete-image \
   --repository-name MyRepository \n   --image-ids imageTag=prod imageTag=team1
```

Output:

```json
{
   "imageIds": [
      {
```

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The following code example shows how to use `batch-get-image`.

**AWS CLI**

**Example 1: To get an image**

The following `batch-get-image` example gets an image with the tag v1.13.6 in a repository called `cluster-autoscaler` in the default registry for an account.

```bash
aws ecr batch-get-image \
  --repository-name cluster-autoscaler \
  --image-ids imageTag=v1.13.6
```

Output:

```
{
  "images": [
    {
      "registryId": "012345678910",
      "repositoryName": "cluster-autoscaler",
      "imageId": {
        "imageDigest": "sha256:4a1c6567c38904384ebc64e35b7eeddd8451110c299e3368d2210066487d97e5",
        "imageTag": "v1.13.6"
      }
    }
  ]
}
```

For more information, see [Deleting an Image](https://docs.aws.amazon.com/AmazonECR/latest/userguide/Deleting-an-Image.html) in the *Amazon ECR User Guide*.

- For API details, see [BatchDeleteImage](https://docs.aws.amazon.com/cli/latest/reference/ecr/batch-delete-image.html) in *AWS CLI Command Reference*. 

---

**batch-get-image**

The following code example shows how to use `batch-get-image`.

**AWS CLI**

**Example 1: To get an image**

The following `batch-get-image` example gets an image with the tag `v1.13.6` in a repository called `cluster-autoscaler` in the default registry for an account.

```bash
aws ecr batch-get-image \
  --repository-name cluster-autoscaler \
  --image-ids imageTag=v1.13.6
```

Output:

```
{
  "images": [
    {
      "registryId": "012345678910",
      "repositoryName": "cluster-autoscaler",
      "imageId": {
        "imageDigest": "sha256:4a1c6567c38904384ebc64e35b7eeddd8451110c299e3368d2210066487d97e5",
        "imageTag": "v1.13.6"
      }
    }
  ]
}
```
Example 2: To get multiple images

The following batch-get-image example displays details of all images tagged with prod and team1 in the specified repository.

```
aws ecr batch-get-image \
  --repository-name MyRepository \
  --image-ids imageTag=prod imageTag=team1
```

Output:

```json
{
  "images": [
    {
      "registryId": "123456789012",
      "repositoryName": "MyRepository",
      "imageId": {
        "imageManifest": "{\n          "schemaVersion": 2,\n          "mediaType": "application/vnd.docker.distribution.manifest.v2+json",
          "config": {\n            "mediaType": "application/vnd.docker.container.image.v1+json",
            "size": 2777,
            "digest": "sha256:6171c7451a50945f8dd72f7f732cc04d7a0d1f48138a426b2e64387fdeb83ed",
          },\n          "layers": [
            {\n              "mediaType": "application/vnd.docker.image.rootfs.diff.tar.gzip",
              "size": 17743696,
              "digest": "sha256:39f9c05754f195f134ca1e4db1c9a691ab0848c697f8fe5a85f900caaf6e1",
            },\n            {\n              "mediaType": "application/vnd.docker.image.rootfs.diff.tar.gzip",
              "size": 2565026,
              "digest": "sha256:8c8a779d3a537b767ae1091fe6e00c2590af16767a6096d1b318d75494819f",
            },\n            {\n              "mediaType": "application/vnd.docker.image.rootfs.diff.tar.gzip",
              "size": 28005981,
              "digest": "sha256:c44ba47496991c9982ee493b47fd25c252caabf2b4ae7dd679b7a27b6a3c8fb7",
            },\n            {\n              "mediaType": "application/vnd.docker.image.rootfs.diff.tar.gzip",
              "size": 775,
              "digest": "sha256:e2c388b442226544363ca007be7b896bce1baebea04da23c6165eac30be650f"
            }
          ]
        }
      }
    }
  ]
}
```
For more information, see Images in the Amazon ECR User Guide.

- For API details, see BatchGetImage in AWS CLI Command Reference.

**complete-layer-upload**

The following code example shows how to use `complete-layer-upload`.

**AWS CLI**

**To complete an image layer upload**

The following `complete-layer-upload` example completes an image layer upload to the layer-test repository.

```
aws ecr complete-layer-upload \
  --repository-name layer-test \
  --upload-id 6cb64b8a-9378-0e33-2ab1-b780fab8a9e9 \
  --layer-digests 6cb64b8a-9378-0e33-2ab1-b780fab8a9e9:48074e6d3a68b39aad8cc002cdad912d4148c0f92b3729323e
```

Output:

```
{
  "uploadId": "6cb64b8a-9378-0e33-2ab1-b780fab8a9e9",
}
create-repository

The following code example shows how to use create-repository.

AWS CLI

Example 1: To create a repository

The following create-repository example creates a repository inside the specified namespace in the default registry for an account.

```bash
aws ecr create-repository \
  --repository-name project-a/nginx-web-app
```

Output:

```json
{
  "repository": {
    "registryId": "123456789012",
    "repositoryName": "sample-repo",
    "repositoryArn": "arn:aws:ecr:us-west-2:123456789012:repository/project-a/nginx-web-app"
  }
}
```

For more information, see Creating a Repository in the Amazon ECR User Guide.

Example 2: To create a repository configured with image tag immutability

The following create-repository example creates a repository configured for tag immutability in the default registry for an account.

```bash
aws ecr create-repository \
  --repository-name sample-repo \
  --image-tag-immutable
```

For API details, see CompleteLayerUpload in AWS CLI Command Reference.
--image-tag-mutability IMMUTABLE

Output:

```json
{
    "repository": {
        "registryId": "123456789012",
        "repositoryName": "sample-repo",
        "repositoryArn": "arn:aws:ecr:us-west-2:123456789012:repository/sample-repo",
        "imageTagMutability": "IMMUTABLE"
    }
}
```

For more information, see Image Tag Mutability in the Amazon ECR User Guide.

**Example 3: To create a repository configured with a scanning configuration**

The following create-repository example creates a repository configured to perform a vulnerability scan on image push in the default registry for an account.

```bash
aws ecr create-repository \  
    --repository-name sample-repo \  
    --image-scanning-configuration scanOnPush=true
```

Output:

```json
{
    "repository": {
        "registryId": "123456789012",
        "repositoryName": "sample-repo",
        "repositoryArn": "arn:aws:ecr:us-west-2:123456789012:repository/sample-repo",
        "imageScanningConfiguration": {
            "scanOnPush": true
        }
    }
}
```

For more information, see Image Scanning in the Amazon ECR User Guide.

- For API details, see CreateRepository in AWS CLI Command Reference.
**delete-lifecycle-policy**

The following code example shows how to use `delete-lifecycle-policy`.

**AWS CLI**

**To delete the lifecycle policy for a repository**

The following `delete-lifecycle-policy` example deletes the lifecycle policy for the `hello-world` repository.

```bash
aws ecr delete-lifecycle-policy \
  --repository-name hello-world
```

Output:

```json
{
  "registryId": "012345678910",
  "repositoryName": "hello-world",
  "lifecyclePolicyText": "{"rules": [{"rulePriority":1,"description":"Remove untagged images."},"selection":{"tagStatus":"untagged","countType":"sinceImagePushed","countUnit":"days","countNumber":10},"action":{"type":"expire"}}]",
  "lastEvaluatedAt": 0.0
}
```

- For API details, see [DeleteLifecyclePolicy](#) in *AWS CLI Command Reference*.

**delete-repository**

The following code example shows how to use `delete-repository`.

**AWS CLI**

**To delete a repository**

The following `delete-repository` example command force deletes the specified repository in the default registry for an account. The `--force` flag is required if the repository contains images.

```bash
aws ecr delete-repository \
  --repository-name ubuntu \
```

---

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--force

Output:

```json
{
    "repository": {
        "registryId": "123456789012",
        "repositoryName": "ubuntu",
        "repositoryArn": "arn:aws:ecr:us-west-2:123456789012:repository/ubuntu"
    }
}
```

For more information, see Deleting a Repository in the Amazon ECR User Guide.

- For API details, see DeleteRepository in AWS CLI Command Reference.

delete-repository-policy

The following code example shows how to use delete-repository-policy.

**AWS CLI**

**To delete the repository policy for a repository**

The following delete-repository-policy example deletes the repository policy for the cluster-autoscaler repository.

```bash
aws ecr delete-repository-policy \
    --repository-name cluster-autoscaler
```

Output:

```json
{
    "registryId": "012345678910",
    "repositoryName": "cluster-autoscaler",
    "policyText": "{\n    "Version": "2008-10-17",\n    "Statement": [{\n        "Sid": "allow public pull",\n        "Effect": "Allow",\n        "Principal": "*",\n        "Action": ["ecr:BatchCheckLayerAvailability", "ecr:BatchGetImage", "ecr:GetDownloadUrlForLayer"]\n    }]
}
```

- For API details, see DeleteRepositoryPolicy in AWS CLI Command Reference.
describe-image-scan-findings

The following code example shows how to use describe-image-scan-findings.

AWS CLI

To describe the scan findings for an image

The following describe-image-scan-findings example returns the image scan findings for an image using the image digest in the specified repository in the default registry for an account.

```
aws ecr describe-image-scan-findings \
  --repository-name sample-repo \
  --image-id
imageDigest=sha256:74b2c688c700ec95a93e478c73c148df3fbf5e706abe0318726e885e6
```

Output:

```
{
  "imageScanFindings": {
    "findings": [
      {
        "name": "CVE-2019-5188",
        "description": "A code execution vulnerability exists in the directory rehashing functionality of E2fsprogs e2fsck 1.45.4. A specially crafted ext4 directory can cause an out-of-bounds write on the stack, resulting in code execution. An attacker can corrupt a partition to trigger this vulnerability.",
        "severity": "MEDIUM",
        "attributes": [
          {
            "key": "package_version",
            "value": "1.44.1-1ubuntu1.1"
          },
          {
            "key": "package_name",
            "value": "e2fsprogs"
          },
          {
            "key": "CVSS2_VECTOR",
            "value": "AV:L/AC:L/Au:N/C:P/I:P/A:P"
          }
        ]
      }
    ]
  }
}
```
For more information, see Image Scanning in the Amazon ECR User Guide.

- For API details, see DescribeImageScanFindings in AWS CLI Command Reference.

**describe-images**

The following code example shows how to use describe-images.

**AWS CLI**

To describe an image in a repository

The following describe-images example displays details about an image in the cluster-autoscaler repository with the tag v1.13.6.

```bash
aws ecr describe-images 
 --repository-name cluster-autoscaler 
 --image-ids imageTag=v1.13.6
```
Output:

```json
{
   "imageDetails": [
      {
         "registryId": "012345678910",
         "repositoryName": "cluster-autoscaler",
         "imageDigest": "sha256:4a1c6567c38904384ebc64e35b7eddd4851110c299e3368d2210066487d97e5",
         "imageTags": [
            "v1.13.6"
         ],
         "imageSizeInBytes": 48318255,
         "imagePushedAt": 1565128275.0
      }
   ]
}
```

- For API details, see [DescribeImages](https://docs.aws.amazon.com/cli/latest/reference/ecr/describe-images.html) in *AWS CLI Command Reference*.

**get-authorization-token**

The following code example shows how to use `get-authorization-token`.

**AWS CLI**

**To get an authorization token for your default registry**

The following `get-authorization-token` example command gets an authorization token for your default registry.

```
aws ecr get-authorization-token
```

Output:

```json
{
   "authorizationData": [
      {
         "authorizationToken": "QVdTOkN...",
         "expiresAt": 1448875853.241,
         "proxyEndpoint": "https://123456789012.dkr.ecr.us-west-2.amazonaws.com"
      }
   ]
}
```
• For API details, see [GetAuthorizationToken](#) in *AWS CLI Command Reference*.

**get-download-url-for-layer**

The following code example shows how to use `get-download-url-for-layer`.

**AWS CLI**

To get the download URL of a layer

The following `get-download-url-for-layer` example displays the download URL of a layer with the digest `sha256:6171c7451a50945f8dd72f7732cc04d7a0d1f48138a426b2e64387fdeb834ed` in the `cluster-autoscaler` repository.

```
aws ecr get-download-url-for-layer \
   --repository-name cluster-autoscaler \
   --layer-digest sha256:6171c7451a50945f8dd72f7732cc04d7a0d1f48138a426b2e64387fdeb834ed
```

Output:

```
{
   "layerDigest": "sha256:6171c7451a50945f8dd72f7732cc04d7a0d1f48138a426b2e64387fdeb834ed"
}
```

• For API details, see [GetDownloadUrlForLayer](#) in *AWS CLI Command Reference*.

**get-lifecycle-policy**

The following code example shows how to use `get-lifecycle-policy`.
AWS CLI

To retrieve a lifecycle policy

The following `get-lifecycle-policy` example displays details of the lifecycle policy for the specified repository in the default registry for the account.

```
aws ecr get-lifecycle-policy \
   --repository-name "project-a/amazon-ecs-sample"
```

Output:

```
{
   "registryId": "123456789012",
   "repositoryName": "project-a/amazon-ecs-sample",
   "lifecyclePolicyText": "{"rules":[{"rulePriority":1,"description":"
   "Expire images older than 14 days","selection":{"tagStatus":"untagged","countType":"sinceImagePushed","countUnit":"days","countNumber":14},"action":{"type":"expire"}]}}",
   "lastEvaluatedAt": 1504295007.0
}
```

For more information, see Lifecycle Policies in the Amazon ECR User Guide.

- For API details, see `GetLifecyclePolicy` in AWS CLI Command Reference.

get-lifecycle-policy-preview

The following code example shows how to use `get-lifecycle-policy-preview`.

AWS CLI

To retrieve details for a lifecycle policy preview

The following `get-lifecycle-policy-preview` example retrieves the result of a lifecycle policy preview for the specified repository in the default registry for an account.

Command:

```
aws ecr get-lifecycle-policy-preview \
   --repository-name "project-a/amazon-ecs-sample"
```
Output:

```json
{
    "registryId": "012345678910",
    "repositoryName": "project-a/amazon-ecs-sample",
    "lifecyclePolicyText": "{\n        "rules": [\n            {\n                "rulePriority": 1,
                "description": "Expire images older than 14 days",
                "selection": {\n                    "tagStatus": "untagged",
                    "countType": "sinceImagePushed",
                    "countUnit": "days",
                    "countNumber": 14
                },
                "action": {\n                    "type": "expire"
                }
            }
        ],
        "status": "COMPLETE",
        "previewResults": [],
        "summary": {"expiringImageTotalCount": 0}
    }
}
```

For more information, see [Lifecycle Policies](https://docs.aws.amazon.com/AmazonECR/latest/userguide/lifecycle-policies.html) in the *Amazon ECR User Guide*.

- For API details, see [GetLifecyclePolicyPreview](https://docs.aws.amazon.com/cli/latest/reference/ecr/get-lifecycle-policy-preview.html) in *AWS CLI Command Reference*.

### get-login

The following code example shows how to use `get-login`.

#### AWS CLI

**To retrieve a Docker login command to your default registry**

This example prints a command that you can use to log in to your default Amazon ECR registry.

**Command:**

```bash
aws ecr get-login
```

**Output:**

```bash
docker login -u AWS -p <password> -e none https://<aws_account_id>.dkr.ecr.<region>.amazonaws.com
```
To log in to another account's registry

This example prints one or more commands that you can use to log in to Amazon ECR registries associated with other accounts.

Command:

```
aws ecr get-login --registry-ids 012345678910 023456789012
```

Output:

```
docker login -u <username> -p <token-1> -e none <endpoint-1>
docker login -u <username> -p <token-2> -e none <endpoint-2>
```

- For API details, see [GetLogin](awscli://awscli/GetLogin) in *AWS CLI Command Reference*.

get-login-password

The following code example shows how to use `get-login-password`.

AWS CLI

To retrieve a password to authenticate to a registry

The following `get-login-password` displays a password that you can use with a container client of your choice to authenticate to any Amazon ECR registry that your IAM principal has access to.

```
aws ecr get-login-password
```

Output:

```
<password>
```

To use with the Docker CLI, pipe the output of the `get-login-password` command to the `docker login` command. When retrieving the password, ensure that you specify the same Region that your Amazon ECR registry exists in.

```
aws ecr get-login-password \ 
--region <region> \
| docker login \
| --username AWS \
| --password-stdin <aws_account_id>.dkr.ecr.<region>.amazonaws.com |

For more information, see Registry Authentication in the Amazon ECR User Guide.

- For API details, see GetLoginPassword in AWS CLI Command Reference.

get-repository-policy

The following code example shows how to use get-repository-policy.

AWS CLI

To retrieve the repository policy for a repository

The following get-repository-policy example displays details about the repository policy for the cluster-autoscaler repository.

```bash
docker login \
    --username AWS \
    --password-stdin <aws_account_id>.dkr.ecr.<region>.amazonaws.com
```

```bash
aws ecr get-repository-policy \
    --repository-name cluster-autoscaler
```

Output:

```json
{
    "registryId": "012345678910",
    "repositoryName": "cluster-autoscaler",
    "policyText": "{\n      "Version": "2008-10-17",
      "Statement": [{\n        "Sid": "allow public pull",
        "Effect": "Allow",
        "Principal": "*",
        "Action": [ "ecr:BatchCheckLayerAvailability", "ecr:BatchGetImage",
                   "ecr:GetDownloadUrlForLayer" ]\n      } ]\n    }"
}
```

- For API details, see GetRepositoryPolicy in AWS CLI Command Reference.

initiate-layer-upload

The following code example shows how to use initiate-layer-upload.

AWS CLI

To initiate an image layer upload
The following `initiate-layer-upload` example initiates an image layer upload to the `layer-test` repository.

```
aws ecr initiate-layer-upload \
   --repository-name layer-test
```

Output:

```
{
   "partSize": 10485760,
   "uploadId": "6cb64b8a-9378-0e33-2ab1-b780fab8a9e9"
}
```

- For API details, see [InitiateLayerUpload](#) in *AWS CLI Command Reference*.

**list-tags-for-resource**

The following code example shows how to use `list-tags-for-resource`.

**AWS CLI**

**To list the tags for repository**

The following `list-tags-for-resource` example displays a list of the tags associated with the `hello-world` repository.

```
aws ecr list-tags-for-resource \
```

Output:

```
{
   "tags": [
      {
         "Key": "Stage",
         "Value": "Integ"
      }
   ]
}
```

- For API details, see [ListTagsForResource](#) in *AWS CLI Command Reference*.
**put-image**

The following code example shows how to use `put-image`.

**AWS CLI**

*To retag an image with its manifest*

The following `put-image` example creates a new tag in the `hello-world` repository with an existing image manifest.

```bash
aws ecr put-image \
  --repository-name hello-world \
  --image-tag 2019.08 \
  --image-manifest file://hello-world.manifest.json
```

**Contents of `hello-world.manifest.json`:**

```json
{
  "schemaVersion": 2,
  "mediaType": "application/vnd.docker.distribution.manifest.v2+json",
  "config": {
    "mediaType": "application/vnd.docker.container.image.v1+json",
    "size": 5695,
    "digest": "sha256:cea5fe7701b7db3dd1c372f3cea6f43cdda444fcc488f530829145e426d8b980"
  },
  "layers": [
    {
      "mediaType": "application/vnd.docker.image.rootfs.diff.tar.gzip",
      "size": 39096921,
      "digest": "sha256:d8868e50ac4c7104d2200d42f432b661b2da8c1e417ccfae217e6a1e04bb9295"
    },
    {
      "mediaType": "application/vnd.docker.image.rootfs.diff.tar.gzip",
      "size": 57938,
      "digest": "sha256:83251ac64627fc331584f6c498b3aba5badc01574e2c70b2499af3af16630eed"
    },
    {
      "mediaType": "application/vnd.docker.image.rootfs.diff.tar.gzip",
      "size": 423,
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"digest":
"sha256:589bba2f1b36ae56f0152c246e2541c5aa604b058febfcf2be32e9a304fec610"
 },
{
 "mediaType": "application/vnd.docker.image.rootfs.diff.tar.gz",
 "size": 680,
 "digest":
"sha256:d62ecaced3964b735cdd2af613d6bb136a52c1da0838b2ff4b4dab4212bcb1c"
 },
{
 "mediaType": "application/vnd.docker.image.rootfs.diff.tar.gz",
 "size": 162,
 "digest":
"sha256:6d93b41cf6bf0d2522b7cf61588de4cd045065b36c52bd3aec2ba0622b2b22b"
 },
{
 "mediaType": "application/vnd.docker.image.rootfs.diff.tar.gz",
 "size": 28268840,
 "digest":
"sha256:6986b4d4c07932c680b3587f2eac8b0e013568c003cc23b04044628a5c5e599f"
 },
{
 "mediaType": "application/vnd.docker.image.rootfs.diff.tar.gz",
 "size": 35369152,
 "digest":
"sha256:8c5ec60f10102dc8da0649d866c7c2f0706e459d0bdc25c83ad2de86f4996c276"
 },
{
 "mediaType": "application/vnd.docker.image.rootfs.diff.tar.gz",
 "size": 155,
 "digest":
"sha256:cde50b1c594539c5f67cbde9aef95c9ae321ccfb857f7b251b45b84198adc85"
 },
{
 "mediaType": "application/vnd.docker.image.rootfs.diff.tar.gz",
 "size": 28737,
 "digest":
"sha256:2e102807ab72a73fc9abf53e8c50e421bdc337a0a8afcb242176edeec65977e4"
 },
{
 "mediaType": "application/vnd.docker.image.rootfs.diff.tar.gz",
 "size": 190,
 "digest":
"sha256:fc379bbd5ed37808772bef016553a297356c59b8f134659e6ee4ecb563c2f5a7"
Output:

{
  "image": {
    "registryId": "130757420319",
    "repositoryName": "hello-world",
    "imageId": {
      "imageDigest": "sha256:8ece96b74f87652876199d83bd107d0435a196133af383ac54cb82b6cc5283ae",
      "imageTag": "2019.08"
    },
    "imageManifest": "{\n      \"schemaVersion\": 2,\n      \"mediaType\": \"application/vnd.docker.distribution.manifest.v2+json\n    },\n    \"config\": {\n      \"mediaType\": \"application/vnd.docker.container.image.v1+json\n    },\n    \"layers\": [
      {\n        \"mediaType\": \"application/vnd.docker.image.rootfs.diff.tar.gzip\n      },
      {\n        \"mediaType\": \"application/vnd.docker.image.rootfs.diff.tar.gzip\n      },
      {\n        \"mediaType\": \"application/vnd.docker.image.rootfs.diff.tar.gzip\n      },
      {\n        \"mediaType\": \"application/vnd.docker.image.rootfs.diff.tar.gzip\n      },
      {\n        \"mediaType\": \"application/vnd.docker.image.rootfs.diff.tar.gzip\n      },
      {\n        \"mediaType\": \"application/vnd.docker.image.rootfs.diff.tar.gzip\n      }
    ]
  }
}
For API details, see [PutImage](https://docs.aws.amazon.com/cli/latest/reference/ecr/put-image-scanning-configuration.html) in *AWS CLI Command Reference*.

**put-image-scanning-configuration**

The following code example shows how to use `put-image-scanning-configuration`.

**AWS CLI**

**To update the image scanning configuration for a repository**

The following `put-image-scanning-configuration` example updates the image scanning configuration for the specified repository.

```
aws ecr put-image-scanning-configuration \
  --repository-name sample-repo \
  --image-scanning-configuration scanOnPush=true
```

**Output:**

```
{
  "registryId": "012345678910",
```
For more information, see Image Scanning in the Amazon ECR User Guide.

- For API details, see PutImageScanningConfiguration in AWS CLI Command Reference.

**put-image-tag-mutability**

The following code example shows how to use `put-image-tag-mutability`.

**AWS CLI**

To update the image tag mutability setting for a repository

The following `put-image-tag-mutability` example configures the specified repository for tag immutability. This prevents all image tags within the repository from being overwritten.

```
aws ecr put-image-tag-mutability \
   --repository-name hello-repository \
   --image-tag-mutability IMMUTABLE
```

Output:

```
{
   "registryId": "012345678910",
   "repositoryName": "sample-repo",
   "imageTagMutability": "IMMUTABLE"
}
```

For more information, see Image Tag Mutability in the Amazon ECR User Guide.

- For API details, see PutImageTagMutability in AWS CLI Command Reference.

**put-lifecycle-policy**

The following code example shows how to use `put-lifecycle-policy`.

```
.aws ecr put-lifecycle-policy \
   --repository-name hello-repository \
   --policy /path/to/lifecycle/policy.json
```

Output:

```
{
   "policyText": "...
```

For more information, see Policy Document Syntax and Structure in the Amazon ECR User Guide.

- For API details, see PutLifecyclePolicy in AWS CLI Command Reference.
AWS CLI

To create a lifecycle policy

The following put-lifecycle-policy example creates a lifecycle policy for the specified repository in the default registry for an account.

```bash
aws ecr put-lifecycle-policy \
  --repository-name "project-a/amazon-ecs-sample" \
  --lifecycle-policy-text "file://policy.json"
```

Contents of `policy.json`:

```json
{
  "rules": [
    {
      "rulePriority": 1,
      "description": "Expire images older than 14 days",
      "selection": {
        "tagStatus": "untagged",
        "countType": "sinceImagePushed",
        "countUnit": "days",
        "countNumber": 14
      },
      "action": {
        "type": "expire"
      }
    }
  ]
}
```

Output:

```json
{
  "registryId": "<aws_account_id>",
  "repositoryName": "project-a/amazon-ecs-sample",
  "lifecyclePolicyText": "\n  \"rules\": [{"rulePriority":1,"description":\"Expire images older than 14 days\","selection":{"tagStatus":\"untagged\","countType":\"sinceImagePushed\","countUnit":\"days\","countNumber":14},"action":{"type":"expire\"}]\n  
}
```
For more information, see Lifecycle Policies in the Amazon ECR User Guide.

- For API details, see PutLifecyclePolicy in AWS CLI Command Reference.

**set-repository-policy**

The following code example shows how to use set-repository-policy.

**AWS CLI**

**To set the repository policy for a repository**

The following set-repository-policy example attaches a repository policy contained in a file to the cluster-autoscaler repository.

```bash
aws ecr set-repository-policy \
  --repository-name cluster-autoscaler \
  --policy-text file://my-policy.json
```

Contents of `my-policy.json`:

```json
{
    "Version": "2008-10-17",
    "Statement": [
        {
            "Sid": "allow public pull",
            "Effect": "Allow",
            "Principal": "*",
            "Action": [
                "ecr:BatchCheckLayerAvailability",
                "ecr:BatchGetImage",
                "ecr:GetDownloadUrlForLayer"
            ]
        }
    ]
}
```

Output:

```json
{
    "registryId": "012345678910",
```
'repositoryName': 'cluster-autoscaler',
'policyText': '{
  "Version" : "2008-10-17",
  "Statement" : 
  [
    {
      "Sid" : "allow public pull",
      "Effect" : "Allow",
      "Principal" : "*",
      "Action" : 
      [ "ecr:BatchCheckLayerAvailability", "ecr:BatchGetImage", "ecr:GetDownloadUrlForLayer" ]
    }
  ]
}'

- For API details, see `SetRepositoryPolicy` in *AWS CLI Command Reference*.

**start-image-scan**

The following code example shows how to use `start-image-scan`.

**AWS CLI**

**To start an image vulnerability scan**

The following `start-image-scan` example starts an image scan for and specified by the image digest in the specified repository.

```
aws ecr start-image-scan \
  --repository-name sample-repo \
  --image-id imageDigest=sha256:74b2c688c700ec95a93e478c148df3fbf5ea706abe0318726e885e6
```

**Output:**

```
{
  "registryId": "012345678910",
  "repositoryName": "sample-repo",
  "imageId": {
    "imageDigest": "sha256:74b2c688c700ec95a93e478c148df3fbf5ea706abe0318726e885e6"
  },
  "imageScanStatus": {
    "status": "IN_PROGRESS"
  }
}
```

For more information, see `Image Scanning` in the *Amazon ECR User Guide*.

- For API details, see `StartImageScan` in *AWS CLI Command Reference*. 

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start-lifecycle-policy-preview

The following code example shows how to use start-lifecycle-policy-preview.

AWS CLI

To create a lifecycle policy preview

The following start-lifecycle-policy-preview example creates a lifecycle policy preview defined by a JSON file for the specified repository.

```
aws ecr start-lifecycle-policy-preview \
  --repository-name "project-a/amazon-ecs-sample" \
  --lifecycle-policy-text "file://policy.json"
```

Contents of policy.json:

```
{
  "rules": [
    {
      "rulePriority": 1,
      "description": "Expire images older than 14 days",
      "selection": {
        "tagStatus": "untagged",
        "countType": "sinceImagePushed",
        "countUnit": "days",
        "countNumber": 14
      },
      "action": {
        "type": "expire"
      }
    }
  ]
}
```

Output:

```
{
  "registryId": "012345678910",
  "repositoryName": "project-a/amazon-ecs-sample",
  "lifecyclePolicyText": "{\n    "rules": [{\n      \"rulePriority\": 1,\n      \"description\": \"Expire images older than 14 days\",\n      \"selection\": {\n        \"tagStatus\": \"untagged\",\n        \"countType\": \"sinceImagePushed\",\n        \"countUnit\": \"days\",\n        \"countNumber\": 14
      },\n      \"action\": {\n        \"type\": \"expire\"
      }
    }\n  ]\n}
```
AWS CLI

To tag a repository

The following tag-resource example sets a tag with key Stage and value Integ on the hello-world repository.

```
aws ecr tag-resource \
    --tags Key=Stage,Value=Integ
```

This command produces no output.

For API details, see TagResource in AWS CLI Command Reference.

untag-resource

The following code example shows how to use untag-resource.

AWS CLI

To untag a repository

The following untag-resource example removes the tag with the key Stage from the hello-world repository.

```
aws ecr untag-resource \
    --tag-keys Stage
```
This command produces no output.

- For API details, see [UntagResource](#) in AWS CLI Command Reference.

### upload-layer-part

The following code example shows how to use upload-layer-part.

### AWS CLI

**To upload a layer part**

This following upload-layer-part uploads an image layer part to the layer-test repository.

```bash
aws ecr upload-layer-part \
    --repository-name layer-test \
    --upload-id 6cb64b8a-9378-0e33-2ab1-b780fab8a9e9 \
    --part-first-byte 0 \
    --part-last-byte 8323314 \
    --layer-part-blob file:///var/lib/docker/image/overlay2/layerdb/sha256/ff986b10a018b48074e6d3a68b39aad8ccc002cdad912d4148c0f92b3729323e/layer.b64
```

**Output:**

```json
{
    "uploadId": "6cb64b8a-9378-0e33-2ab1-b780fab8a9e9",
    "registryId": "012345678910",
    "lastByteReceived": 8323314,
    "repositoryName": "layer-test"
}
```

- For API details, see [UploadLayerPart](#) in AWS CLI Command Reference.

### Amazon ECS examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon ECS.

**Actions** are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.
**Scenarios** are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- **Actions**

**Actions**

**Create a cluster**

The following code example shows how to create an Amazon ECS cluster.

**AWS CLI**

**Example 1: To create a new cluster**

The following `create-cluster` example creates a cluster.

```bash
aws ecs create-cluster \ 
   --cluster-name MyCluster
```

**Output:**

```json
{
   "cluster": {
      "clusterName": "MyCluster",
      "status": "ACTIVE",
      "registeredContainerInstancesCount": 0,
      "pendingTasksCount": 0,
      "runningTasksCount": 0,
      "activeServicesCount": 0,
      "statistics": [],
      "tags": []
   }
}
```

For more information, see [Creating a Cluster](#) in the *Amazon ECS Developer Guide*. 

---

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---
Example 2: To create a new cluster using capacity providers

The following create-cluster example creates a cluster and associates two existing capacity providers with it. The create-capacity-provider command is used to create a capacity provider. Specifying a default capacity provider strategy is optional, but recommended. In this example, we create a cluster named MyCluster and associate the MyCapacityProvider1 and MyCapacityProvider2 capacity providers with it. A default capacity provider strategy is specified that spreads the tasks evenly across both capacity providers.

```
aws ecs create-cluster --cluster-name MyCluster --capacity-providers MyCapacityProvider1 MyCapacityProvider2 --default-capacity-provider-strategy capacityProvider=MyCapacityProvider1,weight=1 capacityProvider=MyCapacityProvider2,weight=1
```

Output:

```
{
  "cluster": {
    "clusterName": "MyCluster",
    "status": "PROVISIONING",
    "registeredContainerInstancesCount": 0,
    "pendingTasksCount": 0,
    "runningTasksCount": 0,
    "activeServicesCount": 0,
    "statistics": [],
    "settings": [
      {
        "name": "containerInsights",
        "value": "enabled"
      }
    ],
    "capacityProviders": [
      "MyCapacityProvider1",
      "MyCapacityProvider2"
    ],
    "defaultCapacityProviderStrategy": [
      {
        "capacityProvider": "MyCapacityProvider1",
        "weight": 1,
        "base": 0
      },
      {
        "capacityProvider": "MyCapacityProvider2",
        "weight": 1,
        "base": 0
      }
    ]
  }
}
```


```
{
    "capacityProvider": "MyCapacityProvider2",
    "weight": 1,
    "base": 0
}
],
"attachments": [
{
    "id": "0fb0c8f4-6edd-4de1-9b09-17e470ee1918",
    "type": "asp",
    "status": "PRECREATED",
    "details": [
        {
            "name": "capacityProviderName",
            "value": "MyCapacityProvider1"
        },
        {
            "name": "scalingPlanName",
            "value": "ECSManagedAutoScalingPlan-a1b2c3d4-5678-90ab-cdef-EXAMPLE11111"
        }
    ]
},
{
    "id": "ae592060-2382-4663-9476-b015c685593c",
    "type": "asp",
    "status": "PRECREATED",
    "details": [
        {
            "name": "capacityProviderName",
            "value": "MyCapacityProvider2"
        },
        {
            "name": "scalingPlanName",
            "value": "ECSManagedAutoScalingPlan-a1b2c3d4-5678-90ab-cdef-EXAMPLE22222"
        }
    ]
}
],
"attachmentsStatus": "UPDATE_IN_PROGRESS"
}
```
For more information, see Cluster capacity providers in the Amazon ECS Developer Guide.

**Example 3: To create a new cluster with multiple tags**

The following create-cluster example creates a cluster with multiple tags. For more information about adding tags using shorthand syntax, see Using Shorthand Syntax with the AWS Command Line Interface in the AWS CLI User Guide.

```bash
aws ecs create-cluster \
--cluster-name MyCluster \
--tags key=key1,value=value1 key=key2,value=value2 key=key3,value=value3
```

Output:

```json
{
   "cluster": {
       "clusterName": "MyCluster",
       "status": "ACTIVE",
       "registeredContainerInstancesCount": 0,
       "pendingTasksCount": 0,
       "runningTasksCount": 0,
       "activeServicesCount": 0,
       "statistics": [],
       "tags": [
           {
               "key": "key1",
               "value": "value1"
           },
           {
               "key": "key2",
               "value": "value2"
           },
           {
               "key": "key3",
               "value": "value3"
           }
       ]
   }
}
```

For more information, see Creating a Cluster in the Amazon ECS Developer Guide.
For API details, see CreateCluster in AWS CLI Command Reference.

Create a service

The following code example shows how to create an Amazon ECS service.

AWS CLI

Example 1: To create a service with a Fargate task

The following `create-service` example shows how to create a service using a Fargate task.

```
aws ecs create-service \
    --cluster MyCluster \
    --service-name MyService \
    --task-definition sample-fargate:1 \
    --desired-count 2 \
    --launch-type FARGATE \
    --platform-version LATEST \
    --network-configuration \
    "awsvpcConfiguration={subnets=[subnet-12344321],securityGroups=[sg-12344321],assignPublicIp=ENABLED}" \
    --tags key=key1,value=value1 key=key2,value=value2 key=key3,value=value3
```

Output:

```
{
    "service": {
        "serviceArn": "arn:aws:ecs:us-west-2:123456789012:service/MyCluster/MyService",
        "serviceName": "MyService",
        "loadBalancers": [],
        "serviceRegistries": [],
        "status": "ACTIVE",
        "desiredCount": 2,
        "runningCount": 0,
        "pendingCount": 0,
        "launchType": "FARGATE",
        "platformVersion": "LATEST",
        "deploymentConfiguration": {
```

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"maximumPercent": 200,
"minimumHealthyPercent": 100
},
"deployments": [
{
    "id": "ecs-svc/1234567890123456789",
    "status": "PRIMARY",
    "desiredCount": 2,
    "pendingCount": 0,
    "runningCount": 0,
    "createdAt": 1557119253.821,
    "updatedAt": 1557119253.821,
    "launchType": "FARGATE",
    "platformVersion": "1.3.0",
    "networkConfiguration": {
        "awsvpcConfiguration": {
            "subnets": [
                "subnet-12344321"
            ],
            "securityGroups": [
                "sg-12344321"
            ],
            "assignPublicIp": "ENABLED"
        }
    }
}
],
"roleArn": "arn:aws:iam::123456789012:role/aws-service-role/ecs.amazonaws.com/AWSServiceRoleForECS",
"events": [],
"createdAt": 1557119253.821,
"placementConstraints": [],
"placementStrategy": [],
"networkConfiguration": {
    "awsvpcConfiguration": {
        "subnets": [
            "subnet-12344321"
        ],
        "securityGroups": [
            "sg-12344321"
        ],
        "assignPublicIp": "ENABLED"
Example 2: To create a service using the EC2 launch type

The following create-service example shows how to create a service called ecs-simple-service with a task that uses the EC2 launch type. The service uses the sleep360 task definition and it maintains 1 instantiation of the task.

```bash
aws ecs create-service \
   --cluster MyCluster \
   --service-name ecs-simple-service \
   --task-definition sleep360:2 \
   --desired-count 1
```

Output:

```json
{
   "service": {
      "serviceName": "ecs-simple-service",
      "loadBalancers": []
   }
}
```
Example 3: To create a service that uses an external deployment controller

The following create-service example creates a service that uses an external deployment controller.

```bash
aws ecs create-service \
   --cluster MyCluster \
```
--service-name MyService \
--deployment-controller type=EXTERNAL \n--desired-count 1

Output:

```
{
   "service": {
      "serviceArn": "arn:aws:ecs:us-west-2:123456789012:service/MyCluster/MyService",
      "serviceName": "MyService",
      "loadBalancers": [],
      "serviceRegistries": [],
      "status": "ACTIVE",
      "desiredCount": 1,
      "runningCount": 0,
      "pendingCount": 0,
      "launchType": "EC2",
      "deploymentConfiguration": {
         "maximumPercent": 200,
         "minimumHealthyPercent": 100
      },
      "taskSets": [],
      "deployments": [],
      "roleArn": "arn:aws:iam::123456789012:role/aws-service-role/ecs.amazonaws.com/AWSServiceRoleForECS",
      "events": [],
      "createdAt": 1557128207.101,
      "placementConstraints": [],
      "placementStrategy": [],
      "schedulingStrategy": "REPLICA",
      "deploymentController": {
         "type": "EXTERNAL"
      },
      "enableECSManagedTags": false,
      "propagateTags": "NONE"
   }
}
```

Example 4: To create a new service behind a load balancer
The following `create-service` example shows how to create a service that is behind a load balancer. You must have a load balancer configured in the same Region as your container instance. This example uses the `--cli-input-json` option and a JSON input file called `ecs-simple-service-elb.json` with the following content:

```json
{
    "serviceName": "ecs-simple-service-elb",
    "taskDefinition": "ecs-demo",
    "loadBalancers": [
        {
            "loadBalancerName": "EC2Contai-EcsElast-123456789012",
            "containerName": "simple-demo",
            "containerPort": 80
        }
    ],
    "desiredCount": 10,
    "role": "ecsServiceRole"
}
```

Command:

```
aws ecs create-service \
   --cluster MyCluster \
   --service-name ecs-simple-service-elb \
   --cli-input-json file://ecs-simple-service-elb.json
```

Output:

```json
{
    "service": {
        "status": "ACTIVE",
        "pendingCount": 0,
        "loadBalancers": [
            {
                "containerName": "ecs-demo",
                "containerPort": 80,
                "loadBalancerName": "EC2Contai-EcsElast-123456789012"
            }
        ],
        "roleArn": "arn:aws:iam::123456789012:role/ecsServiceRole",
```
For more information, see Creating a Service in the Amazon ECS Developer Guide.

For API details, see CreateService in AWS CLI Command Reference.

Delete a cluster

The following code example shows how to delete an Amazon ECS cluster.

AWS CLI

To delete an empty cluster

The following delete-cluster example deletes the specified empty cluster.

```
aws ecs delete-cluster --cluster MyCluster
```

Output:

```
{
   "cluster": {
```
"status": "INACTIVE",
"clusterName": "MyCluster",
"registeredContainerInstancesCount": 0,
"pendingTasksCount": 0,
"runningTasksCount": 0,
"activeServicesCount": 0
"statistics": [],
"tags": []
}

For more information, see Deleting a Cluster in the Amazon ECS Developer Guide.
• For API details, see DeleteCluster in AWS CLI Command Reference.

Delete a service

The following code example shows how to delete an Amazon ECS service.

AWS CLI

To delete a service

The following ecs delete-service example deletes the specified service from a cluster. You can include the --force parameter to delete a service even if it has not been scaled to zero tasks.

aws ecs delete-service --cluster MyCluster --service MyService1 --force

For more information, see Deleting a Service in the Amazon ECS Developer Guide.
• For API details, see DeleteService in AWS CLI Command Reference.

Describe clusters

The following code example shows how to describe your Amazon ECS clusters.

AWS CLI

Example 1: To describe a cluster

The following describe-clusters example retrieves details about the specified cluster.
aws ecs describe-clusters \
   --cluster default

Output:

{
   "clusters": [
      {
         "status": "ACTIVE",
         "clusterName": "default",
         "registeredContainerInstancesCount": 0,
         "pendingTasksCount": 0,
         "runningTasksCount": 0,
         "activeServicesCount": 1,
         "clusterArn": "arn:aws:ecs:us-west-2:123456789012:cluster/default"
      }
   ],
   "failures": []
}

For more information, see Amazon ECS Clusters in the Amazon ECS Developer Guide.

Example 2: To describe a cluster with the attachment option

The following describe-clusters example specifies the ATTACHMENTS option. It retrieves details about the specified cluster and a list of resources attached to the cluster in the form of attachments. When using a capacity provider with a cluster, the resources, either AutoScaling plans or scaling policies, will be represented as asp or as_policy ATTACHMENTS.

aws ecs describe-clusters \
   --include ATTACHMENTS \
   --clusters sampleCluster

Output:

{
   "clusters": [
      {
         "clusterName": "sampleCluster",
         "status": "ACTIVE",
         "registeredContainerInstancesCount": 0,
         "pendingTasksCount": 0,
         "runningTasksCount": 0,
         "activeServicesCount": 1
      }
   ],
   "failures": []
}
"status": "ACTIVE",
"registeredContainerInstancesCount": 0,
"runningTasksCount": 0,
"pendingTasksCount": 0,
"activeServicesCount": 0,
"statistics": [],
"tags": [],
"settings": [],
"capacityProviders": [
  "sampleCapacityProvider"
],
"defaultCapacityProviderStrategy": [],
"attachments": [
  {
    "id": "a1b2c3d4-5678-901b-cdef-EXAMPLE22222",
    "type": "as_policy",
    "status": "CREATED",
    "details": [
      {
        "name": "capacityProviderName",
        "value": "sampleCapacityProvider"
      },
      {
        "name": "scalingPolicyName",
        "value": "ECSManagedAutoScalingPolicy-3048e262-fe39-4eaf-826d-6f975d303188"
      }
    ]
  }
],
"attachmentsStatus": "UPDATE_COMPLETE"
],
"failures": []
}

For more information, see Amazon ECS Clusters in the Amazon ECS Developer Guide.

- For API details, see DescribeClusters in AWS CLI Command Reference.

**Describe tasks**

The following code example shows how to describe your Amazon ECS tasks.
Example 1: To describe a single task

The following `describe-tasks` example retrieves the details of a task in a cluster. You can specify the task by using either the ID or full ARN of the task. This example uses the full ARN of the task.

```
aws ecs describe-tasks \
    --cluster MyCluster \
    --tasks arn:aws:ecs:us-east-1:123456789012:task/MyCluster/4d590253bb114126b7afa7b58EXAMPLE
```

Output:

```
{
    "tasks": [
        {
            "attachments": [],
            "attributes": [
                {
                    "name": "ecs.cpu-architecture",
                    "value": "x86_64"
                }
            ],
            "availabilityZone": "us-east-1b",
            "clusterArn": "arn:aws:ecs:us-east-1:123456789012:cluster/MyCluster",
            "connectivity": "CONNECTED",
            "connectivityAt": "2021-08-11T12:21:26.681000-04:00",
            "containerInstanceArn": "arn:aws:ecs:us-east-1:123456789012:container-instance/test/025c7e2c5e054a6790a29fc1fEXAMPLE",
            "containers": [
                {
                    "containerArn": "arn:aws:ecs:us-east-1:123456789012:container/MyCluster/4d590253bb114126b7afa7b58EXAMPLE",
                    "taskArn": "arn:aws:ecs:us-east-1:123456789012:task/MyCluster/4d590253bb114126b7afa7b58EXAMPLE",
                    "name": "simple-app",
                    "image": "httpd:2.4",
                    "runtimeId": "91251eed27db9006ad67b1a08187290869f216557717dd5c39b37c94EXAMPLE",
                    "lastStatus": "RUNNING",
                    "networkBindings": [
```
{  
  "bindIP": "0.0.0.0",
  "containerPort": 80,
  "hostPort": 80,
  "protocol": "tcp"
}
]
,  
"networkInterfaces": [],  
"healthStatus": "UNKNOWN",
"cpu": "10",
"memory": "300"
}]
,
"cpu": "10",
"createdAt": "2021-08-11T12:21:26.681000-04:00",
"desiredStatus": "RUNNING",
"enableExecuteCommand": false,
"group": "service:testupdate",
"healthStatus": "UNKNOWN",
"lastStatus": "RUNNING",
"launchType": "EC2",
"memory": "300",
"overrides": {
  "containerOverrides": [
    {
      "name": "simple-app"
    }
  ],
  "inferenceAcceleratorOverrides": []
},
"pullStartedAt": "2021-08-11T12:21:28.234000-04:00",
"pullStoppedAt": "2021-08-11T12:21:33.793000-04:00",
"startedAt": "2021-08-11T12:21:34.945000-04:00",
"startedBy": "ecs-svc/968695068243EXAMPLE",
"tags": []
,
"taskArn": "arn:aws:ecs:us-east-1:123456789012:task/MyCluster/4d590253bb151426b7afa7b588ea9221",
"taskDefinitionArn": "arn:aws:ecs:us-east-1:123456789012:task-definition/console-sample-app-static2:1",
"version": 2
],
"failures": []
For more information, see Amazon ECS Task Definitions in the Amazon ECS Developer Guide.

Example 2: To describe multiple tasks

The following describe-tasks example retrieves the details of multiple tasks in a cluster. You can specify the task by using either the ID or full ARN of the task. This example uses the full IDs of the tasks.

```
aws ecs describe-tasks \
  --cluster MyCluster \
  --tasks "74de0355a10a4f979ac495c14EXAMPLE" "d789e94343414c25b9f6bd59eEXAMPLE"
```

Output:

```json
{
  "tasks": [
    {
      "attachments": [
        {
          "id": "d9e7735a-16aa-4128-bc7a-b2d51EXAMPLE",
          "type": "ElasticNetworkInterface",
          "status": "ATTACHED",
          "details": [
            {
              "name": "subnetId",
              "value": "subnet-0d0eab1bb3EXAMPLE"
            },
            {
              "name": "networkInterfaceId",
              "value": "eni-0fa40520aeEXAMPLE"
            },
            {
              "name": "macAddress",
              "value": "0e:89:76:28:07:b3"
            },
            {
              "name": "privateDnsName",
              "value": "ip-10-0-1-184.ec2.internal"
            },
            {
              "name": "privateIPv4Address",
              "value": "10.0.1.184"  
          ]
        }
      ]
    }
  ]
}
```
"value": "10.0.1.184"
]
],
"attributes": [
{
  "name": "ecs.cpu-architecture",
  "value": "x86_64"
}
],
"availabilityZone": "us-east-1b",
"clusterArn": "arn:aws:ecs:us-east-1:123456789012:cluster/MyCluster",
"connectivity": "CONNECTED",
"connectivityAt": "2021-12-20T12:13:37.875000-05:00",
"containers": [
{
  "containerArn": "arn:aws:ecs:us-east-1:123456789012:container/MyCluster/74de0355a10a4f979ac495c14EXAMPLE/aad3ba00-83b3-4dac-84d4-11f8cEXAMPLE",
  "taskArn": "arn:aws:ecs:us-east-1:123456789012:task/MyCluster/74de0355a10a4f979ac495c14EXAMPLE",
  "name": "web",
  "image": "nginx",
  "runtimeId": "74de0355a10a4f979ac495c14EXAMPLE-265927825",
  "lastStatus": "RUNNING",
  "networkBindings": [],
  "networkInterfaces": [
    {
      "attachmentId": "d9e7735a-16aa-4128-bc7a-b2d51EXAMPLE",
      "privateIpv4Address": "10.0.1.184"
    }
  ],
  "healthStatus": "UNKNOWN",
  "cpu": "99",
  "memory": "100"
}
],
"cpu": "256",
"createdAt": "2021-12-20T12:13:20.226000-05:00",
"desiredStatus": "RUNNING",
"enableExecuteCommand": false,
"group": "service:tdsevicetag",
"healthStatus": "UNKNOWN",
"lastStatus": "RUNNING",
"launchType": "FARGATE",
"memory": "512",
"overrides": {
  "containerOverrides": [
    {
      "name": "web"
    },
  ],
  "inferenceAcceleratorOverrides": []
},
"platformVersion": "1.4.0",
"platformFamily": "Linux",
"pullStartedAt": "2021-12-20T12:13:42.665000-05:00",
"pullStoppedAt": "2021-12-20T12:13:46.543000-05:00",
"startedAt": "2021-12-20T12:13:48.086000-05:00",
"startedBy": "ecs-svc/988401040018EXAMPLE",
"tags": [],
"taskArn": "arn:aws:ecs:us-east-1:123456789012:task/
MyCluster/74de0355a10a4f979ac495c14EXAMPLE",
"taskDefinitionArn": "arn:aws:ecs:us-east-1:123456789012:task-
definition/webserver:2",
"version": 3,
"ephemeralStorage": {
  "sizeInGiB": 20
}
},

"attachments": [
  {
    "id": "214eb5a9-45cd-4bf8-87bc-57fefEXAMPLE",
    "type": "ElasticNetworkInterface",
    "status": "ATTACHED",
    "details": [
      {
        "name": "subnetId",
        "value": "subnet-0d0eab1bb3EXAMPLE"
      },
      {
        "name": "networkInterfaceId",
        "value": "eni-064c7766daEXAMPLE"
      },
      {
        "name": "macAddress",
        "value": "0e:76:83:01:17:9a"
      }
  ]
}


```json
{
  "name": "privateDnsName",
  "value": "ip-10-0-1-41.ec2.internal"
},
{
  "name": "privateIPv4Address",
  "value": "10.0.1.41"
}
```

```
"attributes": [
  {
    "name": "ecs.cpu-architecture",
    "value": "x86_64"
  }
],
"availabilityZone": "us-east-1b",
"clusterArn": "arn:aws:ecs:us-east-1:123456789012:cluster/MyCluster",
"connectivity": "CONNECTED",
"connectivityAt": "2021-12-20T12:13:35.243000-05:00",
"containers": [
  {
    "containerArn": "arn:aws:ecs:us-east-1:123456789012:container/MyCluster/d789e94343414c25b9f6bd59eEXAMPLE/9afef792-609b-43a5-bb6a-3efdbEXAMPLE",
    "taskArn": "arn:aws:ecs:us-east-1:123456789012:task/MyCluster/d789e94343414c25b9f6bd59eEXAMPLE",
    "name": "web",
    "image": "nginx",
    "runtimeId": "d789e94343414c25b9f6bd59eEXAMPLE-265927825",
    "lastStatus": "RUNNING",
    "networkBindings": [],
    "networkInterfaces": [
      {
        "attachmentId": "214eb5a9-45cd-4bf8-87bc-57fefEXAMPLE",
        "privateIPv4Address": "10.0.1.41"
      }
    ],
    "healthStatus": "UNKNOWN",
    "cpu": "99",
    "memory": "100"
  }
]`

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For more information, see [Amazon ECS Task Definitions](https://docs.aws.amazon.com/ecs/latest/userguide/task_definitions.html) in the Amazon ECS Developer Guide.

- For API details, see [DescribeTasks](https://docs.aws.amazon.com/AmazonECS/latest/APIReference/API_DescribeTasks.html) in AWS CLI Command Reference.
List clusters

The following code example shows how to list your Amazon ECS clusters.

AWS CLI

To list your available clusters

The following `list-clusters` example lists all of the available clusters.

```bash
aws ecs list-clusters
```

Output:

```
{
   "clusterArns": [
      "arn:aws:ecs:us-west-2:123456789012:cluster/AnotherECSCluster"
   ]
}
```

For more information, see Amazon ECS Clusters in the Amazon ECS Developer Guide.

- For API details, see ListClusters in AWS CLI Command Reference.

List services in a cluster

The following code example shows how to list your Amazon ECS services in a cluster.

AWS CLI

To list the services in a cluster

The following `list-services` example shows how to list the services running in a cluster.

```bash
aws ecs list-services --cluster MyCluster
```

Output:

```
{
   "serviceArns": [
      "arn:aws:ecs:us-west-2:123456789012:service/MyCluster/MyService"
   ]
}
```
List tasks in a cluster

The following code example shows how to list your Amazon ECS tasks in a cluster.

AWS CLI

Example 1: To list the tasks in a cluster

The following list-tasks example lists all of the tasks in a cluster.

```bash
aws ecs list-tasks --cluster default
```

Output:

```json
{
  "taskArns": [
    "arn:aws:ecs:us-west-2:123456789012:task/a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
    "arn:aws:ecs:us-west-2:123456789012:task/a1b2c3d4-5678-90ab-cdef-22222EXAMPLE"
  ]
}
```

Example 2: To list the tasks on a particular container instance

The following list-tasks example lists the tasks on a container instance, using the container instance UUID as a filter.

```bash
aws ecs list-tasks --cluster default --container-instance a1b2c3d4-5678-90ab-cdef-33333EXAMPLE
```

Output:

```json
{
```

For more information, see Services in the Amazon ECS Developer Guide.
- For API details, see ListServices in AWS CLI Command Reference.
"taskArns": [
  "arn:aws:ecs:us-west-2:123456789012:task/a1b2c3d4-5678-90ab-cdef-44444EXAMPLE"
]
}

For more information, see Amazon ECS Task Definitions in the Amazon ECS Developer Guide.

- For API details, see ListTasks in AWS CLI Command Reference.

**Update a service**

The following code example shows how to update an Amazon ECS service.

**AWS CLI**

**Example 1: To change the task definition used in a service**

The following update-service example updates the my-http-service service to use the amazon-ecs-sample task definition.

```
aws ecs update-service --service my-http-service --task-definition amazon-ecs-sample
```

**Example 2: To change the number of tasks in a service**

The following update-service example updates the desired task count of the service my-http-service to 3.

```
aws ecs update-service --service my-http-service --desired-count 3
```

For more information, see Updating a Service in the Amazon ECS Developer Guide.

- For API details, see UpdateService in AWS CLI Command Reference.

**create-capacity-provider**

The following code example shows how to use create-capacity-provider.

**AWS CLI**

To create a capacity provider
The following create-capacity-provider example creates a capacity provider that uses an Auto Scaling group named MyASG, has managed scaling and managed termination protection enabled. This configuration is used for Amazon ECS cluster auto scaling.

```
aws ecs create-capacity-provider \
   --name "MyCapacityProvider" \
```

Output:

```
{
   "capacityProvider": {
      "capacityProviderArn": "arn:aws:ecs:us-east-1:123456789012:capacity-provider/MyCapacityProvider",
      "name": "MyCapacityProvider",
      "status": "ACTIVE",
      "autoScalingGroupProvider": {
         "managedScaling": {
            "status": "ENABLED",
            "targetCapacity": 100,
            "minimumScalingStepSize": 1,
            "maximumScalingStepSize": 10000,
            "instanceWarmupPeriod": 300
         },
         "managedTerminationProtection": "ENABLED"
      }
   },
   "tags": []
}
```

For more information, see [Amazon ECS cluster auto scaling](https://docs.aws.amazon.com/AmazonECS/latest/developerguide/amazon-ecs-cluster-auto-scaling.html) in the Amazon ECS Developer Guide.

- For API details, see [CreateCapacityProvider](https://docs.aws.amazon.com/cli/latest/reference/ecs/create-capacity-provider.html) in AWS CLI Command Reference.

### create-task-set

The following code example shows how to use create-task-set.
To create a task set

The following `create-task-set` example creates a task set in a service that uses an external deployment controller.

```
aws ecs create-task-set \
   --cluster MyCluster \
   --service MyService \
   --task-definition MyTaskDefinition:2 \
   --network-configuration
   "awsvpcConfiguration={subnets=[subnet-12344321],securityGroups=[sg-12344321]}"
```

Output:

```json
{
   "taskSet": {
      "id": "ecs-svc/1234567890123456789",
      "status": "ACTIVE",
      "taskDefinition": "arn:aws:ecs:us-west-2:123456789012:task-definition/MyTaskDefinition:2",
      "computedDesiredCount": 0,
      "pendingCount": 0,
      "runningCount": 0,
      "createdAt": 1557128360.711,
      "updatedAt": 1557128360.711,
      "launchType": "EC2",
      "networkConfiguration": {
         "awsvpcConfiguration": {
            "subnets": ["subnet-12344321"],
            "securityGroups": ["sg-12344321"],
            "assignPublicIp": "DISABLED"
         }
      },
      "loadBalancers": [],
      "serviceRegistries": []
   }
}
```
• For API details, see CreateTaskSet in AWS CLI Command Reference.

delete-account-setting

The following code example shows how to use delete-account-setting.

AWS CLI

To delete the account settings for a specific IAM user or IAM role

The following example delete-account-setting deletes the account settings for the specific IAM user or IAM role.

```
aws ecs delete-account-setting \
    --name serviceLongArnFormat \ 
    --principal-arn arn:aws:iam::123456789012:user/MyUser
```

Output:

```
{
    "setting": {
        "name": "serviceLongArnFormat",
        "value": "enabled",
        "principalArn": "arn:aws:iam::123456789012:user/MyUser"
    }
}
```

For more information, see Amazon Resource Names (ARNs) and IDs in the Amazon ECS Developer Guide.

• For API details, see DeleteAccountSetting in AWS CLI Command Reference.
delete-attributes

The following code example shows how to use delete-attributes.

AWS CLI

To delete one or more custom attributes from an Amazon ECS resource

The following delete-attributes deletes an attribute with the name stack from a container instance.

```bash
aws ecs delete-attributes \
    --attributes name=stack,targetId=arn:aws:ecs:us-west-2:130757420319:container-instance/1c3be8ed-df30-47b4-8f1e-6e68ebd01f34
```

Output:

```json
{
    "attributes": [
        {
            "name": "stack",
            "targetId": "arn:aws:ecs:us-west-2:130757420319:container-instance/1c3be8ed-df30-47b4-8f1e-6e68ebd01f34",
            "value": "production"
        }
    ]
}
```

- For API details, see DeleteAttributes in AWS CLI Command Reference.

delete-capacity-provider

The following code example shows how to use delete-capacity-provider.

AWS CLI

Example 1: To delete a capacity provider using the Amazon Resource Name (ARN)

The following delete-capacity-provider example deletes a capacity provider by specifying the Amazon Resource Name (ARN) of the capacity provider. The ARN as well as the
status of the capacity provider deletion can be retrieved using the `describe-capacity-providers` command.

```bash
aws ecs delete-capacity-provider \
```

Output:

```json
{
    "capacityProvider": {
        "name": "ExampleCapacityProvider",
        "status": "ACTIVE",
        "autoScalingGroupProvider": {
            "managedScaling": {
                "status": "ENABLED",
                "targetCapacity": 100,
                "minimumScalingStepSize": 1,
                "maximumScalingStepSize": 10000
            },
            "managedTerminationProtection": "DISABLED"
        },
        "updateStatus": "DELETE_IN_PROGRESS",
        "tags": []
    }
}
```

For more information, see [Cluster capacity providers](https://docs.aws.amazon.com/ecs/latest/developerguide/cluster-capacity-providers.html) in the *Amazon ECS Developer Guide*.

**Example 2: To delete a capacity provider using the name**

The following `delete-capacity-provider` example deletes a capacity provider by specifying the short name of the capacity provider. The short name as well as the status of the capacity provider deletion can be retrieved using the `describe-capacity-providers` command.

```bash
aws ecs delete-capacity-provider \
```

---

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Output:

```json
{
    "capacityProvider": {
        "name": "ExampleCapacityProvider",
        "status": "ACTIVE",
        "autoScalingGroupProvider": {
            "managedScaling": {
                "status": "ENABLED",
                "targetCapacity": 100,
                "minimumScalingStepSize": 1,
                "maximumScalingStepSize": 10000
            },
            "managedTerminationProtection": "DISABLED"
        },
        "updateStatus": "DELETE_IN_PROGRESS",
        "tags": []
    }
}
```

For more information, see [Cluster capacity providers](https://docs.aws.amazon.com/AmazonECS/latest/developerguide/cluster-capacity-providers.html) in the *Amazon ECS Developer Guide*.

- For API details, see [DeleteCapacityProvider](https://docs.aws.amazon.com/cli/latest/reference/ecs/delete-capacity-provider.html) in *AWS CLI Command Reference*.

### delete-task-definitions

The following code example shows how to use `delete-task-definitions`.

#### AWS CLI

**To delete a task definition**

The following `delete-task-definitions` example deletes an INACTIVE task definition.

```bash
aws ecs delete-task-definitions \
    --task-definition curltest:1
```
Output:

```json
{
  "taskDefinitions": [
    {
      "taskDefinitionArn": "arn:aws:ecs:us-east-1:123456789012:task-definition/curltest:1",
      "containerDefinitions": [
        {
          "name": "ctest",
          "image": "mreferre/eksutils",
          "cpu": 0,
          "portMappings": [],
          "essential": true,
          "entryPoint": [
            "sh",
            
          
          
          
          "-c"
        
        ],
        "command": [
          "curl "${ECS_CONTAINER_METADATA_URI_V4}/task"
        ],
        "environment": [],
        "mountPoints": [],
        "volumesFrom": [],
        "logConfiguration": {
          "logDriver": "awslogs",
          "options": {
            "awslogs-create-group": "true",
            "awslogs-group": "/ecs/curltest",
            "awslogs-region": "us-east-1",
            "awslogs-stream-prefix": "ecs"
          }
        }
      ]
    }
  ],
  "family": "curltest",
  "taskRoleArn": "arn:aws:iam::123456789012:role/ecsTaskExecutionRole",
  "executionRoleArn": "arn:aws:iam::123456789012:role/ecsTaskExecutionRole",
  "networkMode": "awsvpc",
  "revision": 1,
  "volumes": [],
  "status": "DELETE_IN_PROGRESS",
  "compatibilities": ["EC2",
```
delete-task-set

The following code example shows how to use delete-task-set.

AWS CLI

To delete a task set

The following delete-task-set example shows how to delete a task set. You can include the `--force` parameter to delete a task set even if it has not been scaled to zero.

```bash
aws ecs delete-task-set \
   --cluster MyCluster \
   --service MyService \
   --task-set arn:aws:ecs:us-west-2:123456789012:task-set/MyCluster/MyService/ecs-svc/1234567890123456789 \
   --force
```

Output:

```json
{
   "taskSet": {
      "id": "ecs-svc/1234567890123456789",
```
• For API details, see [DeleteTaskSet](https://docs.aws.amazon.com/cli/latest/reference/ecs/delete-task-set.html) in *AWS CLI Command Reference*.

deregister-container-instance

The following code example shows how to use deregister-container-instance.

**AWS CLI**

To deregister a container instance from a cluster
The following deregister-container-instance example deregisters a container instance from the specified cluster. If there are still tasks running in the container instance, you must either stop those tasks before deregistering, or use the --force option.

```bash
aws ecs deregister-container-instance \
  --cluster arn:aws:ecs:us-west-2:123456789012:cluster/MyCluster \
  --container-instance arn:aws:ecs:us-west-2:123456789012:container-instance/a1b2c3d4-5678-90ab-cdef-11111EXAMPLE \
  --force
```

Output:

```json
{
  "containerInstance": {
    "remainingResources": [
      {
        "integerValue": 1024,
        "doubleValue": 0.0,
        "type": "INTEGER",
        "longValue": 0,
        "name": "CPU"
      },
      {
        "integerValue": 985,
        "doubleValue": 0.0,
        "type": "INTEGER",
        "longValue": 0,
        "name": "MEMORY"
      },
      {
        "type": "STRINGSET",
        "integerValue": 0,
        "name": "PORTS",
        "stringSetValue": ["22",
                           "2376",
                           "2375",
                           "51678",
                           "51679"],
        "longValue": 0,
        "doubleValue": 0.0
      }
    ]
  }
}
```
{
    "type": "STRINGSET",
    "integerValue": 0,
    "name": "PORTS_UDP",
    "stringSetValue": [],
    "longValue": 0,
    "doubleValue": 0.0
}
],
"agentConnected": true,
"attributes": [
{
    "name": "ecs.capability.secrets.asm.environment-variables"
},
{
    "name": "com.amazonaws.ecs.capability.logging-driver.syslog"
},
{
    "value": "ami-01a82c3f2ce2c3ba58",
    "name": "ecs.ami-id"
},
{
    "name": "ecs.capability.secrets.asm.bootstrap.log-driver"
},
{
    "name": "com.amazonaws.ecs.capability.logging-driver.none"
},
{
    "name": "ecs.capability.ecr-endpoint"
},
{
    "name": "com.amazonaws.ecs.capability.logging-driver.json-file"
},
{
    "value": "vpc-1234567890123467",
    "name": "ecs.vpc-id"
},
{
    "name": "ecs.capability.execution-role-awslogs"
},
{
    "name": "com.amazonaws.ecs.capability.docker-remote-api.1.17"
}
]
"name": "com.amazonaws.ecs.capability.docker-remote-api.1.18"
 },
 {  "name": "com.amazonaws.ecs.capability.docker-remote-api.1.19"
 },
 {  "name": "ecs.capability.docker-plugin.local"
 },
 {  "name": "ecs.capability.task-eni"
 },
 {  "name": "ecs.capability.task-cpu-mem-limit"
 },
 {  "name": "ecs.capability.secrets.ssm.bootstrap.log-driver"
 },
 {  "name": "com.amazonaws.ecs.capability.docker-remote-api.1.30"
 },
 {  "name": "com.amazonaws.ecs.capability.docker-remote-api.1.31"
 },
 {  "name": "com.amazonaws.ecs.capability.docker-remote-api.1.32"
 },
 {  "name": "ecs.capability.execution-role-ecr-pull"
 },
 {  "name": "ecs.capability.container-health-check"
 },
 {  "value": "subnet-1234567890123467",
   "name": "ecs.subnet-id"
 },
 {  "value": "us-west-2a",
   "name": "ecs.availability-zone"
 },
 {  "value": "t2.micro",
   "name": "ecs.instance-type"
 },}
{
  "name": "com.amazonaws.ecs.capability.task-iam-role-network-host"
},
{
  "name": "ecs.capability.aws-appmesh"
},
{
  "name": "com.amazonaws.ecs.capability.logging-driver.awslogs"
},
{
  "name": "com.amazonaws.ecs.capability.docker-remote-api.1.24"
},
{
  "name": "com.amazonaws.ecs.capability.docker-remote-api.1.25"
},
{
  "name": "com.amazonaws.ecs.capability.docker-remote-api.1.26"
},
{
  "name": "com.amazonaws.ecs.capability.docker-remote-api.1.27"
},
{
  "name": "com.amazonaws.ecs.capability.privileged-container"
},
{
  "name": "ecs.capability.container-ordering"
},
{
  "name": "com.amazonaws.ecs.capability.docker-remote-api.1.28"
},
{
  "name": "com.amazonaws.ecs.capability.docker-remote-api.1.29"
},
{
  "value": "x86_64",
  "name": "ecs.cpu-architecture"
},
{
  "value": "93f43776-2018.10.0",
  "name": "ecs.capability.cni-plugin-version"
},
{
  "name": "ecs.capability.secrets.ssm.environment-variables"
},
{..."name": "actions and scenarios"}


```json
{
   "name": "ecs.capability.pid-ipc-namespace-sharing",
},
{
   "name": "com.amazonaws.ecs.capability.ecr-auth",
},
{
   "value": "linux",
   "name": "ecs.os-type",
},
{
   "name": "com.amazonaws.ecs.capability.docker-remote-api.1.20",
},
{
   "name": "com.amazonaws.ecs.capability.docker-remote-api.1.21",
},
{
   "name": "com.amazonaws.ecs.capability.docker-remote-api.1.22",
},
{
   "name": "ecs.capability.task-eia",
},
{
   "name": "ecs.capability.private-registry-authentication.secretsmanager",
},
{
   "name": "com.amazonaws.ecs.capability.task-iam-role",
},
{
   "name": "com.amazonaws.ecs.capability.docker-remote-api.1.23",
}
],
"pendingTasksCount": 0,
"tags": [],
"containerInstanceArn": "arn:aws:ecs:us-west-2:123456789012:container-instance/a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
"registeredResources": [
{
   "integerValue": 1024,
   "doubleValue": 0.0,
   "type": "INTEGER",
   "longValue": 0,
   "name": "CPU"
}
}``
{
    "integerValue": 985,
    "doubleValue": 0.0,
    "type": "INTEGER",
    "longValue": 0,
    "name": "MEMORY"
},
{
    "type": "STRINGSET",
    "integerValue": 0,
    "name": "PORTS",
    "stringSetValue": ["22",
                        "2376",
                        "2375",
                        "51678",
                        "51679"],
    "longValue": 0,
    "doubleValue": 0.0
},
{
    "type": "STRINGSET",
    "integerValue": 0,
    "name": "PORTS_UDP",
    "stringSetValue": [],
    "longValue": 0,
    "doubleValue": 0.0
}
],
"status": "INACTIVE",
"registeredAt": 1557768075.681,
"version": 4,
"versionInfo": {
    "agentVersion": "1.27.0",
    "agentHash": "aabe65ee",
    "dockerVersion": "DockerVersion: 18.06.1-ce"
},
"attachments": [],
"runningTasksCount": 0,
"ec2InstanceId": "i-12345678901234678"}
deregister-task-definition

The following code example shows how to use deregister-task-definition.

**AWS CLI**

To deregister a task definition

The following deregister-task-definition example deregisters the first revision of the curler task definition in your default region.

```bash
aws ecs deregister-task-definition --task-definition curler:1
```

Note that in the resulting output, the task definition status shows INACTIVE:

```json
{
    "taskDefinition": {
        "status": "INACTIVE",
        "family": "curler",
        "volumes": [],
        "containerDefinitions": [
            {
                "environment": [],
                "name": "curler",
                "mountPoints": [],
                "image": "curl:latest",
                "cpu": 100,
                "portMappings": [],
                "entryPoint": [],
                "memory": 256,
                "command": [
                    "curl -v http://example.com/
                ],
                "essential": true,
                "volumesFrom": []
            }
        ]
    }
}
```
For more information, see Amazon ECS Task Definitions in the Amazon ECS Developer Guide.

- For API details, see DeregisterTaskDefinition in AWS CLI Command Reference.

describe-capacity-providers

The following code example shows how to use describe-capacity-providers.

AWS CLI

Example 1: To describe all capacity providers

The following describe-capacity-providers example retrieves details about all capacity providers.

```bash
aws ecs describe-capacity-providers
```

Output:

```json
{
    "capacityProviders": [
        {
            "capacityProviderArn": "arn:aws:ecs:us-west-2:123456789012:capacity-provider/MyCapacityProvider",
            "name": "MyCapacityProvider",
            "status": "ACTIVE",
            "autoScalingGroupProvider": {
                "managedScaling": {
                    "status": "ENABLED",
                    "targetCapacity": 100,
                    "minimumScalingStepSize": 1,
                    "maximumScalingStepSize": 1000
                },
                "managedTerminationProtection": "ENABLED"
            }
        }
    ]
}
```
For more information, see Cluster capacity providers in the Amazon ECS Developer Guide.

Example 2: To describe a specific capacity providers

The following describe-capacity-providers example retrieves details about a specific capacity provider. Using the --include TAGS parameter will add the tags associated with the capacity provider to the output.

```bash
aws ecs describe-capacity-providers \
  --capacity-providers MyCapacityProvider \
  --include TAGS
```

Output:

```json
{
  "capacityProviders": [
    {
      "capacityProviderArn": "arn:aws:ecs:us-west-2:123456789012:capacity-provider/MyCapacityProvider",
      "name": "MyCapacityProvider",
      "status": "ACTIVE",
      "tags": []
    }
  ]
}
```
  "managedScaling": {
    "status": "ENABLED",
    "targetCapacity": 100,
    "minimumScalingStepSize": 1,
    "maximumScalingStepSize": 1000
  },
  "managedTerminationProtection": "ENABLED",
  "tags": [
    {
      "key": "environment",
      "value": "production"
    }
  ]
}

For more information, see Cluster capacity providers in the Amazon ECS Developer Guide.

- For API details, see DescribeCapacityProviders in AWS CLI Command Reference.

describe-container-instances

The following code example shows how to use describe-container-instances.

AWS CLI

To describe container instance

The following describe-container-instances example retrieves details for a container instance in the update cluster, using the container instance UUID as an identifier.

aws ecs describe-container-instances \\
  --cluster update \\
  --container-instances a1b2c3d4-5678-90ab-cdef-11111EXAMPLE

Output:

{

"failures": [],
"containerInstances": [
  {
    "status": "ACTIVE",
    "registeredResources": [
      {
        "integerValue": 2048,
        "longValue": 0,
        "type": "INTEGER",
        "name": "CPU",
        "doubleValue": 0.0
      },
      {
        "integerValue": 3955,
        "longValue": 0,
        "type": "INTEGER",
        "name": "MEMORY",
        "doubleValue": 0.0
      },
      {
        "name": "PORTS",
        "longValue": 0,
        "doubleValue": 0.0,
        "stringSetValue": ["22",
                           "2376",
                           "2375",
                           "51678"],
        "type": "STRINGSET",
        "integerValue": 0
      }
    ],
    "ec2InstanceId": "i-A1B2C3D4",
    "agentConnected": true,
    "containerInstanceArn": "arn:aws:ecs:us-west-2:123456789012:container-instance/a1b2c3d4-5678-90ab-cdef-111111EXAMPLE",
    "pendingTasksCount": 0,
    "remainingResources": [
      {
        "integerValue": 2048,
        "longValue": 0,
        "type": "INTEGER",
        "name": "CPU",
        "doubleValue": 0.0
      }
    ]
  }
]
For more information, see Amazon ECS Container Instances in the Amazon ECS Developer Guide.

- For API details, see DescribeContainerInstances in AWS CLI Command Reference.

describe-services

The following code example shows how to use describe-services.

AWS CLI

To describe a service
The following describe-services example retrieves details for the my-http-service service in the default cluster.

```bash
aws ecs describe-services --services my-http-service
```

Output:

```json
{
  "services": [
    {
      "status": "ACTIVE",
      "pendingCount": 0,
      "loadBalancers": [],
      "desiredCount": 10,
      "createdAt": 1466801808.595,
      "serviceName": "my-http-service",
      "deployments": [
        {
          "status": "PRIMARY",
          "pendingCount": 0,
          "createdAt": 1466801808.595,
          "desiredCount": 10,
          "updatedAt": 1428326312.703,
          "id": "ecs-svc/12345678901234567890123456789",
          "runningCount": 10
        }
      ],
      "events": [
        {
          "message": "(service my-http-service) has reached a steady state."
        },
        {
          "id": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
          "createdAt": 1466801812.435
        }
      ],
      "runningCount": 10
    }
  ]
}
```
The following code example shows how to use describe-task-definition.

**AWS CLI**

**To describe a task definition**

The following describe-task-definition example retrieves the details of a task definition.

```bash
aws ecs describe-task-definition \
   --task-definition hello_world:8
```

**Output:**

```json
{
   "tasks": [
      {
         "attachments": [
            {
               "id": "17f3d7ff6-a9e9-4d83-99a9-7eb5193c2634",
               "type": "ElasticNetworkInterface",
               "status": "ATTACHED",
               "details": [
                  {
                     "name": "subnetId",
                     "value": "subnet-0d0eab1bb38d5ca64"
                  },
                  {
                     "name": "networkInterfaceId",
                     "value": "eni-0d542ff4a12aa6d9"
                  },
                  {
                     "name": "macAddress",
                     "value": "\n```
"value": "0e:6d:18:f6:2d:29"
},
{
  "name": "privateDnsName",
  "value": "ip-10-0-1-170.ec2.internal"
},
{
  "name": "privateIPv4Address",
  "value": "10.0.1.170"
}
],
"attributes": [
{
  "name": "ecs.cpu-architecture",
  "value": "x86_64"
}
],
"availabilityZone": "us-east-1b",
"clusterArn": "arn:aws:ecs:us-east-1:053534965804:cluster/fargate-cluster",
"connectivity": "CONNECTED",
"connectivityAt": "2023-11-28T11:10:52.907000-05:00",
"containers": [
{
  "containerArn": "arn:aws:ecs:us-east-1:053534965804:container/fargate-cluster/c524291ae4154100b601a543108b193a/772c4784-92ae-414e-8df2-03d3358e39fa",
  "taskArn": "arn:aws:ecs:us-east-1:053534965804:task/fargate-cluster/c524291ae4154100b601a543108b193a",
  "name": "web",
  "image": "nginx",
  "imageDigest": "sha256:10d1f5b58f74683ad34eb29287e07dab1e90f10af243f151bb50a5d2b4d62ee",
  "runtimeId": "c524291ae4154100b601a543108b193a-265927825",
  "lastStatus": "RUNNING",
  "networkBindings": [],
  "networkInterfaces": [
    {
      "attachmentId": "17f3dff6-a9e9-4d83-99a9-7eb5193c2634",
      "privateIPv4Address": "10.0.1.170"
    }
  ],
]
"healthStatus": "HEALTHY",
"cpu": "99",
"memory": "100"
},
{
"containerArn": "arn:aws:ecs:us-east-1:053534965804:container/fargate-cluster/c524291ae4154100b601a543108b193a/c051a779-40d2-48ca-ad5e-6ec875ceb610",
"taskArn": "arn:aws:ecs:us-east-1:053534965804:task/fargate-cluster/c524291ae4154100b601a543108b193a",
"name": "aws-guardduty-agent-FvWGoDU",
"imageDigest": "sha256:359b8b014e5076c625daa1056000e522631587a7afa3b2e055edda6bd1141017",
"runtimeId": "c524291ae4154100b601a543108b193a-505093495",
"lastStatus": "RUNNING",
"networkBindings": [],
"networkInterfaces": [
{
"attachmentId": "17f3df6-a9e9-4d83-99a9-7eb5193c2634",
"privateIpv4Address": "10.0.1.170"
}
],
"healthStatus": "UNKNOWN"
},
"cpu": "256",
"createdAt": "2023-11-28T11:10:49.299000-05:00",
"desiredStatus": "RUNNING",
"enableExecuteCommand": false,
"group": "family:webserver",
"healthStatus": "HEALTHY",
"lastStatus": "RUNNING",
"launchType": "FARGATE",
"memory": "512",
"platformVersion": "1.4.0",
"platformFamily": "Linux",
"pullStartedAt": "2023-11-28T11:10:59.773000-05:00",
"pullStoppedAt": "2023-11-28T11:12.624000-05:00",
"startedAt": "2023-11-28T11:11:20.316000-05:00",
"tags": [],
"taskArn": "arn:aws:ecs:us-east-1:053534965804:task/fargate-cluster/c524291ae4154100b601a543108b193a",
"taskDefinitionArn": "arn:aws:ecs:us-east-1:053534965804:task-definition/webserver:5",
For more information, see Amazon ECS Task Definitions in the Amazon ECS Developer Guide.

- For API details, see DescribeTaskDefinition in AWS CLI Command Reference.

**describe-task-sets**

The following code example shows how to use describe-task-sets.

**AWS CLI**

**To describe a task set**

The following describe-task-sets example describes a task set in a service that uses an external deployer.

```bash
aws ecs describe-task-sets \
  --cluster MyCluster \
  --service MyService \
```

**Output:**

```json
{
  "taskSets": [
    {
      "id": "ecs-svc/1234567890123456789",
      "status": "ACTIVE",
      "computedDesiredCount": 0,
      "pendingCount": 0,
    }
  ]
}
```
For API details, see [DescribeTaskSets](https://docs.aws.amazon.com/AmazonECS/latest/developerguide/task-sets.html) in AWS CLI Command Reference.

**execute-command**

The following code example shows how to use execute-command.

**AWS CLI**

**To run an interactive /bin/sh command**

The following execute-command example runs an interactive /bin/sh command against a container named MyContainer for a task with an id of arn:aws:ecs:us-east-1:123456789012:task/MyCluster/d789e94343414c25b9f6bd59eEXAMPLE.

```bash
aws ecs execute-command
```
--cluster MyCluster \
--task arn:aws:ecs:us-east-1:123456789012:task/MyCluster/
d789e94343414c25b9f6bd59eEXAMPLE \
--container MyContainer \
--interactive \
--command "/bin/sh"

This command produces no output.

For more information, see Using Amazon ECS Exec for debugging in the Amazon ECS Developer Guide.

- For API details, see ExecuteCommand in AWS CLI Command Reference.

list-account-settings

The following code example shows how to use list-account-settings.

AWS CLI

Example 1: To view the account settings for an account

The following list-account-settings example displays the effective account settings for an account.

aws ecs list-account-settings --effective-settings

Output:

{
   "settings": [
   {
   "name": "containerInstanceLongArnFormat",
   "value": "enabled",
   "principalArn": "arn:aws:iam::123456789012:root"
   },
   {
   "name": "serviceLongArnFormat",
   "value": "enabled",
   "principalArn": "arn:aws:iam::123456789012:root"
   }
]
Example 2: To view the account settings for a specific IAM user or IAM role

The following list-account-settings example displays the account settings for the specified IAM user or IAM role.

```sh
aws ecs list-account-settings --principal-arn arn:aws:iam::123456789012:user/MyUser
```

Output:

```json
{
    "settings": [
        {
            "name": "serviceLongArnFormat",
            "value": "enabled",
            "principalArn": "arn:aws:iam::123456789012:user/MyUser"
        }
    ]
}
```

For more information, see Amazon Resource Names (ARNs) and IDs in the Amazon ECS Developer Guide.

- For API details, see ListAccountSettings in AWS CLI Command Reference.

**list-attributes**

The following code example shows how to use list-attributes.

**AWS CLI**

**To list the container instances that contain a specific attribute**

The following example lists the attributes for container instances that have the stack=production attribute in the default cluster.
aws ecs list-attributes 
   --target-type container-instance 
   --attribute-name stack 
   --attribute-value production 
   --cluster default

Output:

{
   "attributes": [
      {
         "name": "stack",
         "targetId": "arn:aws:ecs:us-west-2:130757420319:container-instance/1c3be8ed-df30-47b4-8f1e-6e68ebd01f34",
         "value": "production"
      }
   ]
}

For more information, see Amazon ECS Container Agent Configuration in the Amazon ECS Developer Guide.

- For API details, see ListAttributes in AWS CLI Command Reference.

**list-container-instances**

The following code example shows how to use list-container-instances.

**AWS CLI**

To list the container instances in a cluster

The following list-container-instances example lists all of the available container instances in a cluster.

aws ecs list-container-instances --cluster MyCluster

Output:

{
   "containerInstanceArns": [
For more information, see Amazon ECS Container Instances in the Amazon ECS Developer Guide.

• For API details, see ListContainerInstances in AWS CLI Command Reference.

list-services-by-namespace

The following code example shows how to use list-services-by-namespace.

AWS CLI

To list the services in a namespace

The following list-services-by-namespace example lists all of the services configured for the specified namespace in your default Region.

```
aws ecs list-services-by-namespace \
   --namespace service-connect
```

Output:

```json
{
   "serviceArns": [
   ]
}
```

For more information, see Service Connect in the Amazon ECS Developer Guide.

• For API details, see ListServicesByNamespace in AWS CLI Command Reference.

list-tags-for-resource

The following code example shows how to use list-tags-for-resource.
AWS CLI

To list the tags for a resource

The following list-tags-for-resource example lists the tags for a specific cluster.

```
aws ecs list-tags-for-resource \
```

Output:

```
{
   "tags": [
   {
      "key": "key1",
      "value": "value1"
   },
   {
      "key": "key2",
      "value": "value2"
   },
   {
      "key": "key3",
      "value": "value3"
   }
]
}
```

- For API details, see ListTagsForResource in AWS CLI Command Reference.

list-task-definition-families

The following code example shows how to use list-task-definition-families.

AWS CLI

Example 1: To list the registered task definition families

The following list-task-definition-families example lists all of the registered task definition families.

```
aws ecs list-task-definition-families
```
Output:

```json
{
    "families": [
        "node-js-app",
        "web-timer",
        "hpcc",
        "hpcc-c4-8xlarge"
    ]
}
```

Example 2: To filter the registered task definition families

The following `list-task-definition-families` example lists the task definition revisions that start with "hpcc".

```bash
aws ecs list-task-definition-families --family-prefix hpcc
```

Output:

```json
{
    "families": [
        "hpcc",
        "hpcc-c4-8xlarge"
    ]
}
```

For more information, see Task Definition Parameters in the Amazon ECS Developer Guide.

- For API details, see ListTaskDefinitionFamilies in AWS CLI Command Reference.

list-task-definitions

The following code example shows how to use list-task-definitions.

AWS CLI

Example 1: To list the registered task definitions

The following list-task-definitions example lists all of the registered task definitions.
aws ecs list-task-definitions

Output:

```json
{
    "taskDefinitionArns": [
    ]
}
```

Example 2: To list the registered task definitions in a family

The following list-task-definitions example lists the task definition revisions of a specified family.

aws ecs list-task-definitions --family-prefix wordpress

Output:

```json
{
    "taskDefinitionArns": [
    ]
}
```

For more information, see [Amazon ECS Task Definitions](https://docs.aws.amazon.com/ecs/latest/userguide/task-definition.html) in the *Amazon ECS Developer Guide*.  
- For API details, see [ListTaskDefinitions](https://docs.aws.amazon.com/cli/latest/reference/ecs/list-task-definitions.html) in *AWS CLI Command Reference*.

**put-account-setting**

The following code example shows how to use `put-account-setting`.
AWS CLI

To modify the account setting for your IAM user account

The following put-account-setting example enables the serviceLongArnFormat account setting for your IAM user account.

```bash
aws ecs put-account-setting --name serviceLongArnFormat --value enabled
```

Output:

```json
{
    "setting": {
        "name": "serviceLongArnFormat",
        "value": "enabled",
        "principalArn": "arn:aws:iam::130757420319:user/your_username"
    }
}
```

For more information, see Modifying Account Settings in the Amazon ECS Developer Guide.

- For API details, see PutAccountSetting in AWS CLI Command Reference.

put-account-setting-default

The following code example shows how to use put-account-setting-default.

AWS CLI

To modify the default account settings

The following put-account-setting-default example modifies the default account setting for all IAM users or roles on your account. These changes apply to the entire AWS account unless an IAM user or role explicitly overrides these settings for themselves.

```bash
aws ecs put-account-setting-default --name serviceLongArnFormat --value enabled
```

Output:

```json
{
    "setting": {
        "name": "serviceLongArnFormat",
        "value": "enabled",
        "principalArn": "arn:aws:iam::130757420319:user/your_username"
    }
}
```
put-account-settings

The following code example shows how to use put-account-settings.

AWS CLI

To modify the account settings for an IAM user or IAM role

The following put-account-setting example modifies the account settings for the specified IAM user or IAM role.

```bash
aws ecs put-account-setting \
   --name serviceLongArnFormat \n   --value enabled \n   --principal-arn arn:aws:iam::123456789012:user/MyUser
```

Output:

```json
{
   "setting": {
      "name": "serviceLongArnFormat",
      "value": "enabled",
      "principalArn": "arn:aws:iam::123456789012:user/MyUser"
   }
}
```

For API details, see PutAccountSettings in AWS CLI Command Reference.

put-attributes

The following code example shows how to use put-attributes.
AWS CLI

To create an attribute and associate it with an Amazon ECS resource

The following `put-attributes` applies an attribute with the name stack and the value production to a container instance.

```bash
aws ecs put-attributes \
--attributes name=stack,value=production,targetId=arn:aws:ecs:us-west-2:13075420319:container-instance/1c3be8ed-df30-47b4-8f1e-6e68ebd01f34
```

Output:

```json
{
  "attributes": [
    {
      "name": "stack",
      "targetId": "arn:aws:ecs:us-west-2:13075420319:container-instance/1c3be8ed-df30-47b4-8f1e-6e68ebd01f34",
      "value": "production"
    }
  ]
}
```

- For API details, see [PutAttributes](#) in *AWS CLI Command Reference*.

**put-cluster-capacity-providers**

The following code example shows how to use `put-cluster-capacity-providers`.

AWS CLI

**Example 1: To add an existing capacity provider to a cluster**

The following `put-cluster-capacity-providers` example adds an existing capacity provider to a cluster. The `create-capacity-provider` command is used to create a capacity provider. The `describe-clusters` command is used to describe the current capacity providers and the default capacity provider strategy associated with a cluster. When adding a new capacity provider to a cluster, you must specify all existing capacity providers in addition to the new capacity provider you want to associate with the cluster. You must also specify the default capacity provider strategy to associate with the cluster. In this example, the MyCluster
cluster has the MyCapacityProvider1 capacity provider associated with it and you want to add the MyCapacityProvider2 capacity provider and include it in the default capacity provider strategy so tasks are spread evenly across both capacity providers.

```bash
aws ecs put-cluster-capacity-providers \
    --cluster MyCluster \
    --capacity-providers MyCapacityProvider1 MyCapacityProvider2 \
    --default-capacity-provider-strategy
capacityProvider=MyCapacityProvider1,weight=1
capacityProvider=MyCapacityProvider2,weight=1
```

Output:

```json
{
    "cluster": {
        "clusterName": "MyCluster",
        "status": "ACTIVE",
        "registeredContainerInstancesCount": 0,
        "runningTasksCount": 0,
        "pendingTasksCount": 0,
        "activeServicesCount": 0,
        "statistics": [],
        "tags": [],
        "settings": [
            {
                "name": "containerInsights",
                "value": "enabled"
            }
        ],
        "capacityProviders": [
            "MyCapacityProvider1",
            "MyCapacityProvider2"
        ],
        "defaultCapacityProviderStrategy": [
            {
                "capacityProvider": "MyCapacityProvider1",
                "weight": 1,
                "base": 0
            },
            {
                "capacityProvider": "MyCapacityProvider2",
                "weight": 1,
                "base": 0
            }
        ]
    }
}
```
For more information, see Cluster capacity providers in the Amazon ECS Developer Guide.

Example 2: To remove a capacity provider from a cluster
The following `put-cluster-capacity-providers` example removes a capacity provider from a cluster. The `describe-clusters` command is used to describe the current capacity providers associated with a cluster. When removing a capacity provider from a cluster, you must specify the capacity providers you want to remain associated with the cluster as well as the default capacity provider strategy to associate with the cluster. In this example, the cluster has the `MyCapacityProvider1` and `MyCapacityProvider2` capacity providers associated with it and you want to remove the `MyCapacityProvider2` capacity provider, so you specify only `MyCapacityProvider1` in the command along with the updated default capacity provider strategy.

```bash
aws ecs put-cluster-capacity-providers \
   --cluster MyCluster \
   --capacity-providers MyCapacityProvider1 \
   --default-capacity-provider-strategy 
   capacityProvider=MyCapacityProvider1,weight=1,base=0
```

Output:

```json
{
  "cluster": {
    "clusterName": "MyCluster",
    "status": "ACTIVE",
    "registeredContainerInstancesCount": 0,
    "runningTasksCount": 0,
    "pendingTasksCount": 0,
    "activeServicesCount": 0,
    "statistics": [],
    "tags": [],
    "settings": [
      {
        "name": "containerInsights",
        "value": "enabled"
      }
    ],
    "capacityProviders": [
      "MyCapacityProvider1"
    ],
    "defaultCapacityProviderStrategy": [
      "capacityProvider": "MyCapacityProvider1",
      "weight": 1,
      "base": 0
    ]
  }
}
```
For more information, see Cluster capacity providers in the Amazon ECS Developer Guide.

**Example 3: To remove all capacity providers from a cluster**
The following `put-cluster-capacity-providers` example removes all existing capacity providers from the cluster.

```bash
aws ecs put-cluster-capacity-providers \
  --cluster MyCluster \
  --capacity-providers [] \
  --default-capacity-provider-strategy []
```

Output:

```json
{
  "cluster": [
    {
      "clusterName": "MyCluster",
      "status": "ACTIVE",
      "registeredContainerInstancesCount": 0,
      "runningTasksCount": 0,
      "pendingTasksCount": 0,
      "activeServicesCount": 0,
      "statistics": [],
      "tags": [],
      "settings": [
        {
          "name": "containerInsights",
          "value": "enabled"
        }
      ],
      "capacityProviders": [],
      "defaultCapacityProviderStrategy": [],
      "attachments": [
        {
          "id": "0fb0c8f4-6edd-4de1-9b09-17e470ee1918",
          "type": "as_policy",
          "status": "DELETING",
          "details": [
            {
              "name": "capacityProviderName",
              "value": "MyCapacityProvider1"
            },
            {
              "name": "scalingPolicyName",
              "value": "ECSManagedAutoScalingPolicy-a1b2c3d4-5678-90ab-cdef-EXAMPLE11111"
            }
```
register-task-definition

The following code example shows how to use register-task-definition.

**AWS CLI**

**Example 1: To register a task definition with a JSON file**

The following `register-task-definition` example registers a task definition to the specified family. The container definitions are saved in JSON format at the specified file location.

```
aws ecs register-task-definition
   --cli-input-json file://<path_to_json_file>/sleep360.json
```
Contents of sleep360.json:

```
{
    "containerDefinitions": [
        {
            "name": "sleep",
            "image": "busybox",
            "cpu": 10,
            "command": ["sleep", "360"],
            "memory": 10,
            "essential": true
        }
    ],
    "family": "sleep360"
}
```

Output:

```
{
    "taskDefinition": {
        "status": "ACTIVE",
        "family": "sleep360",
        "placementConstraints": [],
        "compatibilities": ["EXTERNAL", "EC2"],
        "volumes": [],
        "taskDefinitionArn": "arn:aws:ecs:us-east-1:123456789012:task-definition/sleep360:1",
        "containerDefinitions": [
            {
                "environment": [],
                "name": "sleep",
                "mountPoints": [],
                "image": "busybox",
                "cpu": 10,
                "portMappings": [],
                "command": ["sleep",
```
Example task definitions

Example 2: To register a task definition with a JSON string parameter

The following register-task-definition example registers a task definition using container definitions provided as a JSON string parameter with escaped double quotes.

```
aws ecs register-task-definition \
   --family sleep360 \
   --container-definitions "[{"name":"sleep","image":"busybox","cpu":10, \n   "command":["sleep","360"],"memory":10,"essential":true}]"
```

The output is identical to the previous example.

For more information, see Creating a Task Definition in the Amazon ECS Developer Guide.

For API details, see RegisterTaskDefinition in AWS CLI Command Reference.

run-task

The following code example shows how to use run-task.

AWS CLI

To run a task on your default cluster

The following run-task example runs a task on the default cluster and uses a client token.

```
aws ecs run-task \
   --cluster default \
   --task-definition sleep360:1 \
   --client-token 550e8400-e29b-41d4-a716-446655440000
```
Output:

```json
{
  "tasks": [
    {
      "attachments": [],
      "attributes": [
        {
          "name": "ecs.cpu-architecture",
          "value": "x86_64"
        }
      ],
      "availabilityZone": "us-east-1b",
      "capacityProviderName": "example-capacity-provider",
      "clusterArn": "arn:aws:ecs:us-east-1:123456789012:cluster/default",
      "containerInstanceArn": "arn:aws:ecs:us-east-1:123456789012:container-instance/default/bc4d2ec611d04bb7bb97e83ceEXAMPLE",
      "containers": [
        {
          "containerArn": "arn:aws:ecs:us-east-1:123456789012:container/default/d6f51cc5bb94a47969c92035e9f66f8/75853d2d-711e-458a-8362-0f0aEXAMPLE",
          "taskArn": "arn:aws:ecs:us-east-1:123456789012:task/default/d6f51cc5bb94a47969c9203EXAMPLE",
          "name": "sleep",
          "image": "busybox",
          "lastStatus": "PENDING",
          "networkInterfaces": [],
          "cpu": "10",
          "memory": "10"
        }
      ],
      "cpu": "10",
      "createdAt": "2023-11-21T16:59:34.403000-05:00",
      "desiredStatus": "RUNNING",
      "enableExecuteCommand": false,
      "group": "family:sleep360",
      "lastStatus": "PENDING",
      "launchType": "EC2",
      "memory": "10",
      "overrides": {
        "containerOverrides": [
          {
            "name": "sleep"
          }
        ]
      }
    }
  ],
  "cpu": "10",
  "createdAt": "2023-11-21T16:59:34.403000-05:00",
  "desiredStatus": "RUNNING",
  "enableExecuteCommand": false,
  "group": "family:sleep360",
  "lastStatus": "PENDING",
  "launchType": "EC2",
  "memory": "10",
  "overrides": {
    "containerOverrides": [
      {
        "name": "sleep"
      }
    ]
  }
}
```
For more information, see Running Tasks in the Amazon ECS Developer Guide.

- For API details, see RunTask in AWS CLI Command Reference.

start-task

The following code example shows how to use start-task.

AWS CLI

To start a new task

The following start-task starts a task using the latest revision of the sleep360 task definition on the specified container instance in the default cluster.

```bash
aws ecs start-task \
--task-definition sleep360 \
--container-instances 765936fadbdd46b5991a4bd70c2a43d4
```

Output:

```json
{
   "tasks": [
   {
      "taskArn": "arn:aws:ecs:us-west-2:130757420319:task/default/666fdccc2e2d4b6894dd422f4eeee8f8",
      "taskDefinitionArn": "arn:aws:ecs:us-west-2:130757420319:task-definition/sleep360:3",
```
For API details, see [StartTask](https://docs.aws.amazon.com/cli/latest/reference/ecs/start-task.html) in *AWS CLI Command Reference*.

### stop-task

The following code example shows how to use `stop-task`.

```json
"containerInstanceArn": "arn:aws:ecs:us-west-2:130757420319:container-instance/default/765936fadbdd46b5991a4bd70c2a43d4",
  "overrides": [
    "containerOverrides": ["name": "sleep"
  ],
  "lastStatus": "PENDING",
  "desiredStatus": "RUNNING",
  "cpu": "128",
  "memory": "128",
  "containers": [
    "containerArn": "arn:aws:ecs:us-west-2:130757420319:container/75f11ed4-8a3d-4f26-a33b-ad1db9e02d41",
    "taskArn": "arn:aws:ecs:us-west-2:130757420319:task/default/666fdccc2e2d4b6894dd422f4eeee8f8",
    "name": "sleep",
    "lastStatus": "PENDING",
    "networkInterfaces": [],
    "cpu": "10",
    "memory": "10"
  ],
  "version": 1,
  "createdAt": 1563421494.186,
  "group": "family:sleep360",
  "launchType": "EC2",
  "attachments": [],
  "tags": []
],
"failures": []
}
```
AWS CLI

To stop a task

The following `stop-task` stops the specified task from running in the default cluster.

```
aws ecs stop-task \
   --task 666fdccc2e2d4b6894dd422f4eeee8f8
```

Output:

```json
{
   "task": {
      "taskArn": "arn:aws:ecs:us-west-2:130757420319:task/default/666fdccc2e2d4b6894dd422f4eeee8f8",
      "taskDefinitionArn": "arn:aws:ecs:us-west-2:130757420319:task-definition/sleep360:3",
      "containerInstanceArn": "arn:aws:ecs:us-west-2:130757420319:container-instance/default/765936fadbbd46b5991a4bd70c2a43d4",
      "overrides": {
         "containerOverrides": []
      },
      "lastStatus": "STOPPED",
      "desiredStatus": "STOPPED",
      "cpu": "128",
      "memory": "128",
      "containers": [],
      "version": 2,
      "stoppedReason": "Taskfailedtostart",
      "stopCode": "TaskFailedToStart",
      "connectivity": "CONNECTED",
      "connectivityAt": 1563421494.186,
      "pullStartedAt": 1563421494.252,
      "pullStoppedAt": 1563421496.252,
      "executionStoppedAt": 1563421497,
      "createdAt": 1563421494.186,
      "stoppingAt": 1563421497.252,
      "stoppedAt": 1563421497.252,
      "group": "family:sleep360",
      "launchType": "EC2",
      "attachments": [],
      "tags": []
   }
}```
For API details, see StopTask in AWS CLI Command Reference.

**tag-resource**

The following code example shows how to use tag-resource.

**AWS CLI**

**To tag a resource**

The following tag-resource example adds a single tag to the specified resource.

```bash
aws ecs tag-resource \
--resource-arn arn:aws:ecs:us-west-2:123456789012:cluster/MyCluster \
--tags key=key1,value=value1
```

This command produces no output.

**To add multiple tags to a resource**

The following tag-resource example adds multiple tags to the specified resource.

```bash
aws ecs tag-resource \
--resource-arn arn:aws:ecs:us-west-2:123456789012:cluster/MyCluster \
--tags key=key1,value=value1 key=key2,value=value2 key=key3,value=value3
```

This command produces no output.

For API details, see TagResource in AWS CLI Command Reference.

**untag-resource**

The following code example shows how to use untag-resource.

**AWS CLI**

**To remove a tag from a resource**
The following `untag-resource` example removes the listed tags from the specified resource.

```bash
aws ecs untag-resource \
    --resource-arn arn:aws:ecs:us-west-2:123456789012:cluster/MyCluster \
    --tag-keys key1,key2
```

This command produces no output.

- For API details, see [UntagResource](#) in AWS CLI Command Reference.

**update-cluster-settings**

The following code example shows how to use `update-cluster-settings`.

**AWS CLI**

**To modify the settings for your cluster**

The following `update-cluster-settings` example enables CloudWatch Container Insights for the default cluster.

```bash
aws ecs update-cluster-settings \
    --cluster default \
    --settings name=containerInsights,value=enabled
```

Output:

```json
{
    "cluster": {
        "clusterName": "default",
        "status": "ACTIVE",
        "registeredContainerInstancesCount": 0,
        "runningTasksCount": 0,
        "pendingTasksCount": 0,
        "activeServicesCount": 0,
        "statistics": [],
        "tags": [],
        "settings": [
            {
                "name": "containerInsights",
                "value": "enabled"
            }
        ]
    }
}
```
For more information, see [Modifying Account Settings](#) in the *Amazon ECS Developer Guide*.

- For API details, see [UpdateClusterSettings](#) in *AWS CLI Command Reference*.

**update-container-agent**

The following code example shows how to use *update-container-agent*.

**AWS CLI**

*To update the container agent on an Amazon ECS container instance*

The following *update-container-agent* example updates the container agent on the specified container instance in the default cluster.

```bash
aws ecs update-container-agent --cluster default --container-instance a1b2c3d4-5678-90ab-cdef-11111EXAMPLE
```

**Output:**

```json
{
    "containerInstance": {
        "status": "ACTIVE",
        ... 
        "agentUpdateStatus": "PENDING",
        "versionInfo": {
            "agentVersion": "1.0.0",
            "agentHash": "4023248",
            "dockerVersion": "DockerVersion: 1.5.0"
        }
    }
}
```

For more information, see [Updating the Amazon ECS Container Agent](#) in the *Amazon ECS Developer Guide*.

- For API details, see [UpdateContainerAgent](#) in *AWS CLI Command Reference*.
update-container-instances-state

The following code example shows how to use `update-container-instances-state`.

AWS CLI

To update the state of a container instance

The following `update-container-instances-state` updates the state of the specified container instance to `DRAINING` which will remove it from the cluster it is registered to.

```
aws ecs update-container-instances-state \
  --container-instances 765936fadbdd46b5991a4bd70c2a43d4 \
  --status DRAINING
```

Output:

```json
{
  "containerInstances": [
    {
      "containerInstanceArn": "arn:aws:ecs:us-west-2:130757420319:container-instance/default/765936fadbdd46b5991a4bd70c2a43d4",
      "ec2InstanceId": "i-013d87ffbb4d513bf",
      "version": 4390,
      "versionInfo": {
        "agentVersion": "1.29.0",
        "agentHash": "a190a73f",
        "dockerVersion": "DockerVersion:18.06.1-ce"
      },
      "remainingResources": [
        {
          "name": "CPU",
          "type": "INTEGER",
          "doubleValue": 0,
          "longValue": 0,
          "integerValue": 1536
        },
        {
          "name": "MEMORY",
          "type": "INTEGER",
          "doubleValue": 0,
          "longValue": 0,
          "integerValue": 2681
        }
      ]
    }
  ]
}
```


```
{
    "name": "PORTS",
    "type": "STRINGSET",
    "doubleValue": 0,
    "longValue": 0,
    "intValue": 0,
    "stringSetValue": [
        "22",
        "2376",
        "2375",
        "51678",
        "51679"
    ]
},
{
    "name": "PORTS_UDP",
    "type": "STRINGSET",
    "doubleValue": 0,
    "longValue": 0,
    "intValue": 0,
    "stringSetValue": []
}
],
"registeredResources": [
{
    "name": "CPU",
    "type": "INTEGER",
    "doubleValue": 0,
    "longValue": 0,
    "intValue": 2048
},
{
    "name": "MEMORY",
    "type": "INTEGER",
    "doubleValue": 0,
    "longValue": 0,
    "intValue": 3705
},
{
    "name": "PORTS",
    "type": "STRINGSET",
    "doubleValue": 0,
    "longValue": 0,

```
"integerValue": 0,
"stringSetValue": [
  "22",
  "2376",
  "2375",
  "51678",
  "51679"
]
},
{
  "name": "PORTS_UDP",
  "type": "STRINGSET",
  "doubleValue": 0,
  "longValue": 0,
  "integerValue": 0,
  "stringSetValue": []
}
],
"status": "DRAINING",
"agentConnected": true,
"runningTasksCount": 2,
"pendingTasksCount": 0,
"attributes": [
  {
    "name": "ecs.capability.secrets.asm.environment-variables"
  },
  {
    "name": "ecs.capability.branch-cni-plugin-version",
    "value": "e0703516-"
  },
  {
    "name": "ecs.ami-id",
    "value": "ami-00e0090ac21971297"
  },
  {
    "name": "ecs.capability.secrets.asm.bootstrap.log-driver"
  },
  {
    "name": "com.amazonaws.ecs.capability.logging-driver.none"
  },
  {
    "name": "ecs.capability.ecr-endpoint"
  },
  {
    "name": "ecs..."
"name": "ecs.capability.docker-plugin.local"
",
{
  "name": "ecs.capability.task-cpu-mem-limit"
",
{
  "name": "ecs.capability.secrets.ssm.bootstrap.log-driver"
",
{
  "name": "com.amazonaws.ecs.capability.docker-remote-api.1.30"
",
{
  "name": "com.amazonaws.ecs.capability.docker-remote-api.1.31"
",
{
  "name": "com.amazonaws.ecs.capability.docker-remote-api.1.32"
",
{
  "name": "ecs.availability-zone",
  "value": "us-west-2c"
",
{
  "name": "ecs.capability.aws-appmesh"
",
{
  "name": "com.amazonaws.ecs.capability.logging-driver.awslogs"
",
{
  "name": "com.amazonaws.ecs.capability.docker-remote-api.1.24"
",
{
  "name": "ecs.capability.task-eni-trunking"
",
{
  "name": "com.amazonaws.ecs.capability.docker-remote-api.1.25"
",
{
  "name": "com.amazonaws.ecs.capability.docker-remote-api.1.26"
",
{
  "name": "com.amazonaws.ecs.capability.docker-remote-api.1.27"
",
{
  "name": "com.amazonaws.ecs.capability.docker-remote-api.1.28"
{
  "name": "com.amazonaws.ecs.capability.privileged-container"
},
{
  "name": "com.amazonaws.ecs.capability.docker-remote-api.1.29"
},
{
  "name": "ecs.cpu-architecture",
  "value": "x86_64"
},
{
  "name": "com.amazonaws.ecs.capability.ecr-auth"
},
{
  "name": "com.amazonaws.ecs.capability.docker-remote-api.1.20"
},
{
  "name": "ecs.os-type",
  "value": "linux"
},
{
  "name": "com.amazonaws.ecs.capability.docker-remote-api.1.21"
},
{
  "name": "com.amazonaws.ecs.capability.docker-remote-api.1.22"
},
{
  "name": "ecs.capability.task-eia"
},
{
  "name": "com.amazonaws.ecs.capability.docker-remote-api.1.23"
},
{
  "name": "ecs.capability.private-registry-authentication.secretsmanager"
},
{
  "name": "com.amazonaws.ecs.capability.logging-driver.syslog"
},
{
  "name": "com.amazonaws.ecs.capability.logging-driver.json-file"
}
"name": "ecs.capability.execution-role-awslogs"
},
{
  "name": "ecs.vpc-id",
  "value": "vpc-1234"
},
{
  "name": "com.amazonaws.ecs.capability.docker-remote-api.1.17"
},
{
  "name": "com.amazonaws.ecs.capability.docker-remote-api.1.18"
},
{
  "name": "com.amazonaws.ecs.capability.docker-remote-api.1.19"
},
{
  "name": "ecs.capability.task-eni"
},
{
  "name": "ecs.capability.execution-role-ecr-pull"
},
{
  "name": "ecs.capability.container-health-check"
},
{
  "name": "ecs.subnet-id",
  "value": "subnet-1234"
},
{
  "name": "ecs.instance-type",
  "value": "c5.large"
},
{
  "name": "com.amazonaws.ecs.capability.task-iam-role-network-host"
},
{
  "name": "ecs.capability.container-ordering"
},
{
  "name": "ecs.capability.cni-plugin-version",
  "value": "91ccef8-2019.06.0"
},

The following code example shows how to use `update-service-primary-task-set`.

**AWS CLI**

To update the primary task set for a service

The following `update-service-primary-task-set` example updates the primary task set for the specified service.

```bash
aws ecs update-service-primary-task-set \
   --cluster MyCluster \
   --service MyService \
```

Output:

```json
{
   "taskSet": {
      "id": "ecs-svc/1234567890123456789",
      "registeredAt": 1560788724.507,
      "attachments": [],
      "tags": []
   }
}
```

- For API details, see [UpdateContainerInstancesState](https://docs.aws.amazon.com/cli/latest/reference/ecs/update-container-instances-state.html) in *AWS CLI Command Reference*.

**update-service-primary-task-set**

The following code example shows how to use `update-service-primary-task-set`.

**AWS CLI**

To update the primary task set for a service

The following `update-service-primary-task-set` example updates the primary task set for the specified service.

```bash
aws ecs update-service-primary-task-set \
   --cluster MyCluster \
   --service MyService \
```

Output:

```json
{
   "taskSet": {
      "id": "ecs-svc/1234567890123456789",
      "registeredAt": 1560788724.507,
      "attachments": [],
      "tags": []
   }
}
```
"status": "PRIMARY",
"computedDesiredCount": 1,
"pendingCount": 0,
"runningCount": 0,
"createdAt": 1557128360.711,
"updatedAt": 1557129412.653,
"launchType": "EC2",
"networkConfiguration": {
    "awsvpcConfiguration": {
        "subnets": [
            "subnet-12344321"
        ],
        "securityGroups": [
            "sg-12344312"
        ],
        "assignPublicIp": "DISABLED"
    }
},
"loadBalancers": [],
"serviceRegistries": [],
"scale": {
    "value": 50.0,
    "unit": "PERCENT"
},
"stabilityStatus": "STABILIZING",
"stabilityStatusAt": 1557129279.914
}

• For API details, see UpdateServicePrimaryTaskSet in AWS CLI Command Reference.

**update-task-set**

The following code example shows how to use update-task-set.

**AWS CLI**

To update a task set
The following `update-task-set` example updates a task set to adjust the scale.

```bash
aws ecs update-task-set \
  --cluster MyCluster \
  --service MyService \
  --task-set arn:aws:ecs:us-west-2:123456789012:task-set/MyCluster/MyService/ecs-svc/1234567890123456789 \
  --scale value=50,unit=PERCENT
```

Output:

```json
{
  "taskSet": {
    "id": "ecs-svc/1234567890123456789",
    "status": "ACTIVE",
    "computedDesiredCount": 0,
    "pendingCount": 0,
    "runningCount": 0,
    "createdAt": 1557128360.711,
    "updatedAt": 1557129279.914,
    "launchType": "EC2",
    "networkConfiguration": {
      "awsvpcConfiguration": {
        "subnets": [
          "subnet-12344321"
        ],
        "securityGroups": [
          "sg-12344321"
        ],
        "assignPublicIp": "DISABLED"
      }
    },
    "loadBalancers": [],
    "serviceRegistries": [],
    "scale": {
      "value": 50.0,
      "unit": "PERCENT"
    },
    "stabilityStatus": "STABILIZING",
  }
}
```
Amazon EFS examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon EFS.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- [Actions](#)

**Actions**

**create-file-system**

The following code example shows how to use `create-file-system`.

**AWS CLI**

To create an encrypted file system

The following `create-file-system` example creates an encrypted file system using the default CMK. It also adds the tag Name=my-file-system.

```
aws efs create-file-system \
    --performance-mode generalPurpose \
```
--throughput-mode bursting \
--encrypted \
--tags Key=Name,Value=my-file-system

Output:

```
{
  "OwnerId": "123456789012",
  "CreationToken": "console-d7f56c5f-e433-41ca-8307-9d9c0example",
  "FileSystemId": "fs-c7a0456e",
  "CreationTime": 1595286880.0,
  "LifeCycleState": "creating",
  "Name": "my-file-system",
  "NumberOfMountTargets": 0,
  "SizeInBytes": {
    "Value": 0,
    "ValueInIA": 0,
    "ValueInStandard": 0
  },
  "PerformanceMode": "generalPurpose",
  "Encrypted": true,
  "KmsKeyId": "arn:aws:kms:us-west-2:123456789012:key/a59b3472-e62c-42e4-adcf-30d92example",
  "ThroughputMode": "bursting",
  "Tags": [
    {
      "Key": "Name",
      "Value": "my-file-system"
    }
  ]
}
```

For more information, see Creating Amazon EFS file systems in the Amazon Elastic File System User Guide.

- For API details, see CreateFileSystem in AWS CLI Command Reference.

create-mount-target

The following code example shows how to use create-mount-target.
AWS CLI

To create a mount target

The following `create-mount-target` example creates a mount target for the specified file system.

```bash
aws efs create-mount-target \
    --file-system-id fs-c7a0456e \
    --subnet-id subnet-02bf4c428bexample \
    --security-groups sg-068f739363example
```

Output:

```json
{
    "OwnerId": "123456789012",
    "MountTargetId": "fsmt-f9a14450",
    "FileSystemId": "fs-c7a0456e",
    "SubnetId": "subnet-02bf4c428bexample",
    "LifeCycleState": "creating",
    "IpAddress": "10.0.1.24",
    "NetworkInterfaceId": "eni-02d542216aexample",
    "AvailabilityZoneId": "use2-az2",
    "AvailabilityZoneName": "us-east-2b",
    "VpcId": "vpc-0123456789abcdef0"
}
```

For more information, see Creating mount targets in the Amazon Elastic File System User Guide.

- For API details, see `CreateMountTarget` in AWS CLI Command Reference.

delete-file-system

The following code example shows how to use `delete-file-system`.

AWS CLI

To delete a file system

The following `delete-file-system` example deletes the specified file system.

```bash
aws efs delete-file-system \
```
This command produces no output.

For more information, see Deleting an Amazon EFS file system in the Amazon Elastic File System User Guide.

- For API details, see DeleteFileSystem in AWS CLI Command Reference.

deletemount-target

The following code example shows how to use deletemount-target.

AWS CLI

To delete a mount target

The following deletemount-target example deletes the specified mount target.

```
aws efs delete-mount-target 
    --mount-target-id fsmt-f9a14450
```

This command produces no output.

For more information, see Creating mount targets in the Amazon Elastic File System User Guide.

- For API details, see DeleteMountTarget in AWS CLI Command Reference.

describe-file-systems

The following code example shows how to use describe-file-systems.

AWS CLI

To describe a file system

The following describe-file-systems example describes the specified file system.

```
aws efs describe-file-systems 
    --file-system-id fs-c7a0456e
```
Output:

```json
{
   "FileSystems": [
      {
         "OwnerId": "123456789012",
         "CreationToken": "console-d7f56c5f-e433-41ca-8307-9d9c0example",
         "FileSystemId": "fs-c7a0456e",
         "CreationTime": 1595286880.0,
         "LifeCycleState": "available",
         "Name": "my-file-system",
         "NumberOfMountTargets": 3,
         "SizeInBytes": {
            "Value": 6144,
            "Timestamp": 1600991437.0,
            "ValueInIA": 0,
            "ValueInStandard": 6144
         },
         "PerformanceMode": "generalPurpose",
         "Encrypted": true,
         "KmsKeyId": "arn:aws:kms:us-west-2:123456789012:key/a59b3472-e62c-42e4-adcf-30d92example",
         "ThroughputMode": "bursting",
         "Tags": [
            {
               "Key": "Name",
               "Value": "my-file-system"
            }
         ]
      }
   ]
}
```

For more information, see [Managing Amazon EFS file systems](https://docs.aws.amazon.com/efs/latest/ug/) in the *Amazon Elastic File System User Guide*.

- For API details, see [DescribeFileSystems](https://docs.aws.amazon.com/cli/latest/reference/efs/describe-mount-targets.html) in *AWS CLI Command Reference*.

### describe-mount-targets

The following code example shows how to use `describe-mount-targets`.
AWS CLI

To describe a mount target

The following describe-mount-targets example describes the specified mount target.

```bash
aws efs describe-mount-targets
  --mount-target-id fsmt-f9a14450
```

Output:

```json
{
  "MountTargets": [
    {
      "OwnerId": "123456789012",
      "MountTargetId": "fsmt-f9a14450",
      "FileSystemId": "fs-c7a0456e",
      "SubnetId": "subnet-02bf4c428bexample",
      "LifeCycleState": "creating",
      "IpAddress": "10.0.1.24",
      "NetworkInterfaceId": "eni-02d542216aexample",
      "AvailabilityZoneId": "use2-az2",
      "AvailabilityZoneName": "us-east-2b",
      "VpcId": "vpc-0123456789abcdef0"
    }
  ]
}
```

For more information, see Creating mount targets in the Amazon Elastic File System User Guide.

- For API details, see DescribeMountTargets in AWS CLI Command Reference.

describe-tags

The following code example shows how to use describe-tags.

AWS CLI

To describe the tags for a file system

The following describe-tags example describes the tags for the specified file system.
aws efs describe-tags \
--file-system-id fs-c7a0456e

Output:

```
{
    "Tags": [
        { 
            "Key": "Name",
            "Value": "my-file-system"
        },
        { 
            "Key": "Department",
            "Value": "Business Intelligence"
        }
    ]
}
```

For more information, see [Managing file system tags](#) in the *Amazon Elastic File System User Guide*.

- For API details, see [DescribeTags](#) in *AWS CLI Command Reference*.

### list-tags-for-resource

The following code example shows how to use `list-tags-for-resource`.

**AWS CLI**

**To retrieve the tags for a resource**

The following `list-tags-for-resource` example retrieves the tags associated with the specified file system.

```
aws efs list-tags-for-resource \
--resource-id fs-c7a0456e
```

Output:

```
{
```
"Tags": [
  {
    "Key": "Name",
    "Value": "my-file-system"
  },
  {
    "Key": "Department",
    "Value": "Business Intelligence"
  }
]

For more information, see [Managing file system tags](#) in the *Amazon Elastic File System User Guide*.

- For API details, see [ListTagsForResource](#) in *AWS CLI Command Reference*.

**tag-resource**

The following code example shows how to use `tag-resource`.

**AWS CLI**

**To tag a resource**

The following `tag-resource` example adds the tag `Department=Business Intelligence` to the specified file system.

```
aws efs tag-resource \
  --resource-id fs-c7a0456e \
  --tags Key=Department,Value="Business Intelligence"
```

This command produces no output.

For more information, see [Managing file system tags](#) in the *Amazon Elastic File System User Guide*.

- For API details, see [TagResource](#) in *AWS CLI Command Reference*.

**untag-resource**

The following code example shows how to use `untag-resource`.

```
AWS CLI

To remove a tag from a resource

The following `untag-resource` example removes the tag with the `Department` tag key from the specified file system.

```
aws efs untag-resource \
   --resource-id fs-c7a0456e \
   --tag-keys Department
```

This command produces no output.

For more information, see Managing file system tags in the Amazon Elastic File System User Guide.

- For API details, see `UntagResource` in AWS CLI Command Reference.

Amazon EKS examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon EKS.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- *Actions*

**Actions**

Create a cluster control plane

The following code example shows how to create an Amazon EKS cluster control plane.
AWS CLI

To create a new cluster

This example command creates a cluster named prod in your default region.

Command:

```bash
aws eks create-cluster --name prod \
--role-arn arn:aws:iam::012345678910:role/eks-service-role-AWSServiceRoleForAmazonEKS-J7ONKE3BQ4PI \
--resources-vpc-config subnetIds=subnet-6782e71e,subnet-e7e761ac,securityGroupIds=sg-6979fe18
```

Output:

```json
{
    "cluster": {
        "name": "prod",
        "createdAt": 1527808069.147,
        "version": "1.10",
        "roleArn": "arn:aws:iam::012345678910:role/eks-service-role-AWSServiceRoleForAmazonEKS-J7ONKE3BQ4PI",
        "resourcesVpcConfig": {
            "subnetIds": [
                "subnet-6782e71e",
                "subnet-e7e761ac"
            ],
            "securityGroupIds": [
                "sg-6979fe18"
            ],
            "vpcId": "vpc-950809ec"
        },
        "status": "CREATING",
        "certificateAuthority": {}
    }
}
```

To create a new cluster with private endpoint access and logging enabled

This example command creates a cluster named example in your default region with public endpoint access disabled, private endpoint access enabled, and all logging types enabled.
Command:

```
aws eks create-cluster --name example --kubernetes-version 1.12 \
--role-arn arn:aws:iamp:012345678910:role/example-cluster-ServiceRole-1XWBQWYSFRE2Q \
--resources-vpc-config
    subnetIds=subnet-0a188dcd2f9a632f,subnet-09290d93da4278664,subnet-0f21dd86e0e91134a,subnet-0f21dd86e0e91134a,subnet-01322339c5c7de9b4,securityGroupIds=sg-0c5b580845a031c10,endpointPublicAccess=false,endpointPrivateAccess=true \
--logging '{"clusterLogging":[{"types": ["api","audit","authenticator","controllerManager","scheduler"],"enabled":true}]}'
```

Output:

```
{
    "cluster": {
        "name": "example",
        "createdAt": 1565804921.901,
        "version": "1.12",
        "roleArn": "arn:aws:iamp:012345678910:role/example-cluster-ServiceRole-1XWBQWYSFRE2Q",
        "resourcesVpcConfig": {
            "subnetIds": [
                "subnet-0a188dcd2f9a632f",
                "subnet-09290d93da4278664",
                "subnet-0f21dd86e0e91134a",
                "subnet-0173dead68481a583",
                "subnet-051f70a57ed6fcab6",
                "subnet-01322339c5c7de9b4"
            ],
            "securityGroupIds": [
                "sg-0c5b580845a031c10"
            ],
            "vpcId": "vpc-0f622c01f68d4afec",
            "endpointPublicAccess": false,
            "endpointPrivateAccess": true
        },
        "logging": {
            "clusterLogging": [
                {
                    "types": [
                        "api",
                        "audit"
                    ],
                    "enabled": true
                }
            ]
        }
    }
}
```
Delete a cluster control plane

The following code example shows how to delete an Amazon EKS cluster.

**AWS CLI**

**To delete a cluster**

This example command deletes a cluster named `devel` in your default region.

Command:

```bash
aws eks delete-cluster --name devel
```

- For API details, see [DeleteCluster](https://docs.aws.amazon.com/cli/latest/reference/eks/delete-cluster.html) in *AWS CLI Command Reference*.

**describe-cluster**

The following code example shows how to use `describe-cluster`.

**AWS CLI**

**To describe a cluster**

This example command provides a description of the specified cluster in your default region.

Command:
aws eks describe-cluster --name devel

Output:

```
{
    "cluster": {
        "name": "devel",
        "createdAt": 1527807879.988,
        "version": "1.10",
        "endpoint": "https://EXAMPLE0A04F01705DD065655C30CC3D.yl4.us-west-2.eks.amazonaws.com",
        "roleArn": "arn:aws:iam::012345678910:role/eks-service-role-AWSServiceRoleForAmazonEKS-J7ONKE3BQ4PI",
        "resourcesVpcConfig": {
            "subnetIds": [
                "subnet-6782e71e",
                "subnet-e7e761ac"
            ],
            "securityGroupIds": [
                "sg-6979fe18"
            ],
            "vpcId": "vpc-950809ec"
        },
        "status": "ACTIVE",
        "certificateAuthority": {
            "data": "EXAMPLECRUdJTiBDRVJUSUZJQ0FURS0tLS0tCk1JSUN5RENDQWJDZ0F3SUJBZ01CQRBTkJna3Foa21H0XcwQkFrc0...
        }
    }
}
```

- For API details, see [DescribeCluster](http://awscli.amazonaws.com/AWSCLIV2/CommandsAWSCLI/DescribeCluster.html) in [AWS CLI Command Reference](http://awscli.amazonaws.com/AWSCLIV2/CommandsAWSCLI/).

**describe-update**

The following code example shows how to use `describe-update`.

**AWS CLI**

To describe an update for a cluster
This example command describes an update for a cluster named example in your default region.

Command:

```bash
aws eks describe-update --name example \
--update-id 10bddb13-a71b-425a-b0a6-71cd03e59161
```

Output:

```json
{
    "update": {
        "id": "10bddb13-a71b-425a-b0a6-71cd03e59161",
        "status": "Successful",
        "type": "EndpointAccessUpdate",
        "params": [
            {
                "type": "EndpointPublicAccess",
                "value": "true"
            },
            {
                "type": "EndpointPrivateAccess",
                "value": "false"
            }
        ],
        "createdAt": 1565806691.149,
        "errors": []
    }
}
```

- For API details, see [DescribeUpdate](https://docs.aws.amazon.com/cli/latest/reference/eks/describe-update.html) in *AWS CLI Command Reference*.

**get-token**

The following code example shows how to use `get-token`.

**AWS CLI**

**To get a cluster authentication token**

This example command gets an authentication token for a cluster named example.
Command:

```
aws eks get-token --cluster-name example
```

Output:

```
{
   "kind": "ExecCredential",
   "apiVersion": "client.authentication.k8s.io/v1beta1",
   "spec": {},
   "status": {
      "expirationTimestamp": "2019-08-14T18:44:27Z",
      "token": "k8s-aws-v1EXAMPLE_TOKEN_DATA_STRING..."
   }
}
```

- For API details, see [GetToken](#) in *AWS CLI Command Reference*.

**list-clusters**

The following code example shows how to use `list-clusters`.

**AWS CLI**

**To list your available clusters**

This example command lists all of your available clusters in your default region.

Command:

```
aws eks list-clusters
```

Output:

```
{
   "clusters": [
      "devel",
      "prod"
   ]
}
```
list-updates

The following code example shows how to use list-updates.

AWS CLI

To list the updates for a cluster

This example command lists the current updates for a cluster named example in your default region.

Command:

```bash
aws eks list-updates --name example
```

Output:

```json
{
   "updateIds": [
       "10bddb13-a71b-425a-b0a6-71cd03e59161"
   ]
}
```

update-cluster-config

The following code example shows how to use update-cluster-config.

AWS CLI

To update cluster endpoint access

This example command updates a cluster to disable endpoint public access and enable private endpoint access.

Command:
aws eks update-cluster-config --name example \
--resources-vpc-config endpointPublicAccess=false,endpointPrivateAccess=true

Output:

```
{
   "update": {
      "id": "ec883c93-2e9e-407c-a22f-8f6fa6e67d4f",
      "status": "InProgress",
      "type": "EndpointAccessUpdate",
      "params": [
         {
            "type": "EndpointPublicAccess",
            "value": "false"
         },
         {
            "type": "EndpointPrivateAccess",
            "value": "true"
         }
      ],
      "createdAt": 1565806986.506,
      "errors": []
   }
}
```

To enable logging for a cluster

This example command enables all cluster control plane logging types for a cluster named example.

Command:

```
aws eks update-cluster-config --name example \
--logging '{"clusterLogging": [{"types": 
["api","audit","authenticator","controllerManager","scheduler"],"enabled":true}]}'
```

Output:

```
{
   "update": {
      "id": "7551c64b-1d27-4b1e-9f8e-c45f056eb6fd",
```
update-cluster-version

The following code example shows how to use update-cluster-version.

**AWS CLI**

**To update a cluster Kubernetes version**

This example command updates a cluster named example from Kubernetes 1.12 to 1.13.

**Command:**

```
aws eks update-cluster-version --name example --kubernetes-version 1.13
```

**Output:**

```
{
   "update": {
      "id": "161a74d1-7e8c-4224-825d-b32af149f23a",
      "status": "InProgress",
      "type": "VersionUpdate",
      "params": [
      {
         "type": "Version",
         "value": "1.13"
      }
      ],
      "createdAt": 1565807210.37,
      "errors": []
   }
}
```
For API details, see `UpdateClusterVersion` in AWS CLI Command Reference.

update-kubeconfig

The following code example shows how to use update-kubeconfig.

**AWS CLI**

To update a kubeconfig for your cluster

This example command updates the default kubeconfig file to use your cluster as the current context.

**Command:**

```shell
aws eks update-kubeconfig --name example
```

**Output:**

```
```

For API details, see `UpdateKubeconfig` in AWS CLI Command Reference.

Elastic Beanstalk examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Elastic Beanstalk.
Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics

- Actions

Actions

Update app

The following code example shows how to update an AWS Elastic Beanstalk app.

AWS CLI

To change an application's description

The following command updates the description of an application named my-app:

```bash
aws elasticbeanstalk update-application --application-name my-app --description "my Elastic Beanstalk application"
```

Output:

```json
{
   "Application": {
      "ApplicationName": "my-app",
      "Description": "my Elastic Beanstalk application",
      "Versions": [
         "2fba-stage-150819_234450",
         "bf07-stage-150820_214945",
         "93f8",
         "fd7c-stage-150820_000431",
         "22a0-stage-150819_185942"
      ]
   }
}
```
• For API details, see UpdateApplication in AWS CLI Command Reference.

abort-environment-update

The following code example shows how to use abort-environment-update.

AWS CLI

To abort a deployment

The following command aborts a running application version deployment for an environment named my-env:

```sh
aws elasticbeanstalk abort-environment-update --environment-name my-env
```

• For API details, see AbortEnvironmentUpdate in AWS CLI Command Reference.

check-dns-availability

The following code example shows how to use check-dns-availability.

AWS CLI

To check the availability of a CNAME

The following command checks the availability of the subdomain my-cname.elasticbeanstalk.com:

```sh
aws elasticbeanstalk check-dns-availability --cname-prefix my-cname
```

Output:

```json
{
    "Available": true,
    "FullyQualifiedCNAME": "my-cname.elasticbeanstalk.com"
}
```
create-application

The following code example shows how to use create-application.

AWS CLI

To create a new application

The following command creates a new application named "MyApp":

```
aws elasticbeanstalk create-application --application-name MyApp --description "my application"
```

The create-application command only configures the application's name and description. To upload source code for the application, create an initial version of the application using create-application-version. create-application-version also has an auto-create-application option that lets you create the application and the application version in one step.

Output:

```
{
   "Application": {
      "ApplicationName": "MyApp",
      "ConfigurationTemplates": [],
      "DateUpdated": "2015-02-12T18:32:21.181Z",
      "Description": "my application",
      "DateCreated": "2015-02-12T18:32:21.181Z"
   }
}
```

For API details, see CreateApplication in AWS CLI Command Reference.

create-application-version

The following code example shows how to use create-application-version.

• For API details, see CheckDnsAvailability in AWS CLI Command Reference.
AWS CLI

**To create a new application version**

The following command creates a new version, "v1" of an application named "MyApp":

```
aws elasticbeanstalk create-application-version --application-name MyApp
   --version-label v1 --description MyAppv1 --source-bundle S3Bucket="my-bucket",S3Key="sample.war" --auto-create-application
```

The application will be created automatically if it does not already exist, due to the auto-create-application option. The source bundle is a .war file stored in an s3 bucket named "my-bucket" that contains the Apache Tomcat sample application.

Output:

```
{
   "ApplicationVersion": {
      "ApplicationName": "MyApp",
      "VersionLabel": "v1",
      "Description": "MyAppv1",
      "DateCreated": "2015-02-03T23:01:25.412Z",
      "DateUpdated": "2015-02-03T23:01:25.412Z",
      "SourceBundle": {
         "S3Bucket": "my-bucket",
         "S3Key": "sample.war"
      }
   }
}
```

- For API details, see [CreateApplicationVersion](https://docs.aws.amazon.com/cli/latest/reference/elasticbeanstalk/create-application-version.html) in *AWS CLI Command Reference*.

**create-configuration-template**

The following code example shows how to use `create-configuration-template`.

AWS CLI

**To create a configuration template**

The following command creates a configuration template named `my-app-v1` from the settings applied to an environment with the id `e-rpqsewtp2j`:

```
```
aws elasticbeanstalk create-configuration-template --application-name my-app --template-name my-app-v1 --environment-id e-rpqsewtp2j

Output:

```
{
  "ApplicationName": "my-app",
  "TemplateName": "my-app-v1",
  "DateCreated": "2015-08-12T18:40:39Z",
  "DateUpdated": "2015-08-12T18:40:39Z",
  "SolutionStackName": "64bit Amazon Linux 2015.03 v2.0.0 running Tomcat 8 Java 8"
}
```

- For API details, see CreateConfigurationTemplate in AWS CLI Command Reference.

**create-environment**

The following code example shows how to use create-environment.

**AWS CLI**

To create a new environment for an application

The following command creates a new environment for version "v1" of a java application named "my-app":

```
aws elasticbeanstalk create-environment --application-name my-app --environment-name my-env --cname-prefix my-app --version-label v1 --solution-stack-name "64bit Amazon Linux 2015.03 v2.0.0 running Tomcat 8 Java 8"
```

Output:

```
{
  "ApplicationName": "my-app",
  "EnvironmentName": "my-env",
  "VersionLabel": "v1",
  "Status": "Launching",
  "EnvironmentId": "e-izqpassy4h",
  "SolutionStackName": "64bit Amazon Linux 2015.03 v2.0.0 running Tomcat 8 Java 8",
  "CNAME": "my-app.elasticbeanstalk.com",
}
```
v1 is the label of an application version previously uploaded with create-application-version.

To specify a JSON file to define environment configuration options

The following create-environment command specifies that a JSON file with the name myoptions.json should be used to override values obtained from the solution stack or the configuration template:

```
aws elasticbeanstalk create-environment --environment-name sample-env --application-name sampleapp --option-settings file://myoptions.json
```

myoptions.json is a JSON object defining several settings:

```json
[
  {
    "Namespace": "aws:elb:healthcheck",
    "OptionName": "Interval",
    "Value": "15"
  },
  {
    "Namespace": "aws:elb:healthcheck",
    "OptionName": "Timeout",
    "Value": "8"
  },
  {
    "Namespace": "aws:elb:healthcheck",
    "OptionName": "HealthyThreshold",
    "Value": "2"
  },
  {
    "Namespace": "aws:elb:healthcheck",
    "OptionName": "UnhealthyThreshold",
    "Value": "3"
  }
]
```
create-storage-location

The following code example shows how to use create-storage-location.

AWS CLI

To create a storage location

The following command creates a storage location in Amazon S3:

```
aws elasticbeanstalk create-storage-location
```

Output:

```json
{
    "S3Bucket": "elasticbeanstalk-us-west-2-0123456789012"
}
```

• For API details, see CreateStorageLocation in AWS CLI Command Reference.

delete-application

The following code example shows how to use delete-application.

AWS CLI

To delete an application

The following command deletes an application named my-app:

```
aws elasticbeanstalk delete-application --application-name my-app
```
For API details, see [DeleteApplication](#) in *AWS CLI Command Reference*.

### delete-application-version

The following code example shows how to use `delete-application-version`.

**AWS CLI**

**To delete an application version**

The following command deletes an application version named `22a0-stage-150819_182129` for an application named `my-app`:

```bash
aws elasticbeanstalk delete-application-version --version-label 22a0-stage-150819_182129 --application-name my-app
```

For API details, see [DeleteApplicationVersion](#) in *AWS CLI Command Reference*.

### delete-configuration-template

The following code example shows how to use `delete-configuration-template`.

**AWS CLI**

**To delete a configuration template**

The following command deletes a configuration template named `my-template` for an application named `my-app`:

```bash
aws elasticbeanstalk delete-configuration-template --template-name my-template --application-name my-app
```

For API details, see [DeleteConfigurationTemplate](#) in *AWS CLI Command Reference*.

### delete-environment-configuration

The following code example shows how to use `delete-environment-configuration`.

**AWS CLI**

**To delete a draft configuration**
The following command deletes a draft configuration for an environment named my-env:

```bash
aws elasticbeanstalk delete-environment-configuration --environment-name my-env --application-name my-app
```

- For API details, see [DeleteEnvironmentConfiguration](AWS CLI Command Reference) in *AWS CLI Command Reference*.

### describe-application-versions

The following code example shows how to use `describe-application-versions`.

**AWS CLI**

#### To view information about an application version

The following command retrieves information about an application version labeled v2:

```bash
aws elasticbeanstalk describe-application-versions --application-name my-app --version-label "v2"
```

**Output:**

```json
{
   "ApplicationVersions": [
      {
         "ApplicationName": "my-app",
         "VersionLabel": "v2",
         "Description": "update cover page",
         "DateCreated": "2015-07-23T01:32:26.079Z",
         "DateUpdated": "2015-07-23T01:32:26.079Z",
         "SourceBundle": {
            "S3Bucket": "elasticbeanstalk-us-west-2-015321684451",
            "S3Key": "my-app/5026-stage-150723_224258.war"
         }
      },
      {
         "ApplicationName": "my-app",
         "VersionLabel": "v1",
         "Description": "initial version",
         "DateCreated": "2015-07-23T22:26:10.816Z",
         "DateUpdated": "2015-07-23T22:26:10.816Z"
      }
   ]
}
```
For API details, see DescribeApplicationVersions in AWS CLI Command Reference.

describe-applications

The following code example shows how to use describe-applications.

AWS CLI

To view a list of applications

The following command retrieves information about applications in the current region:

```
aws elasticbeanstalk describe-applications
```

Output:

```
{
   "Applications": [
   {
      "ApplicationName": "ruby",
      "ConfigurationTemplates": [],
      "DateUpdated": "2015-08-13T21:05:44.376Z",
      "Versions": [
      "Sample Application"
      ],
      "DateCreated": "2015-08-13T21:05:44.376Z"
   },
   {
      "ApplicationName": "pythonsample",
      "Description": "Application created from the EB CLI using \"eb init\"",
      "Versions": [
      "Sample Application"
      ],
      "DateCreated": "2015-08-13T19:05:43.637Z"
   }
   ]
}
```
describe-configuration-options

The following code example shows how to use describe-configuration-options.

AWS CLI

To view configuration options for an environment

The following command retrieves descriptions of all available configuration options for an environment named my-env:

```
aws elasticbeanstalk describe-configuration-options --environment-name my-env --application-name my-app
```

Output (abbreviated):

```
{
  "Options": [
    {
      "Name": "JVMOptions",
      "UserDefined": false,
      "DefaultValue": "Xms=256m,Xmx=256m,XX:MaxPermSize=64m,JVM Options",
      "ChangeSeverity": "RestartApplicationServer",
    }
  ]
}
```
Available configuration options vary per platform and configuration version. For more information about namespaces and supported options, see Option Values in the *AWS Elastic Beanstalk Developer Guide*.

- For API details, see [DescribeConfigurationOptions](https://docs.aws.amazon.com/cli/latest/reference/configuration/describe-configuration-settings) in *AWS CLI Command Reference*.

**describe-configuration-settings**

The following code example shows how to use describe-configuration-settings.
AWS CLI

To view configurations settings for an environment

The following command retrieves configuration settings for an environment named my-env:

```bash
aws elasticbeanstalk describe-configuration-settings --environment-name my-env --application-name my-app
```

Output (abbreviated):

```json
{
    "ConfigurationSettings": [
        {
            "ApplicationName": "my-app",
            "EnvironmentName": "my-env",
            "Description": "Environment created from the EB CLI using \"eb create \"",
            "DeploymentStatus": "deployed",
            "DateCreated": "2015-08-13T19:16:25Z",
            "OptionSettings": [
                {
                    "OptionName": "Availability Zones",
                    "ResourceName": "AWSEBAutoScalingGroup",
                    "Namespace": "aws:autoscaling:asg",
                    "Value": "Any"
                },
                {
                    "OptionName": "Cooldown",
                    "ResourceName": "AWSEBAutoScalingGroup",
                    "Namespace": "aws:autoscaling:asg",
                    "Value": "360"
                },
                ...
                {
                    "OptionName": "ConnectionDrainingTimeout",
                    "ResourceName": "AWSEBLoadBalancer",
                    "Namespace": "aws:elb:policies",
                    "Value": "20"
                },
                {
                    "OptionName": "ConnectionSettingIdleTimeout",
                    "ResourceName": "AWSEBLoadBalancer",
```
For more information about namespaces and supported options, see Option Values in the AWS Elastic Beanstalk Developer Guide.

- For API details, see DescribeConfigurationSettings in AWS CLI Command Reference.

**describe-environment-health**

The following code example shows how to use describe-environment-health.

**AWS CLI**

**To view environment health**

The following command retrieves overall health information for an environment named my-env:

```bash
aws elasticbeanstalk describe-environment-health --environment-name my-env --attribute-names All
```

**Output:**

```json
{
    "Status": "Ready",
    "EnvironmentName": "my-env",
    "Color": "Green",
    "ApplicationMetrics": {
        "Duration": 10,
        "Latency": {
            "P99": 0.004,
            "P75": 0.002,
```
Health information is only available for environments with enhanced health reporting enabled. For more information, see Enhanced Health Reporting and Monitoring in the AWS Elastic Beanstalk Developer Guide.

- For API details, see DescribeEnvironmentHealth in AWS CLI Command Reference.

describe-environment-resources

The following code example shows how to use describe-environment-resources.

AWS CLI

To view information about the AWS resources in your environment
The following command retrieves information about resources in an environment named my-env:

```bash
aws elasticbeanstalk describe-environment-resources --environment-name my-env
```

Output:

```
{
    "EnvironmentResources": {
        "EnvironmentName": "my-env",
        "AutoScalingGroups": [
            {
                "Name": "awseb-e-qu3fyyjyjs-stack-AWSEBAutoScalingGroup-QSB2Z088SXZT"
            }
        ],
        "Triggers": [],
        "LoadBalancers": ["Name": "awseb-e-q-AWSEBLoa-1EEPZ0K98BIF0"
        ],
        "Instances": ["Id": "i-0c91c786"
        ],
        "LaunchConfigurations": ["Name": "awseb-e-qu3fyjyjs-stack-AWSEBAutoScalingLaunchConfiguration-1UUVQIBC96TQ2"
        ]
    }
}
```

- For API details, see [DescribeEnvironmentResources](https://docs.aws.amazon.com/cli/latest/reference/elasticbeanstalk/describe-environment-resources.html) in AWS CLI Command Reference.

**describe-environments**

The following code example shows how to use describe-environments.
**AWS CLI**

**To view information about an environment**

The following command retrieves information about an environment named `my-env`:

```
aws elasticbeanstalk describe-environments --environment-names my-env
```

Output:

```
{
   "Environments": [
      {
         "ApplicationName": "my-app",
         "EnvironmentName": "my-env",
         "VersionLabel": "7f58-stage-150812_025409",
         "Status": "Ready",
         "EnvironmentId": "e-rpqsewtp2j",
         "EndpointURL": "awseb-e-w-AWSEBLoo-1483140XB0Q4L-109QXY8121.us-west-2.elb.amazonaws.com",
         "SolutionStackName": "64bit Amazon Linux 2015.03 v2.0.0 running Tomcat 8 Java 8",
         "CNAME": "my-env.elasticbeanstalk.com",
         "Health": "Green",
         "AbortableOperationInProgress": false,
         "Tier": {
            "Version": "",
            "Type": "Standard",
            "Name": "WebServer"
         },
         "DateUpdated": "2015-08-12T18:16:55.019Z",
         "DateCreated": "2015-08-07T20:48:49.599Z"
      }
   ]
}
```

- For API details, see [DescribeEnvironments](#) in *AWS CLI Command Reference*.

**describe-events**

The following code example shows how to use `describe-events`.

```
AWS CLI

To view events for an environment

The following command retrieves events for an environment named my-env:

```bash
aws elasticbeanstalk describe-events --environment-name my-env
```

Output (abbreviated):

```json
{
   "Events": [
   {
      "ApplicationName": "my-app",
      "EnvironmentName": "my-env",
      "Message": "Environment health has transitioned from Info to Ok.",
      "EventDate": "2015-08-20T07:06:53.535Z",
      "Severity": "INFO"
   },
   {
      "ApplicationName": "my-app",
      "EnvironmentName": "my-env",
      "Severity": "INFO",
      "RequestId": "b7f3960b-4709-11e5-ba1e-07e16200da41",
      "Message": "Environment update completed successfully.",
      "EventDate": "2015-08-20T07:06:02.049Z"
   },
   ...
   {
      "ApplicationName": "my-app",
      "EnvironmentName": "my-env",
      "Severity": "INFO",
      "RequestId": "ca8dfbf6-41ef-11e5-988b-651aa638f46b",
      "Message": "Using elasticbeanstalk-us-west-2-012445113685 as Amazon S3 storage bucket for environment data.",
      "EventDate": "2015-08-13T19:16:27.561Z"
   },
   {
      "ApplicationName": "my-app",
      "EnvironmentName": "my-env",
      "Severity": "INFO",
      "RequestId": "cdfba8f6-41ef-11e5-988b-65638f41aa6b",
      "Message": "createEnvironment is starting.",
      "EventDate": "2015-08-13T19:16:27.561Z"
   }
}
```
For API details, see DescribeEvents in AWS CLI Command Reference.

**describe-instances-health**

The following code example shows how to use describe-instances-health.

**AWS CLI**

**To view environment health**

The following command retrieves health information for instances in an environment named my-env:

```bash
aws elasticbeanstalk describe-instances-health --environment-name my-env --attribute-names All
```

**Output:**

```json
{
  "InstanceHealthList": [
    {
      "InstanceId": "i-08691cc7",
      "ApplicationMetrics": {
        "Duration": 10,
        "Latency": {
          "P99": 0.006,
          "P75": 0.002,
          "P90": 0.004,
          "P95": 0.005,
          "P85": 0.003,
          "P10": 0.0,
          "P999": 0.006,
          "PS0": 0.001
        },
        "RequestCount": 48,
        "StatusCodes": {
          "Status3xx": 0,
        }
      }
    }
  ]
}
```
Health information is only available for environments with enhanced health reporting enabled. For more information, see Enhanced Health Reporting and Monitoring in the AWS Elastic Beanstalk Developer Guide.

- For API details, see DescribeInstancesHealth in AWS CLI Command Reference.

**list-available-solution-stacks**

The following code example shows how to use list-available-solution-stacks.

**AWS CLI**

To view solution stacks
The following command lists solution stacks for all currently available platform configurations and any that you have used in the past:

```bash
aws elasticbeanstalk list-available-solution-stacks
```

Output (abbreviated):

```json
{
    "SolutionStacks": [
        "64bit Amazon Linux 2015.03 v2.0.0 running Node.js",
        "64bit Amazon Linux 2015.03 v2.0.0 running PHP 5.6",
        "64bit Amazon Linux 2015.03 v2.0.0 running PHP 5.5",
        "64bit Amazon Linux 2015.03 v2.0.0 running PHP 5.4",
        "64bit Amazon Linux 2015.03 v2.0.0 running Python 3.4",
        "64bit Amazon Linux 2015.03 v2.0.0 running Python 2.7",
        "64bit Amazon Linux 2015.03 v2.0.0 running Python",
        "64bit Amazon Linux 2015.03 v2.0.0 running Ruby 2.2 (Puma)",
        "64bit Amazon Linux 2015.03 v2.0.0 running Ruby 2.2 (Passenger Standalone)",
        "64bit Amazon Linux 2015.03 v2.0.0 running Ruby 2.1 (Puma)",
        "64bit Amazon Linux 2015.03 v2.0.0 running Ruby 2.1 (Passenger Standalone)",
        "64bit Amazon Linux 2015.03 v2.0.0 running Ruby 2.0 (Puma)",
        "64bit Amazon Linux 2015.03 v2.0.0 running Ruby 2.0 (Passenger Standalone)",
        "64bit Amazon Linux 2015.03 v2.0.0 running Ruby 1.9.3",
        "64bit Amazon Linux 2015.03 v2.0.0 running Tomcat 8 Java 8",
        "64bit Amazon Linux 2015.03 v2.0.0 running Tomcat 7 Java 7",
        "64bit Amazon Linux 2015.03 v2.0.0 running Tomcat 7 Java 6",
        "64bit Windows Server Core 2012 R2 running IIS 8.5",
        "64bit Windows Server 2012 R2 running IIS 8.5",
        "64bit Windows Server 2012 running IIS 8",
        "64bit Windows Server 2008 R2 running IIS 7.5",
        "64bit Amazon Linux 2015.03 v2.0.0 running Docker 1.6.2",
        "64bit Amazon Linux 2015.03 v2.0.0 running Multi-container Docker 1.6.2 (Generic)",
        "64bit Debian jessie v2.0.0 running GlassFish 4.1 Java 8 (Preconfigured - Docker)",
        "64bit Debian jessie v2.0.0 running GlassFish 4.0 Java 7 (Preconfigured - Docker)",
        "64bit Debian jessie v2.0.0 running Go 1.4 (Preconfigured - Docker)",
        "64bit Debian jessie v2.0.0 running Go 1.3 (Preconfigured - Docker)",
        "64bit Debian jessie v2.0.0 running Python 3.4 (Preconfigured - Docker)"
    ],
    "SolutionStackDetails": [
        {}
    ]
}
```
"PermittedFileTypes": [ "zip" ],
  "SolutionStackName": "64bit Amazon Linux 2015.03 v2.0.0 running Node.js"
}, ...
]
}

- For API details, see ListAvailableSolutionStacks in AWS CLI Command Reference.

rebuild-environment

The following code example shows how to use rebuild-environment.

AWS CLI

To rebuild an environment

The following command terminates and recreates the resources in an environment named my-env:

    aws elasticbeanstalk rebuild-environment --environment-name my-env

- For API details, see RebuildEnvironment in AWS CLI Command Reference.

request-environment-info

The following code example shows how to use request-environment-info.

AWS CLI

To request tailed logs

The following command requests logs from an environment named my-env:

    aws elasticbeanstalk request-environment-info --environment-name my-env --info-type tail

After requesting logs, retrieve their location with retrieve-environment-info.

- For API details, see RequestEnvironmentInfo in AWS CLI Command Reference.
### restart-app-server

The following code example shows how to use `restart-app-server`.

**AWS CLI**

**To restart application servers**

The following command restarts application servers on all instances in an environment named `my-env`:

```
aws elasticbeanstalk restart-app-server --environment-name my-env
```

- For API details, see [RestartAppServer](https://aws.amazon.com/documentation/elasticbeanstalk/reference/) in *AWS CLI Command Reference*.

### retrieve-environment-info

The following code example shows how to use `retrieve-environment-info`.

**AWS CLI**

**To retrieve tailed logs**

The following command retrieves a link to logs from an environment named `my-env`:

```
aws elasticbeanstalk retrieve-environment-info --environment-name my-env --info-type tail
```

**Output:**

```json
{
    "EnvironmentInfo": [
        {
            "SampleTimestamp": "2015-08-20T22:23:17.703Z",
            "Message": "https://elasticbeanstalk-us-west-2-0123456789012.s3.amazonaws.com/resources/environments/logs/tail/e-fyqju3yjs/i-09c1c867/TailLogs-1440109397703.out?AWSAccessKeyId=AKGPT4J56IAJ2EUBL5CQ&Expires=1440195891&Signature=n%2BEalOV6A2HI0x4Rcfb7LT16b8B%3D",
            "InfoType": "tail",
            "Ec2InstanceId": "i-09c1c867"
        }
    ]
}```
View the link in a browser. Prior to retrieval, logs must be requested with request-environment-info.

- For API details, see RetrieveEnvironmentInfo in AWS CLI Command Reference.

**swap-environment-cnames**

The following code example shows how to use swap-environment-cnames.

**AWS CLI**

**To swap environment CNAMES**

The following command swaps the assigned subdomains of two environments:

```
aws elasticbeanstalk swap-environment-cnames --source-environment-name my-env-blue
--destination-environment-name my-env-green
```

- For API details, see SwapEnvironmentCnames in AWS CLI Command Reference.

**terminate-environment**

The following code example shows how to use terminate-environment.

**AWS CLI**

**To terminate an environment**

The following command terminates an Elastic Beanstalk environment named my-env:

```
aws elasticbeanstalk terminate-environment --environment-name my-env
```

Output:

```
{
    "ApplicationName": "my-app",
    "EnvironmentName": "my-env",
    "Status": "Terminating",
    "EnvironmentId": "e-fh2eravps",
}
```
The following code example shows how to use `update-application-version`.

**AWS CLI**

**To change an application version's description**

The following command updates the description of an application version named `22a0-stage-150819_185942`:

```
aws elasticbeanstalk update-application-version --version-label 22a0-stage-150819_185942 --application-name my-app --description "new description"
```

Output:

```
{
   "ApplicationVersion": {
      "ApplicationName": "my-app",
      "VersionLabel": "22a0-stage-150819_185942",
      "Description": "new description",
      "DateCreated": "2015-08-19T18:59:17.646Z",
      "DateUpdated": "2015-08-20T22:53:28.871Z",
      "SourceBundle": {
```

For API details, see [TerminateEnvironment](#) in [AWS CLI Command Reference](#).

---

```
"EndpointURL": "awseb-e-f-AWSEBLoa-1I9XUMP4-8492WNUP202574.us-west-2.elb.amazonaws.com",
"SolutionStackName": "64bit Amazon Linux 2015.03 v2.0.0 running Tomcat 8 Java 8",
"CNAME": "my-env.elasticbeanstalk.com",
"Health": "Grey",
"AbortableOperationInProgress": false,
"Tier": {
   "Version": "",
   "Type": "Standard",
   "Name": "WebServer"
},
"DateUpdated": "2015-08-12T19:05:54.744Z",
"DateCreated": "2015-08-12T18:52:53.622Z"
}
```

---

"Actions and scenarios"
For API details, see UpdateApplicationVersion in AWS CLI Command Reference.

update-configuration-template

The following code example shows how to use update-configuration-template.

AWS CLI

To update a configuration template

The following command removes the configured CloudWatch custom health metrics configuration ConfigDocument from a saved configuration template named my-template:

```bash
aws elasticbeanstalk update-configuration-template --template-name my-template --application-name my-app --options-to-remove
Namespace=aws:elasticbeanstalk:healthreporting:system,OptionName=ConfigDocument
```

Output:

```json
{
   "TemplateName": "my-template",
   "DateCreated": "2015-08-20T22:39:31Z",
   "DateUpdated": "2015-08-20T22:43:11Z",
   "SolutionStackName": "64bit Amazon Linux 2015.03 v2.0.0 running Tomcat 8 Java 8"
}
```

For more information about namespaces and supported options, see Option Values in the AWS Elastic Beanstalk Developer Guide.

- For API details, see UpdateConfigurationTemplate in AWS CLI Command Reference.

update-environment

The following code example shows how to use update-environment.
AWS CLI

To update an environment to a new version

The following command updates an environment named "my-env" to version "v2" of the application to which it belongs:

```bash
aws elasticbeanstalk update-environment --environment-name my-env --version-label v2
```

This command requires that the "my-env" environment already exists and belongs to an application that has a valid application version with the label "v2".

Output:

```json
{
"ApplicationName": "my-app",
"EnvironmentName": "my-env",
"VersionLabel": "v2",
"Status": "Updating",
"EnvironmentId": "e-szqipays4h",
"EndpointURL": "awseb-e-i-AWSEBLoa-1RDLX6TC9VUA0-0123456789.us-west-2.elb.amazonaws.com",
"SolutionStackName": "64bit Amazon Linux running Tomcat 7",
"CNAME": "my-env.elasticbeanstalk.com",
"Health": "Grey",
"Tier": {
  "Version": "",
  "Type": "Standard",
  "Name": "WebServer"
},
"DateUpdated": "2015-02-03T23:12:29.119Z",
"DateCreated": "2015-02-03T23:04:54.453Z"
}
```

To set an environment variable

The following command sets the value of the "PARAM1" variable in the "my-env" environment to "ParamValue":

```bash
aws elasticbeanstalk update-environment --environment-name my-env --option-settings
Namespace=aws:elasticbeanstalk:application:environment,OptionName=PARAM1,Value=ParamValue
```
The option-settings parameter takes a namespace in addition to the name and value of the variable. Elastic Beanstalk supports several namespaces for options in addition to environment variables.

**To configure option settings from a file**

The following command configures several options in the `aws:elb:loadbalancer` namespace from a file:

```
aws elasticbeanstalk update-environment --environment-name my-env --option-settings file://options.json
```

`options.json` is a JSON object defining several settings:

```
[
    {
        "Namespace": "aws:elb:healthcheck",
        "OptionName": "Interval",
        "Value": "15"
    },
    {
        "Namespace": "aws:elb:healthcheck",
        "OptionName": "Timeout",
        "Value": "8"
    },
    {
        "Namespace": "aws:elb:healthcheck",
        "OptionName": "HealthyThreshold",
        "Value": "2"
    },
    {
        "Namespace": "aws:elb:healthcheck",
        "OptionName": "UnhealthyThreshold",
        "Value": "3"
    }
]
```

Output:

```
{
    "ApplicationName": "my-app",
```
"EnvironmentName": "my-env",
"VersionLabel": "7f58-stage-150812_025409",
"Status": "Updating",
"EnvironmentId": "e-wtp2rpqsej",
"EndpointURL": "awseb-e-w-AWSEBLoa-14XB83101Q4L-104QXY80921.sa-east-1.elb.amazonaws.com",
"SolutionStackName": "64bit Amazon Linux 2015.03 v2.0.0 running Tomcat 8 Java 8",
"CNAME": "my-env.elasticbeanstalk.com",
"Health": "Grey",
"AbortableOperationInProgress": true,
"Tier": {
    "Version": "",
    "Type": "Standard",
    "Name": "WebServer"
},
"DateUpdated": "2015-08-12T18:15:23.804Z",
"DateCreated": "2015-08-07T20:48:49.599Z"
}

For more information about namespaces and supported options, see Option Values in the AWS Elastic Beanstalk Developer Guide.

- For API details, see UpdateEnvironment in AWS CLI Command Reference.

**validate-configuration-settings**

The following code example shows how to use validate-configuration-settings.

**AWS CLI**

**To validate configuration settings**

The following command validates a CloudWatch custom metrics config document:

```bash
aws elasticbeanstalk validate-configuration-settings --application-name my-app --environment-name my-env --option-settings file://options.json
```

options.json is a JSON document that includes one or more configuration settings to validate:

```json
[
]
```
If the options that you specify are valid for the specified environment, Elastic Beanstalk returns an empty Messages array:

```json
{
    "Messages": []
}
```

If validation fails, the response will include information about the error:

```json
{
    "Messages": [
        {
            "OptionName": "ConfigDocument",
        }
    ],
    "Severity": "error"
}
```
Elastic Load Balancing examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Elastic Load Balancing.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**
- **Actions**

**Actions**

**Create a listener for a load balancer**

The following code example shows how to create a listener that forwards requests from an ELB load balancer to a target group.

**AWS CLI**

**Example 1: To create an HTTP listener**

The following `create-listener` example creates an HTTP listener for the specified Application Load Balancer that forwards requests to the specified target group.
aws elbv2 create-listener \
  --load-balancer-arn arn:aws:elasticloadbalancing:us-west-2:123456789012:loadbalancer/app/my-load-balancer/50dc6c495c0c9188 \ 
  --protocol HTTP \ 
  --port 80 \ 
  --default-actions Type=forward,TargetGroupArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067

For more information, see [Tutorial: Create an Application Load Balancer using the AWS CLI](https://docs.aws.amazon.com/elasticloadbalancing/latest/application/guide/tut-create-load-balancer-cli.html) in the *User Guide for Application Load Balancers*.

**Example 2: To create an HTTPS listener**

The following `create-listener` example creates an HTTPS listener for the specified Application Load Balancer that forwards requests to the specified target group. You must specify an SSL certificate for an HTTPS listener. You can create and manage certificates using AWS Certificate Manager (ACM). Alternatively, you can create a certificate using SSL/TLS tools, get the certificate signed by a certificate authority (CA), and upload the certificate to AWS Identity and Access Management (IAM).

aws elbv2 create-listener \
  --load-balancer-arn arn:aws:elasticloadbalancing:us-west-2:123456789012:loadbalancer/app/my-load-balancer/50dc6c495c0c9188 \ 
  --protocol HTTPS \ 
  --port 443 \ 
  --certificates CertificateArn=arn:aws:acm:us-west-2:123456789012:certificate/3dcb0a41-bd72-4774-9ad9-756919c40557 \ 
  --ssl-policy ELBSecurityPolicy-2016-08 \ 
  --default-actions Type=forward,TargetGroupArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067

For more information, see [Add an HTTPS listener](https://docs.aws.amazon.com/elasticloadbalancing/latest/application/guide/add-https-listener.html) in the *User Guide for Application Load Balancers*.

**Example 3: To create a TCP listener**

The following `create-listener` example creates a TCP listener for the specified Network Load Balancer that forwards requests to the specified target group.

aws elbv2 create-listener \

Example 4: To create a TLS listener

The following create-listener example creates a TLS listener for the specified Network Load Balancer that forwards requests to the specified target group. You must specify an SSL certificate for a TLS listener.

```
aws elbv2 create-listener \
  --load-balancer-arn arn:aws:elasticloadbalancing:us-west-2:123456789012:loadbalancer/app/my-load-balancer/50dc6c495c0c9188 \
  --protocol TLS \
  --port 443 \
  --certificates CertificateArn=arn:aws:acm:us-west-2:123456789012:certificate/3dcb0a41-bd72-4774-9ad9-756919c40557 \
  --ssl-policy ELBSecurityPolicy-2016-08 \
  --default-actions Type=forward,TargetGroupArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067
```

For more information, see Tutorial: Create a Network Load Balancer using the AWS CLI in the User Guide for Network Load Balancers.

Example 6: To create a listener for the specified gateway and forwarding

The following create-listener example creates a listener for the specified Gateway Load Balancer that forwards requests to the specified target group.

```bash
aws elbv2 create-listener \
    --load-balancer-arn arn:aws:elasticloadbalancing:us-east-1:850631746142:loadbalancer/gwy/my-gateway-load-balancer/e0f9b3d5c7f7d3d6 \
    --default-actions Type=forward,TargetGroupArn=arn:aws:elasticloadbalancing:us-east-1:850631746142:targetgroup/my-glb-targets/007ca469fae3bb1615
```

Output:

```json
{
  "Listeners": [
    {
      "ListenerArn": "arn:aws:elasticloadbalancing:us-east-1:850631746142:listener/gwy/my-agw-lb-example2/e0f9b3d5c7f7d3d6/afc127db15f925de",
      "LoadBalancerArn": "arn:aws:elasticloadbalancing:us-east-1:850631746142:loadbalancer/gwy/my-agw-lb-example2/e0f9b3d5c7f7d3d6",
      "DefaultActions": [
        {
          "Type": "forward",
          "ForwardConfig": {
            "TargetGroups": [
              {
                "TargetGroupArn": "arn:aws:elasticloadbalancing:us-east-1:850631746142:targetgroup/test-tg-agw-2/007ca469fae3bb1615"
              }
            ]
          }
        }
      ]
    }
  ]
}
```
For more information, see [Getting started with Gateway Load Balancers using the AWS CLI](https://docs.aws.amazon.com/gatewayloadbalancers/latest/userguide/gateway-load-balancers-getting-started.html) in the *User Guide for Gateway Load Balancers*.

- For API details, see [CreateListener](https://docs.aws.amazon.com/cli/latest/reference/elbv2/create-listener.html) in *AWS CLI Command Reference*.

### Create a target group

The following code example shows how to create an ELB target group.

**AWS CLI**

**Example 1: To create a target group for an Application Load Balancer**

The following `create-target-group` example creates a target group for an Application Load Balancer where you register targets by instance ID (the target type is `instance`). This target group uses the HTTP protocol, port 80, and the default health check settings for an HTTP target group.

```
aws elbv2 create-target-group \
  --name my-targets \
  --protocol HTTP \
  --port 80 \
  --target-type instance \
  --vpc-id vpc-3ac0fb5f
```

**Output:**

```json
{
  "TargetGroups": [
    {
      "TargetGroupArn": "arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067",
      "TargetGroupName": "my-targets",
      "Protocol": "HTTP",
      "Port": 80,
      "VpcId": "vpc-3ac0fb5f",
      "HealthCheckProtocol": "HTTP",
      "HealthCheckPort": "traffic-port",
      "HealthCheckEnabled": true,
      "HealthCheckIntervalSeconds": 30,
      "HealthCheckTimeoutSeconds": 5,
      "HealthyThresholdCount": 5,
```

Actions and scenarios
For more information, see [Create a target group](#) in the *User Guide for Application Load Balancers*.

**Example 2: To create a target group to route traffic from an Application Load Balancer to a Lambda function**

The following `create-target-group` example creates a target group for an Application Load Balancer where the target is a Lambda function (the target type is `lambda`). Health checks are disabled for this target group by default.

```
aws elbv2 create-target-group \
  --name my-lambda-target \
  --target-type lambda
```

Output:

```json
{
  "TargetGroups": [
    {
      "TargetGroupArn": "arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-lambda-target/a3003e085dbb8ddc",
      "TargetGroupName": "my-lambda-target",
      "HealthCheckEnabled": false,
      "HealthCheckIntervalSeconds": 35,
      "HealthCheckTimeoutSeconds": 30,
      "HealthyThresholdCount": 5,
      "UnhealthyThresholdCount": 2,
      "HealthCheckPath": "/",
      "Matcher": {
        "HttpCode": "200"
      }
    }
  ]
}
```
For more information, see [Lambda functions as targets](#) in the *User Guide for Application Load Balancers*.

**Example 3: To create a target group for a Network Load Balancer**

The following `create-target-group` example creates a target group for a Network Load Balancer where you register targets by IP address (the target type is `ip`). This target group uses the TCP protocol, port 80, and the default health check settings for a TCP target group.

```
aws elbv2 create-target-group \
  --name my-ip-targets \
  --protocol TCP \
  --port 80 \
  --target-type ip \
  --vpc-id vpc-3ac0fb5f
```

Output:

```json
{
  "TargetGroups": [
    {
      "TargetGroupArn": "arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-ip-targets/b6bba954d1361c78",
      "TargetGroupName": "my-ip-targets",
      "Protocol": "TCP",
      "Port": 80,
      "VpcId": "vpc-3ac0fb5f",
      "HealthCheckEnabled": true,
      "HealthCheckProtocol": "TCP",
      "HealthCheckPort": "traffic-port",
      "HealthCheckIntervalSeconds": 30,
      "HealthCheckTimeoutSeconds": 10,
      "HealthyThresholdCount": 5,
      "UnhealthyThresholdCount": 2,
      "TargetType": "ip",
    }
  ]
}
```
For more information, see Create a target group in the User Guide for Network Load Balancers.

**Example 4: To create a target group to route traffic from a Network Load Balancer to an Application Load Balancer**

The following create-target-group example creates a target group for a Network Load Balancer where you register an Application Load Balancer as a target (the target type is alb).

```bash
aws elbv2 create-target-group --name my-alb-target --protocol TCP --port 80 --target-type alb --vpc-id vpc-3ac0fb5f
```

**Output:**

```json
{
    "TargetGroups": [
    {
        "TargetGroupArn": "arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-alb-target/a3003e085dbb8ddc",
        "TargetGroupName": "my-alb-target",
        "Protocol": "TCP",
        "Port": 80,
        "VpcId": "vpc-838475fe",
        "HealthCheckProtocol": "HTTP",
        "HealthCheckPort": "traffic-port",
        "HealthCheckEnabled": true,
        "HealthCheckIntervalSeconds": 30,
        "HealthCheckTimeoutSeconds": 6,
        "HealthyThresholdCount": 5,
        "UnhealthyThresholdCount": 2,
        "HealthCheckPath": "/",
        "Matcher": {
            "HttpCode": "200-399"
        },
        "TargetType": "alb",
        "IpAddressType": "ipv4"
    }
    ]
}
```
For more information, see Create a target group with an Application Load Balancer as the target in the User Guide for Network Load Balancers.

**Example 5: To create a target group for a Gateway Load Balancer**

The following create-target-group example creates a target group for a Gateway Load Balancer where the target is an instance, and the target group protocol is GENEVE.

```
aws elbv2 create-target-group
    --name my-glb-targetgroup
    --protocol GENEVE
    --port 6081
    --target-type instance
    --vpc-id vpc-838475fe
```

Output:

```
{
    "TargetGroups": [
        {
            "TargetGroupArn": "arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-glb-targetgroup/00c3d57eacd6f40b6f",
            "TargetGroupName": "my-glb-targetgroup",
            "Protocol": "GENEVE",
            "Port": 6081,
            "VpcId": "vpc-838475fe",
            "HealthCheckProtocol": "TCP",
            "HealthCheckPort": "80",
            "HealthCheckEnabled": true,
            "HealthCheckIntervalSeconds": 10,
            "HealthCheckTimeoutSeconds": 5,
            "HealthyThresholdCount": 5,
            "UnhealthyThresholdCount": 2,
            "TargetType": "instance"
        }
    ]
}
```

For more information, see Create a target group [https://docs.aws.amazon.com/elasticloadbalancing/latest/gateway/create-target-group.html](https://docs.aws.amazon.com/elasticloadbalancing/latest/gateway/create-target-group.html) in the Gateway Load Balancer User Guide.
For API details, see CreateTargetGroup in AWS CLI Command Reference.

Create an Application Load Balancer

The following code example shows how to create an ELB Application Load Balancer.

AWS CLI

Example 1: To create an Internet-facing load balancer

The following create-load-balancer example creates an Internet-facing Application Load Balancer and enables the Availability Zones for the specified subnets.

```
aws elbv2 create-load-balancer \
  --name my-load-balancer \
  --subnets subnet-b7d581c0 subnet-8360a9e7
```

Output:

```
{
  "LoadBalancers":[
    {
      "Type": "application",
      "Scheme": "internet-facing",
      "IpAddressType": "ipv4",
      "VpcId": "vpc-3ac0f5b5",
      "AvailabilityZones": [
        {
          "ZoneName": "us-west-2a",
          "SubnetId": "subnet-8360a9e7"
        },
        {
          "ZoneName": "us-west-2b",
          "SubnetId": "subnet-b7d581c0"
        }
      ],
      "CreatedTime": "2017-08-25T21:26:12.920Z",
      "CanonicalHostedZoneId": "Z2P70JO7EXAMPLE",
      "DNSName": "my-load-balancer-424835706.us-west-2.elb.amazonaws.com",
      "SecurityGroups": [
        "sg-5943793c"
      ],
    }
  ]
}
```
"LoadBalancerName": "my-load-balancer",
"State": {
   "Code": "provisioning"
},
"LoadBalancerArn": "arn:aws:elasticloadbalancing:us-west-2:123456789012:loadbalancer/app/my-load-balancer/50dc6c495c0c9188"
}
]

For more information, see Tutorial: Create an Application Load Balancer using the AWS CLI in the User Guide for Application Load Balancers.

**Example 2: To create an internal load balancer**

The following create-load-balancer example creates an internal Application Load Balancer and enables the Availability Zones for the specified subnets.

```
aws elbv2 create-load-balancer \
   --name my-internal-load-balancer \
   --scheme internal \
   --subnets subnet-b7d581c0 subnet-8360a9e7
```

Output:

```
{
   "LoadBalancers": [
   {
      "Type": "application",
      "Scheme": "internal",
      "IpAddressType": "ipv4",
      "VpcId": "vpc-3ac0fb5f",
      "AvailabilityZones": [
      {
         "ZoneName": "us-west-2a",
         "SubnetId": "subnet-8360a9e7"
      },
      {
         "ZoneName": "us-west-2b",
         "SubnetId": "subnet-b7d581c0"
      }
   ]
   
```
For more information, see [Tutorial: Create an Application Load Balancer using the AWS CLI](https://docs.aws.amazon.com/elasticloadbalancing/latest/apploadbalancer/create-arev2.html) in the User Guide for Application Load Balancers.

**Example 3: To create a Network Load Balancer**

The following `create-load-balancer` example creates an Internet-facing Network Load Balancer and enables the Availability Zone for the specified subnet. It uses a subnet mapping to associate the specified Elastic IP address with the network interface used by the load balancer nodes for the Availability Zone.

```bash
aws elbv2 create-load-balancer \
    --name my-network-load-balancer \
    --type network \ 
    --subnet-mappings SubnetId=subnet-b7d581c0,AllocationId=eipalloc-64d5890a
```

Output:

```json
{
    "LoadBalancers": [
        {
            "Type": "network",
            "Scheme": "internet-facing",
            "IpAddressType": "ipv4",
            "VpcId": "vpc-3ac0fb5f",
            "AvailabilityZones": [
```
For more information, see Tutorial: Create a Network Load Balancer using the AWS CLI in the User Guide for Network Load Balancers.

Example 4: To create a Gateway Load Balancer

The following create-load-balancer example creates a Gateway Load Balancer and enables the Availability Zones for the specified subnets.

```
aws elbv2 create-load-balancer \
   --name my-gateway-load-balancer \
   --type gateway \
   --subnets subnet-dc83f691 subnet-a62583f9
```

Output:

```
{
   "LoadBalancers": [
      {
      
```
"Type": "gateway",
"VpcId": "vpc-838475fe",
"AvailabilityZones": [
  {
    "ZoneName": "us-east-1b",
    "SubnetId": "subnet-a62583f9"
  },
  {
    "ZoneName": "us-east-1a",
    "SubnetId": "subnet-dc83f691"
  }
],
"CreatedTime": "2021-07-14T19:33:43.324000+00:00",
"LoadBalancerName": "my-gateway-load-balancer",
"State": {
  "Code": "provisioning"
},
"LoadBalancerArn": "arn:aws:elasticloadbalancing:us-east-1:850631746142:loadbalancer/gwy/my-gateway-load-balancer/dfbb5a7d32cdee79"
}
]
}

For more information, see Getting started with Gateway Load Balancers using the AWS CLI in the User Guide for Gateway Load Balancers.

- For API details, see CreateLoadBalancer in AWS CLI Command Reference.

Delete a load balancer

The following code example shows how to delete an ELB load balancer.

**AWS CLI**

**To delete a load balancer**

The following delete-load-balancer example deletes the specified load balancer.

```
aws(elbv2) delete-load-balancer  
  --load-balancer-arn arn:aws:elasticloadbalancing:us-west-2:123456789012:loadbalancer/app/my-load-balancer/50dc6c495c0c9188
```

- For API details, see DeleteLoadBalancer in AWS CLI Command Reference.
Delete a target group

The following code example shows how to delete an ELB target group.

AWS CLI

To delete a target group

The following delete-target-group example deletes the specified target group.

```
aws elbv2 delete-target-group \
  --target-group-arn arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067
```

This command produces no output.

For more information, see Delete a load balancer in the Application Load Balancer Guide.

- For API details, see DeleteTargetGroup in AWS CLI Command Reference.

Describe target groups

The following code example shows how to describe specific target groups.

AWS CLI

Example 1: To describe a target group

The following describe-target-groups example displays details for the specified target group.

```
aws elbv2 describe-target-groups \
  --target-group-arns arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067
```

Output:

```
{
    "TargetGroups": [
        {
            "TargetGroupArn": "arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067",
```
Example 2: To describe all target groups for a load balancer

The following describe-target-groups example displays details for all target groups for the specified load balancer. The example uses the --query parameter to display only the target group names.

```bash
aws elbv2 describe-target-groups \
  --load-balancer-arn arn:aws:elasticloadbalancing:us-west-2:123456789012:loadbalancer/app/my-load-balancer/50dc6c495c0c9188 \
  --query TargetGroups[*].TargetGroupName
```

Output:

```json
[
  "my-instance-targets",
  "my-ip-targets",
]
```
"my-lambda-target"
]

For more information, see Target groups in the Application Load Balancers Guide.
- For API details, see DescribeTargetGroups in AWS CLI Command Reference.

Get the endpoint of a load balancer

The following code example shows how to get the endpoint of an ELB load balancer.

AWS CLI

To describe a load balancer

This example describes the specified load balancer.

Command:

```
aws elbv2 describe-load-balancers --load-balancer-arns
  arn:aws:elasticloadbalancing:us-west-2:123456789012:loadbalancer/app/my-load-balancer/50dc6c495c0c9188
```

Output:

```
{
    "LoadBalancers": [
        {
            "Type": "application",
            "Scheme": "internet-facing",
            "IpAddressType": "ipv4",
            "VpcId": "vpc-3ac0fb5f",
            "AvailabilityZones": [
                {
                    "ZoneName": "us-west-2a",
                    "SubnetId": "subnet-8360a9e7"
                },
                {
                    "ZoneName": "us-west-2b",
                    "SubnetId": "subnet-b7d581c0"
                }
            ],
            "CreatedTime": "2016-03-25T21:26:12.920Z",
        }
    ]
}
```
To describe all load balancers

This example describes all of your load balancers.

Command:

aws elbv2 describe-load-balancers

• For API details, see DescribeLoadBalancers in AWS CLI Command Reference.

Get the health of a target group

The following code example shows how to get the health of instances in an ELB target group.

AWS CLI

Example 1: To describe the health of the targets for a target group

The following describe-target-health example displays health details for the targets of the specified target group. These targets are healthy.

aws elbv2 describe-target-health \
  --target-group-arn arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067

Output:
Example 2: To describe the health of a target

The following describe-target-health example displays health details for the specified target. This target is healthy.

```bash
cmd aws elbv2 describe-target-health \
   --targets Id=i-0f76fade,Port=80 \ 
   --target-group-arn arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067
```

Output:

```json
{
   "TargetHealthDescriptions": [
      {
         "HealthCheckPort": "80",
         "Target": {
            "Id": "i-ceddcd4d",
            "Port": 80
         },
         "TargetHealth": {
            "State": "healthy"
         }
      },
      {
         "HealthCheckPort": "80",
         "Target": {
            "Id": "i-0f76fade",
            "Port": 80
         },
         "TargetHealth": {
            "State": "healthy"
         }
      }
   ]
}
```
The following example output is for a target whose target group is not specified in an action for a listener. This target can't receive traffic from the load balancer.

```json
{
    "TargetHealthDescriptions": [
        {
            "HealthCheckPort": "80",
            "Target": {
                "Id": "i-0f76fade",
                "Port": 80
            },
            "TargetHealth": {
                "State": "unused",
                "Reason": "Target.NotInUse",
                "Description": "Target group is not configured to receive traffic from the load balancer"
            },
        }
    ]
}
```

The following example output is for a target whose target group was just specified in an action for a listener. The target is still being registered.

```json
{
    "TargetHealthDescriptions": [
        {
            "HealthCheckPort": "80",
            "Target": {
                "Id": "i-0f76fade",
                "Port": 80
            },
            "TargetHealth": {
                "State": "healthy"
            }
        }
    ]
}
```
"TargetHealth": {
    "State": "initial",
    "Reason": "Elb.RegistrationInProgress",
    "Description": "Target registration is in progress"
}
]
}

The following example output is for an unhealthy target.

{
    "TargetHealthDescriptions": [
    {
        "HealthCheckPort": "80",
        "Target": {
            "Id": "i-0f76fade",
            "Port": 80
        },
        "TargetHealth": {
            "State": "unhealthy",
            "Reason": "Target.Timeout",
            "Description": "Connection to target timed out"
        }
    }
    ]
}

The following example output is for a target that is a Lambda function and health checks are disabled.

{
    "TargetHealthDescriptions": [
    {
        "Target": {
            "AvailabilityZone": "all",
        },
        "TargetHealth": {
            "State": "unavailable",
            "Reason": "Target.HealthCheckDisabled",
            "Description": "Health checks are not enabled for this target"
        }
    }
    ]
}
For API details, see DescribeTargetHealth in AWS CLI Command Reference.

**add-listener-certificates**

The following code example shows how to use add-listener-certificates.

**AWS CLI**

**To add a certificate to a secure listener**

This example adds the specified certificate to the specified secure listener.

Command:

```bash
```

Output:

```json
{
   "Certificates": [
      {
         "CertificateArn": "arn:aws:acm:us-west-2:123456789012:certificate/5cc54884-f4a3-4072-80be-05b9ba72f705",
         "IsDefault": false
      }
   ]
}
```

For API details, see AddListenerCertificates in AWS CLI Command Reference.

**add-tags**

The following code example shows how to use add-tags.
AWS CLI

To add tags to a load balancer

The following add-tags example adds the project and department tags to the specified load balancer.

```bash
aws elbv2 add-tags \
  --resource-arns arn:aws:elasticloadbalancing:us-west-2:123456789012:loadbalancer/app/my-load-balancer/50dc6c495c0c9188 \
  --tags "Key=project,Value=lima" "Key=department,Value=digital-media"
```

- For API details, see AddTags in AWS CLI Command Reference.

apply-security-groups-to-load-balancer

The following code example shows how to use apply-security-groups-to-load-balancer.

AWS CLI

To associate a security group with a load balancer in a VPC

This example associates a security group with the specified load balancer in a VPC.

Command:

```bash
aws elb apply-security-groups-to-load-balancer --load-balancer-name my-load-balancer --security-groups sg-fc448899
```

Output:

```
{
  "SecurityGroups": [
    "sg-fc448899"
  ]
}
```

- For API details, see ApplySecurityGroupsToLoadBalancer in AWS CLI Command Reference.

attach-load-balancer-to-subnets

The following code example shows how to use attach-load-balancer-to-subnets.
AWS CLI

To attach subnets to a load balancer

This example adds the specified subnet to the set of configured subnets for the specified load balancer.

Command:

```
aws elb attach-load-balancer-to-subnets --load-balancer-name my-load-balancer --subnets subnet-0ecac448
```

Output:

```
{
   "Subnets": [
      "subnet-15aaab61",
      "subnet-0ecac448"
   ]
}
```

- For API details, see [AttachLoadBalancerToSubnets](#) in AWS CLI Command Reference.

configure-health-check

The following code example shows how to use configure-health-check.

AWS CLI

To specify the health check settings for your backend EC2 instances

This example specifies the health check settings used to evaluate the health of your backend EC2 instances.

Command:

```
aws elb configure-health-check --load-balancer-name my-load-balancer --health-check Target=HTTP:80/png,Interval=30,UnhealthyThreshold=2,HealthyThreshold=2,Timeout=3
```

Output:

```
{
}
```
"HealthCheck": {
    "HealthyThreshold": 2,
    "Interval": 30,
    "Target": "HTTP:80/png",
    "Timeout": 3,
    "UnhealthyThreshold": 2
}
}

- For API details, see ConfigureHealthCheck in AWS CLI Command Reference.

create-app-cookie-stickiness-policy

The following code example shows how to use create-app-cookie-stickiness-policy.

AWS CLI

To generate a stickiness policy for your HTTPS load balancer

This example generates a stickiness policy that follows the sticky session lifetimes of the application-generated cookie.

Command:

```
aws elb create-app-cookie-stickiness-policy --load-balancer-name my-load-balancer --policy-name my-app-cookie-policy --cookie-name my-app-cookie
```

- For API details, see CreateAppCookieStickinessPolicy in AWS CLI Command Reference.

create-lb-cookie-stickiness-policy

The following code example shows how to use create-lb-cookie-stickiness-policy.

AWS CLI

To generate a duration-based stickiness policy for your HTTPS load balancer

This example generates a stickiness policy with sticky session lifetimes controlled by the specified expiration period.

Command:
aws elb create-lb-cookie-stickiness-policy --load-balancer-name my-load-balancer --policy-name my-duration-cookie-policy --cookie-expiration-period 60

- For API details, see CreateLbCookieStickinessPolicy in AWS CLI Command Reference.

create-load-balancer

The following code example shows how to use create-load-balancer.

AWS CLI

**To create an HTTP load balancer**

This example creates a load balancer with an HTTP listener in a VPC.

Command:

```bash
aws elb create-load-balancer --load-balancer-name my-load-balancer --listeners "Protocol=HTTP,LoadBalancerPort=80,InstanceProtocol=HTTP,InstancePort=80" --subnets subnet-15aaab61 --security-groups sg-a61988c3
```

Output:

```json
{
   "DNSName": "my-load-balancer-1234567890.us-west-2.elb.amazonaws.com"
}
```

This example creates a load balancer with an HTTP listener in EC2-Classic.

Command:

```bash
aws elb create-load-balancer --load-balancer-name my-load-balancer --listeners "Protocol=HTTP,LoadBalancerPort=80,InstanceProtocol=HTTP,InstancePort=80" --availability-zones us-west-2a us-west-2b
```

Output:

```json
{
   "DNSName": "my-load-balancer-123456789.us-west-2.elb.amazonaws.com"
}
```
To create an HTTPS load balancer

This example creates a load balancer with an HTTPS listener in a VPC.

Command:

```bash
aws elb create-load-balancer --load-balancer-name my-load-balancer --listeners
  "Protocol=HTTP,LoadBalancerPort=80,InstanceProtocol=HTTP,InstancePort=80"
```

Output:

```json
{
  "DNSName": "my-load-balancer-1234567890.us-west-2.elb.amazonaws.com"
}
```

This example creates a load balancer with an HTTPS listener in EC2-Classic.

Command:

```bash
aws elb create-load-balancer --load-balancer-name my-load-balancer --listeners
  "Protocol=HTTP,LoadBalancerPort=80,InstanceProtocol=HTTP,InstancePort=80"
```

Output:

```json
{
  "DNSName": "my-load-balancer-123456789.us-west-2.elb.amazonaws.com"
}
```

To create an internal load balancer

This example creates an internal load balancer with an HTTP listener in a VPC.

Command:

```bash
aws elb create-load-balancer --load-balancer-name my-load-balancer --listeners
  "Protocol=HTTP,LoadBalancerPort=80,InstanceProtocol=HTTP,InstancePort=80"
```

Output:

```json
{
  "DNSName": "my-load-balancer-1234567890.us-west-2.elb.amazonaws.com"
}
```
Output:

```
{
   "DNSName": "internal-my-load-balancer-123456789.us-west-2.elb.amazonaws.com"
}
```

- For API details, see CreateLoadBalancer in AWS CLI Command Reference.

**create-load-balancer-listeners**

The following code example shows how to use create-load-balancer-listeners.

**AWS CLI**

**To create HTTP listeners for a load balancer**

This example creates a listener for your load balancer at port 80 using the HTTP protocol.

Command:

```
aws elb create-load-balancer-listeners --load-balancer-name my-load-balancer --listeners "Protocol=HTTP,LoadBalancerPort=80,InstanceProtocol=HTTP,InstancePort=80"
```

**To create HTTPS listeners for a load balancer**

This example creates a listener for your load balancer at port 443 using the HTTPS protocol.

Command:

```
aws elb create-load-balancer-listeners --load-balancer-name my-load-balancer --listeners "Protocol=HTTPS,LoadBalancerPort=443,InstanceProtocol=HTTP,InstancePort=80"
```

- For API details, see CreateLoadBalancerListeners in AWS CLI Command Reference.

**create-load-balancer-policy**

The following code example shows how to use create-load-balancer-policy.

**AWS CLI**

**To create a policy that enables Proxy Protocol on a load balancer**
This example creates a policy that enables Proxy Protocol on the specified load balancer.

Command:

```bash
aws elb create-load-balancer-policy --load-balancer-name my-load-balancer --policy-name my-ProxyProtocol-policy --policy-type-name ProxyProtocolPolicyType --policy-attributes AttributeName=ProxyProtocol,AttributeValue=true
```

To create an SSL negotiation policy using the recommended security policy

This example creates an SSL negotiation policy for the specified HTTPS load balancer using the recommended security policy.

Command:

```bash
aws elb create-load-balancer-policy --load-balancer-name my-load-balancer --policy-name my-SSLNegotiation-policy --policy-type-name SSLNegotiationPolicyType --policy-attributes AttributeName=Reference-Security-Policy,AttributeValue=ELBSecurityPolicy-2015-03
```

To create an SSL negotiation policy using a custom security policy

This example creates an SSL negotiation policy for your HTTPS load balancer using a custom security policy by enabling the protocols and the ciphers.

Command:

```bash
aws elb create-load-balancer-policy --load-balancer-name my-load-balancer --policy-name my-SSLNegotiation-policy --policy-type-name SSLNegotiationPolicyType --policy-attributes AttributeName=Protocol-SSLv3,AttributeValue=true AttributeName=Protocol-TLSv1.1,AttributeValue=true AttributeName=Server-Defined-Cipher-Order,AttributeValue=true
```

To create a public key policy

This example creates a public key policy.

Command:

```bash
aws elb create-load-balancer-policy --load-balancer-name my-load-balancer --policy-name my-PublicKey-policy --policy-type-name PublicKeyPolicyType --policy-attributes AttributeName=PublicKey,AttributeValue=MIIBIjANBgkqhkiG9w0BAQEFAAOCAQ8AMIIBCgKCAQEAwAYUjnf1
```
To create a backend server authentication policy

This example creates a backend server authentication policy that enables authentication on your backend instance using a public key policy.

Command:

```
aws elb create-load-balancer-policy --load-balancer-name my-load-balancer --policy-name my-authentication-policy --policy-type-name BackendServerAuthenticationPolicyType --policy-attributes
   AttributeName=PublicKeyPolicyName,AttributeValue=my-PublicKey-policy
```

- For API details, see [CreateLoadBalancerPolicy](#) in [AWS CLI Command Reference](#).

create-rule

The following code example shows how to use create-rule.

AWS CLI

Example 1: To create a rule using a path condition and a forward action

The following create-rule example creates a rule that forwards requests to the specified target group if the URL contains the specified pattern.

```
aws elbv2 create-rule \
   --listener-arn arn:aws:elasticloadbalancing:us-west-2:123456789012:listener/app/my-load-balancer/50dc6c495c0c9188/f2f7dc8efc522ab2 \n   --priority 5 \n   --conditions file://conditions-pattern.json \n   --actions Type=forward,TargetGroupArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067
```

Contents of conditions-pattern.json:

```
[]
```
Example 2: To create a rule using a host condition and a fixed response

The following `create-rule` example creates a rule that provides a fixed response if the hostname in the host header matches the specified hostname.

```bash
aws elbv2 create-rule \
  --listener-arn arn:aws:elasticloadbalancing:us-west-2:123456789012:listener/app/my-load-balancer/50dc6c495c0c9188/f2f7dc8efc522ab2 \
  --priority 10 \n  --conditions file://conditions-host.json \n  --actions file://actions-fixed-response.json
```

Contents of `conditions-host.json`

```
[
  {
    "Field": "host-header",
    "HostHeaderConfig": {
      "Values": ["*.example.com"]
    }
  }
]
```

Contents of `actions-fixed-response.json`

```
[
  {
    "Type": "fixed-response",
    "FixedResponseConfig": {
      "MessageBody": "Hello world",
      "StatusCode": "200",
      "ContentType": "text/plain"
    }
  }
]
```
Example 3: To create a rule using a source IP address condition, an authenticate action, and a forward action

The following create-rule example creates a rule that authenticates the user if the source IP address matches the specified IP address, and forwards the request to the specified target group if authentication is successful.

```bash
aws elbv2 create-rule \
--listener-arn arn:aws:elasticloadbalancing:us-west-2:123456789012:listener/app/my-load-balancer/50dc6c495c0c9188/f2f7dc8efc522ab2 \
--priority 20 \
--conditions file://conditions-source-ip.json \
--actions file://actions-authenticate.json
```

Contents of `conditions-source-ip.json`

```
[
  {
    "Field": "source-ip",
    "SourceIpConfig": {
      "Values": ["192.0.2.0/24", "198.51.100.10/32"]
    }
  }
]
```

Contents of `actions-authenticate.json`

```
[
  {
    "Type": "authenticate-oidc",
    "AuthenticateOidcConfig": {
      "Issuer": "https://idp-issuer.com",
      "TokenEndpoint": "https://token-endpoint.com",
      "UserInfoEndpoint": "https://user-info-endpoint.com",
      "ClientId": "abcdefghijklmnopqrstuvwxyz123456789",
      "ClientSecret": "123456789012345678901234567890",
      "SessionCookieName": "my-cookie",
      "SessionTimeout": 3600,
    }
  }
]```
For API details, see `CreateRule` in *AWS CLI Command Reference*.

**delete-listener**

The following code example shows how to use `delete-listener`.

**AWS CLI**

To delete a listener

The following `delete-listener` example deletes the specified listener.

```bash
aws elbv2 delete-listener \
   --listener-arn arn:aws:elasticloadbalancing:ua-west-2:123456789012:listener/app/my-load-balancer/50dc6c495c0c9188/f2f7dc8efc522ab2
```

For API details, see `DeleteListener` in *AWS CLI Command Reference*.

**delete-load-balancer**

The following code example shows how to use `delete-load-balancer`.

**AWS CLI**

To delete a load balancer
This example deletes the specified load balancer.

Command:

```bash
aws elb delete-load-balancer --load-balancer-name my-load-balancer
```

- For API details, see [DeleteLoadBalancer](https://docs.aws.amazon.com/cli/latest/reference/elb/delete-load-balancer.html) in *AWS CLI Command Reference*.

### delete-load-balancer-listeners

The following code example shows how to use `delete-load-balancer-listeners`.

**AWS CLI**

**To delete a listener from your load balancer**

This example deletes the listener for the specified port from the specified load balancer.

Command:

```bash
aws elb delete-load-balancer-listeners --load-balancer-name my-load-balancer --load-balancer-ports 80
```

- For API details, see [DeleteLoadBalancerListeners](https://docs.aws.amazon.com/cli/latest/reference/elb/delete-load-balancer-listeners.html) in *AWS CLI Command Reference*.

### delete-load-balancer-policy

The following code example shows how to use `delete-load-balancer-policy`.

**AWS CLI**

**To delete a policy from your load balancer**

This example deletes the specified policy from the specified load balancer. The policy must not be enabled on any listener.

Command:

```bash
aws elb delete-load-balancer-policy --load-balancer-name my-load-balancer --policy-name my-duration-cookie-policy
```

- For API details, see [DeleteLoadBalancerPolicy](https://docs.aws.amazon.com/cli/latest/reference/elb/delete-load-balancer-policy.html) in *AWS CLI Command Reference*. 
delete-rule

The following code example shows how to use delete-rule.

AWS CLI

To delete a rule

The following delete-rule example deletes the specified rule.

```bash
aws elbv2 delete-rule \
--rule-arn arn:aws:elasticloadbalancing:us-west-2:123456789012:listener-rule/app/my-load-balancer/50dc6c495c0c9188/f2f7dc8efc522ab2/1291d13826f405c3
```

- For API details, see DeleteRule in AWS CLI Command Reference.

deregister-instances-from-load-balancer

The following code example shows how to use deregister-instances-from-load-balancer.

AWS CLI

To deregister instances from a load balancer

This example deregisters the specified instance from the specified load balancer.

Command:

```bash
aws elb deregister-instances-from-load-balancer --load-balancer-name my-load-balancer --instances i-d6f6fae3
```

Output:

```json
{
    "Instances": [
        {
            "InstanceId": "i-207d9717"
        },
        {
            "InstanceId": "i-afefb49b"
        }
    ]
}
```
For API details, see [DeregisterInstancesFromLoadBalancer](#) in *AWS CLI Command Reference*.

**deregister-targets**

The following code example shows how to use **deregister-targets**.

**AWS CLI**

**Example 1: To deregister a target from a target group**

The following `deregister-targets` example removes the specified instance from the specified target group.

```
aws elbv2 deregister-targets \
  --target-group-arn arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067 \
  --targets Id=i-1234567890abcdef0
```

**Example 2: To deregister a target registered using port overrides**

The following `deregister-targets` example removes an instance from a target group that was registered using port overrides.

```
aws elbv2 deregister-targets \
  --target-group-arn arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-internal-targets/3bb63f11dfb0faf9 \
  --targets Id=i-1234567890abcdef0,Port=80 Id=i-1234567890abcdef0,Port=766
```

For API details, see [DeregisterTargets](#) in *AWS CLI Command Reference*.

**describe-account-limits**

The following code example shows how to use **describe-account-limits**.

**AWS CLI**

**To describe your Classic Load Balancer limits**

The following `describe-account-limits` example displays details about the Classic Load Balancer limits for your AWS account.
aws elb describe-account-limits

Output:

```json
{
   "Limits": [
   {
     "Name": "classic-load-balancers",
     "Max": "20"
   },
   {
     "Name": "classic-listeners",
     "Max": "100"
   },
   {
     "Name": "classic-registered-instances",
     "Max": "1000"
   }
  ]
}
```

- For API details, see [DescribeAccountLimits](#) in *AWS CLI Command Reference*.

**describe-instance-health**

The following code example shows how to use `describe-instance-health`.

**AWS CLI**

*To describe the health of the instances for a load balancer*

This example describes the health of the instances for the specified load balancer.

Command:

```bash
aws elb describe-instance-health --load-balancer-name my-load-balancer
```

Output:

```json
{
   "InstanceStates": [
   {
      ...
```
To describe the health of an instance for a load balancer

This example describes the health of the specified instance for the specified load balancer.

Command:

```bash
aws elb describe-instance-health --load-balancer-name my-load-balancer --instances i-7299c809
```

The following is an example response for an instance that is registering.

Output:

```json
{
   "InstanceStates": [
      {
         "InstanceId": "i-7299c809",
         "ReasonCode": "ELB",
         "State": "OutOfService",
         "Description": "Instance registration is still in progress."
      }
   ]
}
```

The following is an example response for an unhealthy instance.

Output:

```json
{
}
```
"InstanceStates": [
  {
    "InstanceId": "i-7299c809",
    "ReasonCode": "Instance",
    "State": "OutOfService",
    "Description": "Instance has failed at least the UnhealthyThreshold number of health checks consecutively."
  }
]

- For API details, see [DescribeInstanceHealth](#) in *AWS CLI Command Reference*.

**describe-listener-certificates**

The following code example shows how to use `describe-listener-certificates`.

**AWS CLI**

**To describe the certificates for a secure listener**

This example describes the certificates for the specified secure listener.

**Command:**

```
aws elbv2 describe-listener-certificates --listener-arn
arn:aws:elasticloadbalancing:us-west-2:123456789012:listener/app/my-load-balancer/50dc6c495c0c9188/f2f7dc8efc522ab2
```

**Output:**

```json
{
  "Certificates": [
    {
      "CertificateArn": "arn:aws:acm:us-west-2:123456789012:certificate/5cc54884-f4a3-4072-80be-05b9ba72f705",
      "IsDefault": false
    },
    {
      "CertificateArn": "arn:aws:acm:us-west-2:123456789012:certificate/3dcb0a41-bd72-4774-9ad9-756919c40557",
      "IsDefault": false
    }
  ]
}
```
For API details, see `DescribeListenerCertificates` in *AWS CLI Command Reference*.

**describe-listeners**

The following code example shows how to use `describe-listeners`.

**AWS CLI**

**To describe a listener**

This example describes the specified listener.

**Command:**

```bash
aws elbv2 describe-listeners --listener-arns arn:aws:elasticloadbalancing:us-west-2:123456789012:listener/app/my-load-balancer/50dc6c495c0c9188/f2f7dc8efc522ab2
```

**Output:**

```json
{
   "Listeners": [
      {
         "Port": 80,
         "Protocol": "HTTP",
         "DefaultActions": [
            {
               "TargetGroupArn": "arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067",
               "Type": "forward"
            }
         ],
         "LoadBalancerArn": "arn:aws:elasticloadbalancing:us-west-2:123456789012:loadbalancer/app/my-load-balancer/50dc6c495c0c9188",
         "ListenerArn": "arn:aws:elasticloadbalancing:us-west-2:123456789012:listener/app/my-load-balancer/50dc6c495c0c9188/f2f7dc8efc522ab2"
      }
   ]
}
```
To describe the listeners for a load balancer

This example describe the listeners for the specified load balancer.

Command:

```bash
aws elbv2 describe-listeners --load-balancer-arn arn:aws:elasticloadbalancing:us-west-2:123456789012:loadbalancer/app/my-load-balancer/50dc6c495c0c9188
```

Output:

```
{
   "Listeners": [
      {
         "Port": 443,
         "Protocol": "HTTPS",
         "DefaultActions": [
            {
               "TargetGroupArn": "arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067",
               "Type": "forward"
            }
         ],
         "SslPolicy": "ELBSecurityPolicy-2015-05",
         "Certificates": [
            {
               "CertificateArn": "arn:aws:iam::123456789012:server-certificate/my-server-cert"
            }
         ],
         "LoadBalancerArn": "arn:aws:elasticloadbalancing:us-west-2:123456789012:loadbalancer/app/my-load-balancer/50dc6c495c0c9188",
         "ListenerArn": "arn:aws:elasticloadbalancing:us-west-2:123456789012:listener/app/my-load-balancer/50dc6c495c0c9188/0467ef3c8400ae65"
      },
      {
         "Port": 80,
         "Protocol": "HTTP",
         "DefaultActions": [
```
For API details, see `DescribeListeners` in *AWS CLI Command Reference*.

**describe-load-balancer-attributes**

The following code example shows how to use `describe-load-balancer-attributes`.

**AWS CLI**

**To describe the attributes of a load balancer**

This example describes the attributes of the specified load balancer.

Command:

```
aws elb describe-load-balancer-attributes --load-balancer-name my-load-balancer
```

Output:

```
{
  "LoadBalancerAttributes": {
    "ConnectionDraining": {
      "Enabled": false,
      "Timeout": 300
    },
    "CrossZoneLoadBalancing": {
      "Enabled": true
    },
    "ConnectionSettings": {
      "IdleTimeout": 30
    }
  }
}
```
describe-load-balancer-policies

The following code example shows how to use `describe-load-balancer-policies`.

**AWS CLI**

**To describe all policies associated with a load balancer**

This example describes all of the policies associated with the specified load balancer.

**Command:**

```bash
aws elb describe-load-balancer-policies --load-balancer-name my-load-balancer
```

**Output:**

```json
{
  "PolicyDescriptions": [
    {
      "PolicyAttributeDescriptions": [
        {
          "AttributeName": "ProxyProtocol",
          "AttributeValue": "true"
        }
      ],
      "PolicyName": "my-ProxyProtocol-policy",
      "PolicyTypeName": "ProxyProtocolPolicyType"
    },
    {
      "PolicyAttributeDescriptions": [
        {
          "AttributeName": "CookieName",
          "AttributeValue": "my-app-cookie"
        }
      ]
    }
  ]
}
```
To describe a specific policy associated with a load balancer

This example describes the specified policy associated with the specified load balancer.

**Command:**

```bash
aws elb describe-load-balancer-policies --load-balancer-name my-load-balancer --
policy-name my-authentication-policy
```

**Output:**

```json
{
  "PolicyDescriptions": [
    {
      "PolicyAttributeDescriptions": [
        {
          "AttributeName": "PublicKeyPolicyName",
          "AttributeValue": "my-PublicKey-policy"
        }
      ],
      "PolicyName": "my-authentication-policy",
      "PolicyTypeName": "BackendServerAuthenticationPolicyType"
    }
  ]
}
```
describe-load-balancer-policy-types

The following code example shows how to use describe-load-balancer-policy-types.

AWS CLI

To describe the load balancer policy types defined by Elastic Load Balancing

This example describes the load balancer policy types that you can use to create policy configurations for your load balancer.

Command:

```bash
aws elb describe-load-balancer-policy-types
```

Output:

```json
{
  "PolicyTypeDescriptions": [
    {
      "PolicyAttributeTypeDescriptions": [
        {
          "Cardinality": "ONE",
          "AttributeName": "ProxyProtocol",
          "AttributeType": "Boolean"
        }
      ],
      "PolicyTypeName": "ProxyProtocolPolicyType",
      "Description": "Policy that controls whether to include the IP address and port of the originating request for TCP messages. This policy operates on TCP/SSL listeners only"
    },
    {
      "PolicyAttributeTypeDescriptions": [
        {
          "Cardinality": "ONE",
          "AttributeName": "PublicKey",
          "AttributeType": "String"
        }
      ],
      "PolicyTypeName": "PublicKeyPolicyType",
      "Description": "Policy that determines which public key to use when encrypting data in transit for HTTPS listeners. This policy operates on HTTPS listeners only"
    }
  ]
}
```
"PolicyTypeName": "PublicKeyPolicyType",
"Description": "Policy containing a list of public keys to accept when authenticating the back-end server(s). This policy cannot be applied directly to back-end servers or listeners but must be part of a BackendServerAuthenticationPolicyType."
},
  {
    "PolicyAttributeTypeDescriptions": [
      {
        "Cardinality": "ONE",
        "AttributeName": "CookieName",
        "AttributeType": "String"
      }
    ],
    "PolicyTypeName": "AppCookieStickinessPolicyType",
    "Description": "Stickiness policy with session lifetimes controlled by the lifetime of the application-generated cookie. This policy can be associated only with HTTP/HTTPS listeners."
  },
  {
    "PolicyAttributeTypeDescriptions": [
      {
        "Cardinality": "ZERO_OR_ONE",
        "AttributeName": "CookieExpirationPeriod",
        "AttributeType": "Long"
      }
    ],
    "PolicyTypeName": "LBCookieStickinessPolicyType",
    "Description": "Stickiness policy with session lifetimes controlled by the browser (user-agent) or a specified expiration period. This policy can be associated only with HTTP/HTTPS listeners."
  },
  {
    "PolicyAttributeTypeDescriptions": []
  },
  {
    "PolicyTypeName": "SSLNegotiationPolicyType",
    "Description": "Listener policy that defines the ciphers and protocols that will be accepted by the load balancer. This policy can be associated only with HTTPS/SSL listeners."
For API details, see `DescribeLoadBalancerPolicyTypes` in AWS CLI Command Reference.

**describe-load-balancers**

The following code example shows how to use `describe-load-balancers`.

**AWS CLI**

**To describe your load balancers**

This example describes all of your load balancers.

Command:

```
aws elb describe-load-balancers
```

**To describe one of your load balancers**

This example describes the specified load balancer.

Command:

```
aws elb describe-load-balancers --load-balancer-name my-load-balancer
```

The following example response is for an HTTPS load balancer in a VPC.
Output:

```json
{
   "LoadBalancerDescriptions": [
      {
         "Subnets": [
            "subnet-15aaab61"
         ],
         "CanonicalHostedZoneNameID": "Z3DZXE0EXAMPLE",
         "CanonicalHostedZoneName": "my-load-balancer-1234567890.us-west-2.elb.amazonaws.com",
         "ListenerDescriptions": [
            {
               "Listener": {
                  "InstancePort": 80,
                  "LoadBalancerPort": 80,
                  "Protocol": "HTTP",
                  "InstanceProtocol": "HTTP"
               },
               "PolicyNames": []
            },
            {
               "Listener": {
                  "InstancePort": 443,
                  "SSLCertificateId": "arn:aws:iam::123456789012:server-certificate/my-server-cert",
                  "LoadBalancerPort": 443,
                  "Protocol": "HTTPS",
                  "InstanceProtocol": "HTTPS"
               },
               "PolicyNames": [
                  "ELBSecurityPolicy-2015-03"
               ]
            }
         ],
         "HealthCheck": {
            "HealthyThreshold": 2,
            "Interval": 30,
            "Target": "HTTP:80/png",
            "Timeout": 3,
            "UnhealthyThreshold": 2
         },
         "VPCId": "vpc-a01106c2",
         "BackendServerDescriptions": [
        ]
      }
   ]
}```
{
    "InstancePort": 80,
    "PolicyNames": [
        "my-ProxyProtocol-policy"
    ],
    "Instances": [
        {
            "InstanceId": "i-207d9717"
        },
        {
            "InstanceId": "i-afefb49b"
        }
    ],
    "DNSName": "my-load-balancer-1234567890.us-west-2.elb.amazonaws.com",
    "SecurityGroups": [
        "sg-a61988c3"
    ],
    "Policies": {
        "LBCookieStickinessPolicies": [
            {
                "PolicyName": "my-duration-cookie-policy",
                "CookieExpirationPeriod": 60
            }
        ],
        "AppCookieStickinessPolicies": [],
        "OtherPolicies": [
            "my-PublicKey-policy",
            "my-authentication-policy",
            "my-SSLNegotiation-policy",
            "my-ProxyProtocol-policy",
            "ELBSecurityPolicy-2015-03"
        ]
    },
    "LoadBalancerName": "my-load-balancer",
    "CreatedTime": "2015-03-19T03:24:02.650Z",
    "AvailabilityZones": [
        "us-west-2a"
    ],
    "Scheme": "internet-facing",
    "SourceSecurityGroup": {
        "OwnerAlias": "123456789012",
        "GroupName": "my-elb-sg"
    }
}
describe-rules

The following code example shows how to use describe-rules.

AWS CLI

Example 1: To describe a rule

The following describe-rules example displays details for the specified rule.

```
aws elbv2 describe-rules
   --rule-arns arn:aws:elasticloadbalancing:us-west-2:123456789012:listener-rule/app/my-load-balancer/50dc6c495c0c9188/f2f7dc8efc522ab2/9683b2d02a6cabee
```

Example 2: To describe the rules for a listener

The following describe-rules example displays details for the rules for the specified listener. The output includes the default rule and any other rules that you've added.

```
aws elbv2 describe-rules
   --listener-arn arn:aws:elasticloadbalancing:us-west-2:123456789012:listener/app/my-load-balancer/50dc6c495c0c9188/f2f7dc8efc522ab2
```

For API details, see DescribeRules in AWS CLI Command Reference.

describe-ssl-policies

The following code example shows how to use describe-ssl-policies.

AWS CLI

Example 1: To list the policies used for SSL negotiation by load balancer type
The following `describe-ssl-policies` example displays the names of the policies that you can use for SSL negotiation with an Application Load Balancer. The example uses the `--query` parameter to display only the names of the policies.

```bash
aws elbv2 describe-ssl-policies
    --load-balancer-type application
    --query SslPolicies[*].Name
```

Output:

```
[ "ELBSecurityPolicy-2016-08",
  "ELBSecurityPolicy-TLS13-1-2-2021-06",
  "ELBSecurityPolicy-TLS13-1-2-Res-2021-06",
  "ELBSecurityPolicy-TLS13-1-2-Ext1-2021-06",
  "ELBSecurityPolicy-TLS13-1-2-Ext2-2021-06",
  "ELBSecurityPolicy-TLS13-1-1-2021-06",
  "ELBSecurityPolicy-TLS13-1-0-2021-06",
  "ELBSecurityPolicy-TLS13-1-3-2021-06",
  "ELBSecurityPolicy-TLS-1-2-2017-01",
  "ELBSecurityPolicy-TLS-1-1-2017-01",
  "ELBSecurityPolicy-TLS-1-2-Ext-2018-06",
  "ELBSecurityPolicy-FS-2018-06",
  "ELBSecurityPolicy-2015-05",
  "ELBSecurityPolicy-TLS1-0-2015-04",
  "ELBSecurityPolicy-FS-1-1-2019-08",
  "ELBSecurityPolicy-FS-1-2-2019-08",
  "ELBSecurityPolicy-FS-1-2-Res-2020-10"
]
```

**Example 2: To list the policies that support a specific protocol**

The following `describe-ssl-policies` example displays the names of the policies that support the TLS 1.3 protocol. The example uses the `--query` parameter to display only the names of the policies.

```bash
aws elbv2 describe-ssl-policies
    --load-balancer-type application
    --query SslPolicies[?contains(SslProtocols,'TLSv1.3')].Name
```

Output:
Example 3: To display the ciphers for a policy

The following describe-ssl-policies example displays the names of the ciphers for the specified policy. The example uses the --query parameter to display only the cipher names. The first cipher in the list has priority 1, and the remaining ciphers are in priority order.

```
aws elbv2 describe-ssl-policies \
  --names ELBSecurityPolicy-TLS13-1-2-2021-06 \
  --query SslPolicies[*].Ciphers[*].Name
```

Output:

```
[  
    "TLS_AES_128_GCM_SHA256",  
    "TLS_AES_256_GCM_SHA384",  
    "TLS_CHACHA20_POLY1305_SHA256",  
    "ECDHE-ECDSA-AES128-GCM-SHA256",  
    "ECDHE-RSA-AES128-GCM-SHA256",  
    "ECDHE-ECDSA-AES128-SHA256",  
    "ECDHE-RSA-AES128-SHA256",  
    "ECDHE-ECDSA-AES256-GCM-SHA384",  
    "ECDHE-RSA-AES256-GCM-SHA384",  
    "ECDHE-ECDSA-AES256-SHA384",  
    "ECDHE-RSA-AES256-SHA384"
]
```

For more information, see Security policies in the User Guide for Application Load Balancers.

- For API details, see DescribeSslPolicies in AWS CLI Command Reference.
describe-tags

The following code example shows how to use describe-tags.

**AWS CLI**

**To describe the tags assigned to a load balancer**

This example describes the tags assigned to the specified load balancer.

Command:

```bash
aws elbv2 describe-tags --resource-arns arn:aws:elasticloadbalancing:us-west-2:123456789012:loadbalancer/app/my-load-balancer/50dc6c495c0c9188
```

Output:

```json
{
  "TagDescriptions": [
    {
      "ResourceArn": "arn:aws:elasticloadbalancing:us-west-2:123456789012:loadbalancer/app/my-load-balancer/50dc6c495c0c9188",
      "Tags": [
        {
          "Value": "lima",
          "Key": "project"
        },
        {
          "Value": "digital-media",
          "Key": "department"
        }
      ]
    }
  ]
}
```

- For API details, see [DescribeTags](https://docs.aws.amazon.com/cli/latest/reference/elbv2/describe-tags.html) in *AWS CLI Command Reference*.

**describe-target-group-attributes**

The following code example shows how to use describe-target-group-attributes.
AWS CLI

To describe target group attributes

The following `describe-target-group-attributes` example displays the attributes of the specified target group.

```
aws elbv2 describe-target-group-attributes \
   --target-group-arn arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067
```

The output includes the attributes if the protocol is HTTP or HTTPS and the target type is `instance` or `ip`.

```json
{
    "Attributes": [
        {
            "Value": "false",
            "Key": "stickiness.enabled"
        },
        {
            "Value": "300",
            "Key": "deregistration_delay.timeout_seconds"
        },
        {
            "Value": "lb_cookie",
            "Key": "stickiness.type"
        },
        {
            "Value": "86400",
            "Key": "stickiness.lb_cookie.duration_seconds"
        },
        {
            "Value": "0",
            "Key": "slow_start.duration_seconds"
        }
    ]
}
```

The following output includes the attributes if the protocol is HTTP or HTTPS and the target type is `lambda`. 

```
```
The following output includes the attributes if the protocol is TCP, TLS, UDP, or TCP_UDP.

```
{
   "Attributes": [
     {
       "Value": "false",
       "Key": "lambda.multi_value_headers.enabled"
     }
   ]
}
```

```
{
   "Attributes": [
     {
       "Value": "false",
       "Key": "proxy_protocol_v2.enabled"
     },
     {
       "Value": "300",
       "Key": "deregistration_delay.timeout_seconds"
     }
   ]
}
```

- For API details, see [DescribeTargetGroupAttributes](https://awscli.amazonaws.com/v2/documentation/api/latest/reference/elb/describe-target-group-attributes.html) in AWS CLI Command Reference.

**detach-load-balance-from-subnets**

The following code example shows how to use `detach-load-balance-from-subnets`.

**AWS CLI**

**To detach load balancers from subnets**

This example detaches the specified load balancer from the specified subnet.

**Command:**

```
aws elb detach-load-balancer-from-subnets --load-balancer-name my-load-balancer --subnets subnet-0ecac448
```

**Output:**
For API details, see `DetachLoadBalancerFromSubnets` in *AWS CLI Command Reference*.

### disable-availability-zones-for-load-balancer

The following code example shows how to use `disable-availability-zones-for-load-balancer`.

**AWS CLI**

**To disable Availability Zones for a load balancer**

This example removes the specified Availability Zone from the set of Availability Zones for the specified load balancer.

**Command:**

```bash
aws elb disable-availability-zones-for-load-balancer --load-balancer-name my-load-balancer --availability-zones us-west-2a
```

**Output:**

```json
{
   "AvailabilityZones": [
      "us-west-2b"
   ]
}
```

For API details, see `DisableAvailabilityZonesForLoadBalancer` in *AWS CLI Command Reference*.

### enable-availability-zones-for-load-balancer

The following code example shows how to use `enable-availability-zones-for-load-balancer`.

AWS CLI

**To enable Availability Zones for a load balancer**

This example adds the specified Availability Zone to the specified load balancer.

Command:

```
aws elb enable-availability-zones-for-load-balancer --load-balancer-name my-load-balancer --availability-zones us-west-2b
```

Output:

```
{
  "AvailabilityZones": [
    "us-west-2a",
    "us-west-2b"
  ]
}
```

- For API details, see [EnableAvailabilityZonesForLoadBalancer](https://docs.aws.amazon.com/cli/latest/reference/elb/enable-availability-zones-for-load-balancer.html) in *AWS CLI Command Reference*.

**modify-listener**

The following code example shows how to use modify-listener.

**AWS CLI**

**Example 1: To change the default action to a forward action**

The following modify-listener example changes the default action (to a `forward` action) for the specified listener.

```
aws elbv2 modify-listener  
  --listener-arn arn:aws:elasticloadbalancing:us-west-2:123456789012:listener/app/my-load-balancer/50dc6c495c0c9188/f2f7dc8efc522ab2  
  --default-actions Type=forward,TargetGroupArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-new-targets/2453ed029918f21f
```

Output:
Example 2: To change the default action to a redirect action

The following `modify-listener` example changes the default action to a redirect action for the specified listener.

```
aws elbv2 modify-listener \
    --listener-arn arn:aws:elasticloadbalancing:us-west-2:123456789012:listener/app/my-load-balancer/50dc6c495c0c9188/f2f7dc8efc522ab2 \
    --default-actions Type=redirect,TargetGroupArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-new-targets/2453ed029918f21f
```

Output:

```
{
    "Listeners": [
        {
            "Protocol": "HTTP",
            "DefaultActions": [
                {
                    "Type": "redirect"
                }
            ],
            "LoadBalancerArn": "arn:aws:elasticloadbalancing:us-west-2:123456789012:loadbalancer/app/my-load-balancer/50dc6c495c0c9188",
            "Port": 80,
            "ListenerArn": "arn:aws:elasticloadbalancing:us-west-2:123456789012:listener/app/my-load-balancer/50dc6c495c0c9188/f2f7dc8efc522ab2"
        }
    ]
}
```
Example 3: To change the server certificate

This example changes the server certificate for the specified HTTPS listener.

```bash
aws elbv2 modify-listener \
   --listener-arn arn:aws:elasticloadbalancing:us-west-2:123456789012:listener/app/my-load-balancer/50dc6c495c0c9188/0467ef3c8400ae65 \
```

Output:

```json
{
   "Listeners": [
   {
      "Protocol": "HTTPS",
      "DefaultActions": [
         {
            "TargetGroupArn": "arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067",
            "Type": "forward"
         }
      ],
      "SslPolicy": "ELBSecurityPolicy-2015-05",
      "Certificates": [
         {
            "CertificateArn": "arn:aws:iam::123456789012:server-certificate/my-new-server-cert"
         }
      ],
      "LoadBalancerArn": "arn:aws:elasticloadbalancing:us-west-2:123456789012:loadbalancer/app/my-load-balancer/50dc6c495c0c9188",
   }
   ]
}
```
modify-load-balancer-attributes

The following code example shows how to use modify-load-balancer-attributes.

AWS CLI

To modify the attributes of a load balancer

This example modifies the CrossZoneLoadBalancing attribute of the specified load balancer.

Command:

```
aws elb modify-load-balancer-attributes --load-balancer-name my-load-balancer --load-balancer-attributes "{"CrossZoneLoadBalancing":{"Enabled":true}}"
```

Output:

```
{
   "LoadBalancerAttributes": {
      "CrossZoneLoadBalancing": {
         "Enabled": true
      }
   },
   "LoadBalancerName": "my-load-balancer"
}
```

This example modifies the ConnectionDraining attribute of the specified load balancer.

Command:

```
aws elb modify-load-balancer-attributes --load-balancer-name my-load-balancer --load-balancer-attributes "{"ConnectionDraining":{"Enabled":true,"Timeout":300}}"
```
modify-rule

The following code example shows how to use `modify-rule`.

**AWS CLI**

To modify a rule

The following `modify-rule` example updates the actions and conditions for the specified rule.

```
aws elbv2 modify-rule 
   --actions Type=forward,TargetGroupArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067 
   --conditions Field=path-pattern,Values=''/images/*' 
   --rule-arn arn:aws:elasticloadbalancing:us-west-2:123456789012:listener-rule/app/my-load-balancer/50dc6c495c0c9188/f2f7dc8efc522ab2/9683b2d02a6cabee
```

Output:

```
{
   "Rules": [
      {
         "Priority": "10",
         "Conditions": [
            {
               "Field": "path-pattern",
               "Values": [
```
For API details, see ModifyRule in AWS CLI Command Reference.

**modify-target-group**

The following code example shows how to use modify-target-group.

**AWS CLI**

**To modify the health check configuration for a target group**

The following modify-target-group example changes the configuration of the health checks used to evaluate the health of the targets for the specified target group. Note that due to the way the CLI parses commas, you must surround the range for the --matcher option with single quotes instead of double quotes.

```
aws elbv2 modify-target-group \
  --target-group-arn arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-https-targets/2453ed029918f21f \
  --health-check-protocol HTTPS \
  --health-check-port 443 \
  --matcher HttpCode='200,299'
```

**Output:**

"/images/*"

"RuleArn": "arn:aws:elasticloadbalancing:us-west-2:123456789012:listener-rule/app/my-load-balancer/50dc6c495c0c9188/f2f7dc8efc522ab2/9683b2d02a6cabee",
"IsDefault": false,
"Actions": [
  {
    "TargetGroupArn": "arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067",
    "Type": "forward"
  }
]
The following code example shows how to use `modify-target-group-attributes`.

AWS CLI

To modify the deregistration delay timeout
This example sets the deregistration delay timeout to the specified value for the specified target group.

Command:

```bash
aws elbv2 modify-target-group-attributes --target-group-arn arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067 --attributes Key=deregistration_delay.timeout_seconds,Value=600
```

Output:

```json
{
   "Attributes": [
      {
         "Value": "false",
         "Key": "stickiness.enabled"
      },
      {
         "Value": "600",
         "Key": "deregistration_delay.timeout_seconds"
      },
      {
         "Value": "lb_cookie",
         "Key": "stickiness.type"
      },
      {
         "Value": "86400",
         "Key": "stickiness.lb_cookie.duration_seconds"
      }
   ]
}
```

- For API details, see [ModifyTargetGroupAttributes](https://docs.aws.amazon.com/cli/latest/reference/elbv2/modify-target-group-attributes.html) in *AWS CLI Command Reference*.

**register-instances-with-load-balancer**

The following code example shows how to use `register-instances-with-load-balancer`.

**AWS CLI**

To register instances with a load balancer
This example registers the specified instance with the specified load balancer.

Command:

```bash
aws elb register-instances-with-load-balancer --load-balancer-name my-load-balancer --instances i-d6f6fae3
```

Output:

```json
{
  "Instances": [
    {
      "InstanceId": "i-d6f6fae3"
    },
    {
      "InstanceId": "i-207d9717"
    },
    {
      "InstanceId": "i-afefb49b"
    }
  ]
}
```

- For API details, see `[RegisterInstancesWithLoadBalancer](https://docs.aws.amazon.com/cli/latest/current/index.html)` in *AWS CLI Command Reference*.

**register-targets**

The following code example shows how to use `register-targets`.

**AWS CLI**

**Example 1: To register targets with a target group by instance ID**

The following `register-targets` example registers the specified instances with a target group. The target group must have a target type of `instance`.

```bash
aws elbv2 register-targets \
    --target-group-arn arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-targets/73e2d6bc24d8a067 \
    --targets Id=i-1234567890abcdef0 Id=i-0abcdef1234567890
```

**Example 2: To register targets with a target group using port overrides**
The following `register-targets` example registers the specified instance with a target group using multiple ports. This enables you to register containers on the same instance as targets in the target group.

```bash
aws elbv2 register-targets \
   --target-group-arn arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-internal-targets/3bb63f11dfb0faf9 \
   --targets Id=i-0598c7d356eba48d7,Port=80 Id=i-0598c7d356eba48d7,Port=766
```

**Example 3: To register targets with a target group by IP address**

The following `register-targets` example registers the specified IP addresses with a target group. The target group must have a target type of `ip`.

```bash
aws elbv2 register-targets \
   --target-group-arn arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-tcp-ip-targets/8518e899d173178f \
   --targets Id=10.0.1.15 Id=10.0.1.23
```

**Example 4: To register a Lambda function as a target**

The following `register-targets` example registers the specified IP addresses with a target group. The target group must have a target type of `lambda`. You must grant Elastic Load Balancing permission to invoke the Lambda function.

```bash
aws elbv2 register-targets \
   --target-group-arn arn:aws:elasticloadbalancing:us-west-2:123456789012:targetgroup/my-tcp-ip-targets/8518e899d173178f \
   --targets Id=arn:aws:lambda:us-west-2:123456789012:function:my-function
```

- For API details, see [RegisterTargets](#) in *AWS CLI Command Reference*.

### remove-listener-certificates

The following code example shows how to use `remove-listener-certificates`.

**AWS CLI**

**To remove a certificate from a secure listener**

This example removes the specified certificate from the specified secure listener.

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Command:

```
```

- For API details, see [RemoveListenerCertificates](#) in *AWS CLI Command Reference*.

remove-tags

The following code example shows how to use remove-tags.

**AWS CLI**

**To remove tags from a load balancer**

The following remove-tags example removes the project and department tags from the specified load balancer.

```
aws elbv2 remove-tags --resource-arns arn:aws:elasticloadbalancing:us-west-2:123456789012:loadbalancer/app/my-load-balancer/50dc6c495c0c9188 --tag-keys project department
```

- For API details, see [RemoveTags](#) in *AWS CLI Command Reference*.

set-ip-address-type

The following code example shows how to use set-ip-address-type.

**AWS CLI**

**To set the address type of a load balancer**

This example sets the address type of the specified load balancer to dualstack. The load balancer subnets must have associated IPv6 CIDR blocks.

Command:
aws elbv2 set-ip-address-type --load-balancer-arn arn:aws:elasticloadbalancing:us-west-2:123456789012:loadbalancer/app/my-load-balancer/50dc6c495c0c9188 --ip-address-type dualstack

Output:

```json
{
  "IpAddressType": "dualstack"
}
```

- For API details, see SetIpAddressType in AWS CLI Command Reference.

**set-load-balancer-listener-ssl-certificate**

The following code example shows how to use set-load-balancer-listener-ssl-certificate.

**AWS CLI**

**To update the SSL certificate for an HTTPS load balancer**

This example replaces the existing SSL certificate for the specified HTTPS load balancer.

Command:

```sh
```

- For API details, see SetLoadBalancerListenerSslCertificate in AWS CLI Command Reference.

**set-load-balancer-policies-for-backend-server**

The following code example shows how to use set-load-balancer-policies-for-backend-server.

**AWS CLI**

**To replace the policies associated with a port for a backend instance**
This example replaces the policies that are currently associated with the specified port.

Command:

```
aws elb set-load-balancer-policies-for-backend-server --load-balancer-name my-load-balancer --instance-port 80 --policy-names my-ProxyProtocol-policy
```

To remove all policies that are currently associated with a port on your backend instance

This example removes all policies associated with the specified port.

Command:

```
aws elb set-load-balancer-policies-for-backend-server --load-balancer-name my-load-balancer --instance-port 80 --policy-names []
```

To confirm that the policies are removed, use the `describe-load-balancer-policies` command.

- For API details, see `SetLoadBalancerPoliciesForBackendServer` in AWS CLI Command Reference.

**set-load-balancer-policies-of-listener**

The following code example shows how to use `set-load-balancer-policies-of-listener`.

**AWS CLI**

To replace the policies associated with a listener

This example replaces the policies that are currently associated with the specified listener.

Command:

```
aws elb set-load-balancer-policies-of-listener --load-balancer-name my-load-balancer --load-balancer-port 443 --policy-names my-SSLNegotiation-policy
```

To remove all policies associated with your listener

This example removes all policies that are currently associated with the specified listener.

Command:
aws elb set-load-balancer-policies-of-listener --load-balancer-name my-load-balancer --load-balancer-port 443 --policy-names []

To confirm that the policies are removed from the load balancer, use the describe-load-balancer-policies command.

- For API details, see SetLoadBalancerPoliciesOfListener in AWS CLI Command Reference.

set-rule-priorities

The following code example shows how to use set-rule-priorities.

AWS CLI

To set the rule priority

This example sets the priority of the specified rule.

Command:

```
aws elbv2 set-rule-priorities --rule-priorities
  RuleArn=arn:aws:elasticloadbalancing:us-west-2:123456789012:listener-rule/app/my-load-balancer/50dc6c495c0c9188/f2f7dc8efc522ab2/1291d13826f405c3,Priority=5
```

Output:

```
{
  "Rules": [
    {
      "Priority": "5",
      "Conditions": [
        {
          "Field": "path-pattern",
          "Values": [
            "/*"
          ]
        }
      ],
      "RuleArn": "arn:aws:elasticloadbalancing:us-west-2:123456789012:listener-rule/app/my-load-balancer/50dc6c495c0c9188/f2f7dc8efc522ab2/1291d13826f405c3",
      "IsDefault": false,
      "Actions": [
        
```
For API details, see [SetRulePriorities](#) in *AWS CLI Command Reference*.

**set-security-groups**

The following code example shows how to use `set-security-groups`.

**AWS CLI**

**To associate a security group with a load balancer**

This example associates the specified security group with the specified load balancer.

**Command:**

```
aws elbv2 set-security-groups --load-balancer-arn arn:aws:elasticloadbalancing:us-west-2:123456789012:loadbalancer/app/my-load-balancer/50dc6c495c0c9188 --security-groups sg-5943793c
```

**Output:**

```
{
   "SecurityGroupIds": [
   "sg-5943793c"
  ]
}
```

For API details, see [SetSecurityGroups](#) in *AWS CLI Command Reference*.

**set-subnets**

The following code example shows how to use `set-subnets`.
AWS CLI

To enable Availability Zones for a load balancer

This example enables the Availability Zone for the specified subnet for the specified load balancer.

Command:

```
aws elbv2 set-subnets --load-balancer-arn arn:aws:elasticloadbalancing:us-west-2:123456789012:loadbalancer/app/my-load-balancer/50dc6c495c0c9188 --subnets subnet-8360a9e7 subnet-b7d581c0
```

Output:

```
{
   "AvailabilityZones": [
   {
      "SubnetId": "subnet-8360a9e7",
      "ZoneName": "us-west-2a"
   },
   {
      "SubnetId": "subnet-b7d581c0",
      "ZoneName": "us-west-2b"
   }
   ]
}
```

- For API details, see [SetSubnets](https://docs.aws.amazon.com/cli/latest/reference/elbv2/set-subnets.html) in *AWS CLI Command Reference*.

Elastic Transcoder examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Elastic Transcoder.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.
Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- **Actions**

**Actions**

**cancel-job**

The following code example shows how to use `cancel-job`.

**AWS CLI**

**To cancel a job for ElasticTranscoder**

This cancels the specified job for ElasticTranscoder.

Command:

```bash
aws elastictranscoder cancel-job --id 3333333333333-abcde3
```

- For API details, see [CancelJob](#) in *AWS CLI Command Reference*.

**create-job**

The following code example shows how to use `create-job`.

**AWS CLI**

**To create a job for ElasticTranscoder**

The following `create-job` example creates a job for ElasticTranscoder.

```bash
aws elastictranscoder create-job \
   --pipeline-id 1111111111111-abcde1 \
   --inputs file://inputs.json \
   --outputs file://outputs.json \
   --output-key-prefix "recipes/" \
   --user-metadata file://user-metadata.json
```
Contents of inputs.json:

```json
[
  {
    "Key":"ETS_example_file.mp4",
    "FrameRate":"auto",
    "Resolution":"auto",
    "AspectRatio":"auto",
    "Interlaced":"auto",
    "Container":"mp4"
  }
]
```

Contents of outputs.json:

```json
[
  {
    "Key":"webm/ETS_example_file-kindlefirehd.webm",
    "Rotate":0,
    "PresetId":"1351620000001-100250"
  }
]
```

Contents of user-metadata.json:

```json
{
  "Food type": "Italian",
  "Cook book": "recipe notebook"
}
```

Output:

```json
{
  "Job": {
    "Status": "Submitted",
    "Inputs": [
      {
        "Container": "mp4",
        "FrameRate": "auto",
        "Key": "ETS_example_file.mp4",
        "AspectRatio": "auto",
        "Resolution": "auto",
        "Interlaced": "auto"
      }
    ]
  }
}
```


---

For API details, see [CreateJob](#) in [AWS CLI Command Reference](#).
create-pipeline

The following code example shows how to use create-pipeline.

AWS CLI

To create a pipeline for ElasticTranscoder

The following create-pipeline example creates a pipeline for ElasticTranscoder.

```bash
aws elastictranscoder create-pipeline \
   --name Default \n   --input-bucket salesoffice.example.com-source \n   --role arn:aws:iam::123456789012:role/Elastic_Transcoder_Default_Role \n   --notifications Progressing="",Completed="",Warning="",Error=arn:aws:sns:us-east-1:111222333444:ETS_Errors \n   --content-config file://content-config.json \n   --thumbnail-config file://thumbnail-config.json
```

Contents of content-config.json:

```json
{
   "Bucket":"salesoffice.example.com-public-promos",
   "Permissions":[
      {
         "GranteeType":"Email",
         "Grantee":"marketing-promos@example.com",
         "Access":[
            "FullControl"
         ]
      }
   ],
   "StorageClass":"Standard"
}
```

Contents of thumbnail-config.json:

```json
{
   "Bucket":"salesoffice.example.com-public-promos-thumbnails",
   "Permissions":[
      {
         "GranteeType":"Email",
         "Grantee":null,
         "Access":[
            "FullControl"
         ]
      }
   ],
   "StorageClass":"Standard"
}
```
"Grantee":"marketing-promos@example.com",
"Access":[
  "FullControl"
],
"StorageClass":"ReducedRedundancy"
}

Output:

{
  "Pipeline": {
    "Status": "Active",
    "ContentConfig": {
      "Bucket": "salesoffice.example.com-public-promos",
      "StorageClass": "Standard",
      "Permissions": [
        {
          "Access": ["FullControl"],
          "Grantee": "marketing-promos@example.com",
          "GranteeType": "Email"
        }
      ],
    },
    "Name": "Default",
    "ThumbnailConfig": {
      "Bucket": "salesoffice.example.com-public-promos-thumbnails",
      "StorageClass": "ReducedRedundancy",
      "Permissions": [
        {
          "Access": ["FullControl"],
          "Grantee": "marketing-promos@example.com",
          "GranteeType": "Email"
        }
      ],
    },
    "Notifications": {
      "Completed": "",
    }
  }
}

Actions and scenarios
"Warning": "", "Progressing": "", "Error": "arn:aws:sns:us-east-1:123456789012:ETS_Errors"
}, "Role": "arn:aws:iam::123456789012:role/Elastic_Transcoder_Default_Role",
"InputBucket": "salesoffice.example.com-source",
"Id": "1533765810590-example",
"Arn": "arn:aws:elastictranscoder:us-west-2:123456789012:pipeline/1533765810590-example"
}, "Warnings": [
{
"Message": "The SNS notification topic for Error events and the pipeline are in different regions, which increases processing time for jobs in the pipeline and can incur additional charges. To decrease processing time and prevent cross-regional charges, use the same region for the SNS notification topic and the pipeline."
,
"Code": "6006"
}
]

- For API details, see CreatePipeline in AWS CLI Command Reference.

create-preset

The following code example shows how to use create-preset.

AWS CLI

To create a preset for ElasticTranscoder

The following create-preset example creates a preset for ElasticTranscoder.

aws elastictranscoder create-preset \
  --name DefaultPreset \
  --description "Use for published videos" \
  --container mp4 \
  --video file://video.json \
  --audio file://audio.json \
  --thumbnails file://thumbnails.json

Contents of video.json:
Contents of `audio.json`:

```json
{
  "Codec":"AAC",
  "CodecOptions":{
    "Profile":"AAC-LC"
  }
}
```
Contents of thumbnails.js:

```
{
  "Format":"png",
  "Interval":"120",
  "MaxWidth":"auto",
  "MaxHeight":"auto",
  "SizingPolicy":"Fit",
  "PaddingPolicy":"Pad"
}
```

Output:

```
{
  "Preset": {
    "Thumbnails": {
      "SizingPolicy": "Fit",
      "MaxWidth": "auto",
      "Format": "png",
      "PaddingPolicy": "Pad",
      "Interval": "120",
      "MaxHeight": "auto"
    },
    "Container": "mp4",
    "Description": "Use for published videos",
    "Video": {
      "SizingPolicy": "Fit",
      "MaxWidth": "auto",
      "PaddingPolicy": "Pad",
      "MaxFrameRate": "30",
      "FrameRate": "auto",
      "MaxHeight": "auto",
      "KeyframesMaxDist": "240",
      "FixedGOP": "false",
      "Codec": "H.264",
      "Watermarks": [
        
      ]
    }
  }
}
```
For API details, see [CreatePreset](#) in *AWS CLI Command Reference*.
delete-pipeline

The following code example shows how to use delete-pipeline.

AWS CLI

**To delete the specified ElasticTranscoder pipeline**

This deletes the specified ElasticTranscoder pipeline.

Command:

```
aws elastictranscoder delete-pipeline --id 1111111111111-abcde1
```

Output:

```
{
  "Success":true
}
```

- For API details, see [DeletePipeline](aws-elastictranscoder-delete-pipeline) in *AWS CLI Command Reference*.

delete-preset

The following code example shows how to use delete-preset.

AWS CLI

**To delete the specified ElasticTranscoder preset**

This deletes the specified ElasticTranscoder preset.

Command:

```
aws elastictranscoder delete-preset --id 5555555555555-abcde5
```

- For API details, see [DeletePreset](aws-elastictranscoder-delete-preset) in *AWS CLI Command Reference*.

list-jobs-by-pipeline

The following code example shows how to use list-jobs-by-pipeline.
**AWS CLI**

**To retrieve a list of ElasticTranscoder jobs in the specified pipeline**

This example retrieves a list of ElasticTranscoder jobs in the specified pipeline.

Command:

```
aws elastictranscoder list-jobs-by-pipeline --pipeline-id 1111111111111-abcde1
```

Output:

```
{
    "Jobs": []
}
```

- For API details, see [ListJobsByPipeline](https://aws.amazon.com/cli/command-reference) in *AWS CLI Command Reference*.

**list-jobs-by-status**

The following code example shows how to use `list-jobs-by-status`.

**AWS CLI**

**To retrieve a list of ElasticTranscoder jobs with a status of Complete**

This example retrieves a list of ElasticTranscoder jobs with a status of Complete.

Command:

```
aws elastictranscoder list-jobs-by-status --status Complete
```

Output:

```
{
    "Jobs": []
}
```

- For API details, see [ListJobsByStatus](https://aws.amazon.com/cli/command-reference) in *AWS CLI Command Reference*. 
list-pipelines

The following code example shows how to use list-pipelines.

**AWS CLI**

**To retrieve a list of ElasticTranscoder pipelines**

This example retrieves a list of ElasticTranscoder pipelines.

Command:

```bash
aws elastictranscoder list-pipelines
```

Output:

```json
{
 "Pipelines": [
  {
   "Status": "Active",
   "ContentConfig": {
     "Bucket": "ets-example",
     "Permissions": []
   },
   "Name": "example-pipeline",
   "ThumbnailConfig": {
     "Bucket": "ets-example",
     "Permissions": []
   },
   "Notifications": {
     "Warning": "",
     "Progressing": "",
     "Error": ""
   },
   "Role": "arn:aws:iam::123456789012:role/Elastic_Transcoder_Default_Role",
   "InputBucket": "ets-example",
   "OutputBucket": "ets-example",
   "Id": "3333333333333-abcde3",
  },
  {
   "Status": "Paused",
   "ContentConfig": {
     "Bucket": "ets-example",
     "Permissions": []
   },
   "Name": "example-pipeline",
   "ThumbnailConfig": {
     "Bucket": "ets-example",
     "Permissions": []
   },
   "Notifications": {
     "Warning": "",
     "Progressing": "",
     "Error": ""
   },
   "Role": "arn:aws:iam::123456789012:role/Elastic_Transcoder_Default_Role",
   "InputBucket": "ets-example",
   "OutputBucket": "ets-example",
   "Id": "3333333333333-abcde3",
  }
]
}
```
"ContentConfig": {
  "Bucket": "ets-example",
  "Permissions": []
},
"Name": "example-php-test",
"ThumbnailConfig": {
  "Bucket": "ets-example",
  "Permissions": []
},
"Notifications": {
  "Completed": "",
  "Warning": "",
  "Progressing": "",
  "Error": ""
},
"Role": "arn:aws:iam::123456789012:role/Elastic_Transcoder_Default_Role",
"InputBucket": "ets-example",
"OutputBucket": "ets-example",
"Id": "3333333333333-abcde2",
},
{
  "Status": "Active",
  "ContentConfig": {
    "Bucket": "ets-west-output",
    "Permissions": []
  },
  "Name": "pipeline-west",
  "ThumbnailConfig": {
    "Bucket": "ets-west-output",
    "Permissions": []
  },
  "Notifications": {
    "Warning": "",
    "Progressing": "",
    "Error": ""
  },
  "Role": "arn:aws:iam::123456789012:role/Elastic_Transcoder_Default_Role",
  "InputBucket": "ets-west-input",
  "OutputBucket": "ets-west-output",
  "Id": "3333333333333-abcde1",
  "Arn": "arn:aws:elastictranscoder:us-west-2:123456789012:pipeline/3333333333333-abcde1"}
list-presets

The following code example shows how to use list-presets.

AWS CLI

To retrieve a list of ElasticTranscoder presets

This example retrieves a list of ElasticTranscoder presets.

Command:

```
aws elastictranscoder list-presets --max-items 2
```

Output:

```json
{
   "Presets": [
      {
         "Container": "mp4",
         "Name": "KindleFireHD-preset",
         "Video": {
            "Resolution": "1280x720",
            "FrameRate": "30",
            "KeyframesMaxDist": "90",
            "FixedGOP": "false",
            "Codec": "H.264",
            "Watermarks": [],
            "CodecOptions": {
               "Profile": "main",
               "MaxReferenceFrames": "3",
               "ColorSpaceConversionMode": "None",
               "InterlacedMode": "Progressive",
               "Level": "4"
            }
         }
      }
   ]
}
```
"AspectRatio": "16:9",
"BitRate": "2200"
},
"Audio": {
"Channels": "2",
"CodecOptions": {
"Profile": "AAC-LC"
},
"SampleRate": "48000",
"Codec": "AAC",
"BitRate": "160"
},
"Type": "Custom",
"Id": "3333333333333-abcde2",
"Thumbnails": {
"AspectRatio": "16:9",
"Interval": "60",
"Resolution": "192x108",
"Format": "png"
}
},
{
"Thumbnails": {
"AspectRatio": "16:9",
"Interval": "60",
"Resolution": "192x108",
"Format": "png"
},
"Container": "mp4",
"Description": "Custom preset for transcoding jobs",
"Video": {
"Resolution": "1280x720",
"FrameRate": "30",
"KeyframesMaxDist": "90",
"FixedGOP": "false",
"Codec": "H.264",
"Watermarks": [],
"CodecOptions": {
"Profile": "main",
"MaxReferenceFrames": "3",
"ColorSpaceConversionMode": "None",
"InterlacedMode": "Progressive",
"FrameRate": "30",
"KeyframesMaxDist": "90",
"FixedGOP": "false",
"Codec": "H.264",
"Watermarks": [],
"CodecOptions": {
"Profile": "main",
"MaxReferenceFrames": "3",
"ColorSpaceConversionMode": "None",
"InterlacedMode": "Progressive",
"FrameRate": "30",
"KeyframesMaxDist": "90",
"FixedGOP": "false",
"Codec": "H.264",
"Watermarks": [],
"CodecOptions": {
"Profile": "main",
"MaxReferenceFrames": "3",
"ColorSpaceConversionMode": "None",
"InterlacedMode": "Progressive"}
The following code example shows how to use `read-job`.

**AWS CLI**

**To retrieve an ElasticTranscoder job**

This example retrieves the specified ElasticTranscoder job.

**Command:**

```bash
cmd aws elastictranscoder read-job --id 1533838012294-example
```

**Output:**

```json
{
}
```

- For API details, see [ListPresets](#) in *AWS CLI Command Reference.*
"Job": {
    "Status": "Progressing",
    "Inputs": [
        {
            "Container": "mp4",
            "FrameRate": "auto",
            "Key": "ETS_example_file.mp4",
            "AspectRatio": "auto",
            "Resolution": "auto",
            "Interlaced": "auto"
        }
    ],
    "Playlists": [],
    "Outputs": [
        {
            "Status": "Progressing",
            "Rotate": "0",
            "PresetId": "1351620000001-100250",
            "Watermarks": [],
            "Key": "webm/ETS_example_file-kindlefirehd.webm",
            "Id": "1"
        }
    ],
    "PipelineId": "3333333333333-abcde3",
    "OutputKeyPrefix": "recipes/",
    "UserMetadata": {
        "Cook book": "recipe notebook",
        "Food type": "Italian"
    },
    "Output": {
        "Status": "Progressing",
        "Rotate": "0",
        "PresetId": "1351620000001-100250",
        "Watermarks": [],
        "Key": "webm/ETS_example_file-kindlefirehd.webm",
        "Id": "1"
    },
    "Timing": {
        "SubmitTimeMillis": 1533838012298,
        "StartTimeMillis": 1533838013786
    }
},
"Input": {
    "Container": "mp4",
    "FrameRate": "auto",
    "Key": "ETS_example_file.mp4",
    "AspectRatio": "auto",
    "Resolution": "auto",
    "Interlaced": "auto"
}
For API details, see `ReadJob` in *AWS CLI Command Reference*.

**read-pipeline**

The following code example shows how to use `read-pipeline`.

**AWS CLI**

**To retrieve an ElasticTranscoder pipeline**

This example retrieves the specified ElasticTranscoder pipeline.

**Command:**

```
aws elastictranscoder read-pipeline --id 3333333333333-abcde3
```

**Output:**

```json
{
  "Pipeline": {
    "Status": "Active",
    "ContentConfig": {
      "Bucket": "ets-example",
      "StorageClass": "Standard",
      "Permissions": [
        {
          "Access": [
            "FullControl"
          ],
          "Grantee": "marketing-promos@example.com",
        }
      ]
    }
  }
}
```
"GranteeType": "Email"
]
},
"Name": "Default",
"ThumbnailConfig": {
    "Bucket": "ets-example",
    "StorageClass": "ReducedRedundancy",
    "Permissions": [
    {
        "Access": [
            "FullControl"
        ],
        "Grantee": "marketing-promos@example.com",
        "GranteeType": "Email"
    }
    ]
},
"Notifications": {
    "Completed": "",
    "Warning": "",
    "Progressing": "",
    "Error": "arn:aws:sns:us-east-1:123456789012:ETS_Errors"
},
"Role": "arn:aws:iam::123456789012:role/Elastic_Transcoder_Default_Role",
"InputBucket": "ets-example",
"Id": "3333333333333-abcde3",
},
"Warnings": [
    {
        "Message": "The SNS notification topic for Error events and the pipeline are in different regions, which increases processing time for jobs in the pipeline and can incur additional charges. To decrease processing time and prevent cross-regional charges, use the same region for the SNS notification topic and the pipeline."
    },
    "Code": "6006"
]
}

• For API details, see ReadPipeline in AWS CLI Command Reference.
read-preset

The following code example shows how to use read-preset.

AWS CLI

To retrieve an ElasticTranscoder preset

This example retrieves the specified ElasticTranscoder preset.

Command:

```bash
aws elastictranscoder read-preset --id 1351620000001-500020
```

Output:

```json
{
   "Preset": {
      "Thumbnails": {
         "SizingPolicy": "ShrinkToFit",
         "MaxWidth": "192",
         "Format": "png",
         "PaddingPolicy": "NoPad",
         "Interval": "300",
         "MaxHeight": "108"
      },
      "Container": "fmp4",
      "Description": "System preset: MPEG-Dash Video - 4.8M",
      "Video": {
         "SizingPolicy": "ShrinkToFit",
         "MaxWidth": "1280",
         "PaddingPolicy": "NoPad",
         "FrameRate": "30",
         "MaxHeight": "720",
         "KeyframesMaxDist": "60",
         "FixedGOP": "true",
         "Codec": "H.264",
         "Watermarks": [
            {
               "SizingPolicy": "ShrinkToFit",
               "VerticalOffset": "10%",
               "VerticalAlign": "Top",
               "Target": "Content",
               "MaxWidth": "10%",
```
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;MaxHeight&quot;: &quot;10%&quot;</td>
<td>Vertical scaling factor.</td>
</tr>
<tr>
<td>&quot;HorizontalAlign&quot;: &quot;Left&quot;</td>
<td>Horizontal alignment.</td>
</tr>
<tr>
<td>&quot;HorizontalOffset&quot;: &quot;10%&quot;</td>
<td>Horizontal offset.</td>
</tr>
<tr>
<td>&quot;Opacity&quot;: &quot;100&quot;</td>
<td>Transparency.</td>
</tr>
<tr>
<td>&quot;Id&quot;: &quot;TopLeft&quot;</td>
<td>Element ID.</td>
</tr>
<tr>
<td>&quot;SizingPolicy&quot;: &quot;ShrinkToFit&quot;</td>
<td>Sizing policy.</td>
</tr>
<tr>
<td>&quot;VerticalOffset&quot;: &quot;10%&quot;</td>
<td>Vertical offset.</td>
</tr>
<tr>
<td>&quot;VerticalAlign&quot;: &quot;Top&quot;</td>
<td>Vertical alignment.</td>
</tr>
<tr>
<td>&quot;Target&quot;: &quot;Content&quot;</td>
<td>Target element.</td>
</tr>
<tr>
<td>&quot;MaxWidth&quot;: &quot;10%&quot;</td>
<td>Maximum width.</td>
</tr>
<tr>
<td>&quot;MaxHeight&quot;: &quot;10%&quot;</td>
<td>Maximum height.</td>
</tr>
<tr>
<td>&quot;HorizontalAlign&quot;: &quot;Right&quot;</td>
<td>Horizontal alignment for another element.</td>
</tr>
<tr>
<td>&quot;HorizontalOffset&quot;: &quot;10%&quot;</td>
<td>Horizontal offset for another element.</td>
</tr>
<tr>
<td>&quot;Opacity&quot;: &quot;100&quot;</td>
<td>Transparency for another element.</td>
</tr>
<tr>
<td>&quot;Id&quot;: &quot;TopRight&quot;</td>
<td>ID for another element.</td>
</tr>
<tr>
<td>&quot;SizingPolicy&quot;: &quot;ShrinkToFit&quot;</td>
<td>Sizing policy for another element.</td>
</tr>
<tr>
<td>&quot;VerticalOffset&quot;: &quot;10%&quot;</td>
<td>Vertical offset for another element.</td>
</tr>
<tr>
<td>&quot;VerticalAlign&quot;: &quot;Bottom&quot;</td>
<td>Vertical alignment for another element.</td>
</tr>
<tr>
<td>&quot;Target&quot;: &quot;Content&quot;</td>
<td>Target element for another element.</td>
</tr>
<tr>
<td>&quot;MaxWidth&quot;: &quot;10%&quot;</td>
<td>Maximum width for another element.</td>
</tr>
<tr>
<td>&quot;MaxHeight&quot;: &quot;10%&quot;</td>
<td>Maximum height for another element.</td>
</tr>
<tr>
<td>&quot;HorizontalAlign&quot;: &quot;Left&quot;</td>
<td>Horizontal alignment for another element.</td>
</tr>
<tr>
<td>&quot;HorizontalOffset&quot;: &quot;10%&quot;</td>
<td>Horizontal offset for another element.</td>
</tr>
<tr>
<td>&quot;Opacity&quot;: &quot;100&quot;</td>
<td>Transparency for another element.</td>
</tr>
<tr>
<td>&quot;Id&quot;: &quot;BottomLeft&quot;</td>
<td>ID for another element.</td>
</tr>
<tr>
<td>&quot;SizingPolicy&quot;: &quot;ShrinkToFit&quot;</td>
<td>Sizing policy for another element.</td>
</tr>
<tr>
<td>&quot;VerticalOffset&quot;: &quot;10%&quot;</td>
<td>Vertical offset for another element.</td>
</tr>
<tr>
<td>&quot;VerticalAlign&quot;: &quot;Bottom&quot;</td>
<td>Vertical alignment for another element.</td>
</tr>
<tr>
<td>&quot;Target&quot;: &quot;Content&quot;</td>
<td>Target element for another element.</td>
</tr>
<tr>
<td>&quot;MaxWidth&quot;: &quot;10%&quot;</td>
<td>Maximum width for another element.</td>
</tr>
<tr>
<td>&quot;MaxHeight&quot;: &quot;10%&quot;</td>
<td>Maximum height for another element.</td>
</tr>
<tr>
<td>&quot;HorizontalAlign&quot;: &quot;Right&quot;</td>
<td>Horizontal alignment for another element.</td>
</tr>
<tr>
<td>&quot;HorizontalOffset&quot;: &quot;10%&quot;</td>
<td>Horizontal offset for another element.</td>
</tr>
<tr>
<td>&quot;Opacity&quot;: &quot;100&quot;</td>
<td>Transparency for another element.</td>
</tr>
<tr>
<td>&quot;Id&quot;: &quot;BottomRight&quot;</td>
<td>ID for another element.</td>
</tr>
</tbody>
</table>

酹: "CodecOptions": {
The following code example shows how to use `update-pipeline`.

**AWS CLI**

### To update an ElasticTranscoder pipeline

The following `update-pipeline` example updates the specified ElasticTranscoder pipeline.

```bash
aws elastictranscoder update-pipeline \
  --id 111111111111-abcde1 \
  --name DefaultExample \
  --input-bucket salesoffice.example.com-source \
  --role arn:aws:iam::123456789012:role/Elastic_Transcoder_Default_Role \
  --notifications Progressing="",Completed="",Warning="",Error=arn:aws:sns:us-east-1:111222333444:ETS_Errors \
  --content-config file://content-config.json \
  --thumbnail-config file://thumbnail-config.json
```

**Contents of content-config.json:**

```json
{
  "Profile": "main",
  "MaxBitRate": "4800",
  "InterlacedMode": "Progressive",
  "Level": "3.1",
  "ColorSpaceConversionMode": "None",
  "MaxReferenceFrames": "3",
  "BufferSize": "9600"
}
{
  "BitRate": "4800",
  "DisplayAspectRatio": "auto"
}
"Type": "System",
"Id": "1351620000001-500020",
"Name": "System preset: MPEG-Dash Video - 4.8M"
}
```
AWS Command Line Interface

Contents of thumbnail-config.json:

```json
{
   "Bucket":"salesoffice.example.com-public-promos-thumbnails",
   "Permissions":[
   {
      "GranteeType":"Email",
      "Grantee":"marketing-promos@example.com",
      "Access": [ "FullControl"
      ]
   }
   ],
   "StorageClass":"ReducedRedundancy"
}
```

Output:

```json
{
   "Pipeline": {
      "Status": "Active",
      "ContentConfig": {
         "Bucket": "ets-example",
         "StorageClass": "Standard",
         "Permissions": [
            {
               "Access": [ "FullControl"
            }
         ]
      }
   }
}
```
"Grantee": "marketing-promos@example.com",
"GranteeType": "Email"
}
]
},
"Name": "DefaultExample",
"ThumbnailConfig": {
  "Bucket": "ets-example",
  "StorageClass": "ReducedRedundancy",
  "Permissions": [
    {
      "Access": [
        "FullControl"
      ],
      "Grantee": "marketing-promos@example.com",
      "GranteeType": "Email"
    }
  ]
},
"Notifications": {
  "Completed": "",
  "Warning": "",
  "Progressing": "",
  "Error": "arn:aws:sns:us-east-1:11122333444:ETS_Errors"
},
"Role": "arn:aws:iam::123456789012:role/Elastic_Transcoder_Default_Role",
"InputBucket": "ets-example",
"Id": "3333333333333-abcde3",
},
"Warnings": [
  {
    "Message": "The SNS notification topic for Error events and the pipeline are in different regions, which increases processing time for jobs in the pipeline and can incur additional charges. To decrease processing time and prevent cross-regional charges, use the same region for the SNS notification topic and the pipeline.",
    "Code": "6006"
  }
]
update-pipeline-notifications

The following code example shows how to use update-pipeline-notifications.

AWS CLI

To update the notifications of an ElasticTranscoder pipeline

This example updates the notifications of the specified ElasticTranscoder pipeline.

Command:

```bash
```

Output:

```json
{
   "Pipeline": {
      "Status": "Active",
      "ContentConfig": {
         "Bucket": "ets-example",
         "StorageClass": "Standard",
         "Permissions": [
            {
               "Access": ["FullControl"],
               "Grantee": "marketing-promos@example.com",
               "GranteeType": "Email"
            }
         ]
      },
      "Name": "Default",
      "ThumbnailConfig": {
         "Bucket": "ets-example",
         "StorageClass": "ReducedRedundancy",
         "Permissions": [
            {}
         ]
      }
   }
}
```
"Access": [  "FullControl"  ],  
"Grantee": "marketing-promos@example.com",  
"GranteeType": "Email"  
}  
],  
"Notifications": {  
"Error": "arn:aws:sns:us-east-1:1112233444:ETS_Errors"
}, 
"Role": "arn:aws:iam::123456789012:role/Elastic_Transcoder_Default_Role", 
"InputBucket": "ets-example", 
"Id": "111111111111-abcde1", 
"Arn": "arn:aws:elastictranscoder:us-west-2:123456789012:pipeline/111111111111-abcde1"
}  
}  

- For API details, see UpdatePipelineNotifications in AWS CLI Command Reference.

update-pipeline-status

The following code example shows how to use update-pipeline-status.

AWS CLI

To update the status of an ElasticTranscoder pipeline

This example updates the status of the specified ElasticTranscoder pipeline.

Command:

/aws elastictranscoder update-pipeline-status --id 111111111111-abcde1 --status Paused

Output:

{

"Pipeline": {
  "Status": "Paused",
  "ContentConfig": {
    "Bucket": "ets-example",
    "StorageClass": "Standard",
    "Permissions": [
      {
        "Access": [
          "FullControl"
        ],
        "Grantee": "marketing-promos@example.com",
        "GranteeType": "Email"
      }
    ],
  }
},
"Name": "Default",
"ThumbnailConfig": {
  "Bucket": "ets-example",
  "StorageClass": "ReducedRedundancy",
  "Permissions": [
    {
      "Access": [
        "FullControl"
      ],
      "Grantee": "marketing-promos@example.com",
      "GranteeType": "Email"
    }
  ]
},
"Notifications": {
  "Completed": "",
  "Warning": "",
  "Progressing": "",
  "Error": "arn:aws:sns:us-east-1:803981987763:ETS_Errors"
},
"Role": "arn:aws:iam::123456789012:role/Elastic_Transcoder_Default_Role",
"InputBucket": "ets-example",
"Id": "11111111111-abcde1",
"Arn": "arn:aws:elastictranscoder:us-west-2:123456789012:pipeline/11111111111-abcde1"
}

- For API details, see UpdatePipelineStatus in AWS CLI Command Reference.
ElastiCache examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with ElastiCache.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**
- **Actions**

**Actions**

**add-tags-to-resource**

The following code example shows how to use *add-tags-to-resource*.

**AWS CLI**

**To add tags to a resource**

The following *add-tags-to-resource* example adds up to 10 tags, key-value pairs, to a cluster or snapshot resource.

```bash
aws elasticache add-tags-to-resource
   --resource-name "arn:aws:elasticache:us-east-1:1234567890:cluster:my-mem-cluster"
   --tags '{"20150202":15, "ElastiCache":"Service"}"
```

Output:

```json
{
   "TagList": [
```

---

**Actions and scenarios**

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authorize-cache-security-group-ingress

The following code example shows how to use `authorize-cache-security-group-ingress`.

**AWS CLI**

To authorize cache security group for ingress

The following `authorize-cache-security-group-ingress` example allows network ingress to a cache security group.

```bash
aws elasticache authorize-cache-security-group-ingress \
   --cache-security-group-name "my-sec-grp" \
   --ec2-security-group-name "my-ec2-sec-grp" \
   --ec2-security-group-owner-id "1234567890"
```

The command produces no output.

For more information, see [Self-Service Updates in Amazon ElastiCache](https://docs.aws.amazon.com/elasticache/latest/userguide/self-service-update.html) in the Elasticache User Guide.

AWS CLI

To apply a service update

The following `batch-apply-update-action` example applies a service update to a Redis cluster.

```
aws elasticache batch-apply-update-action \
    --service-update-name elc-xxxxx406-xxx \
    --replication-group-ids test-cluster
```

Output:

```
{
    "ProcessedUpdateActions": [
        {
            "ReplicationGroupId": "pat-cluster",
            "ServiceUpdateName": "elc-xxxxx406-xxx",
            "UpdateActionStatus": "waiting-to-start"
        }
    ],
    "UnprocessedUpdateActions": []
}
```

For more information, see [Self-Service Updates in Amazon ElastiCache](https://docs.aws.amazon.com/elasticache/latest/mdb/using-self-service-updates.html) in the *Elasticache User Guide*.

- For API details, see [BatchApplyUpdateAction](https://docs.aws.amazon.com/cli/latest/reference/elasticache/batch-apply-update-action.html) in *AWS CLI Command Reference*.

**batch-stop-update-action**

The following code example shows how to use `batch-stop-update-action`.

AWS CLI

To stop a service update

The following `batch-stop-update-action` example applies a service update to a Redis cluster.

```
aws elasticache batch-stop-update-action \
    --service-update-name elc-xxxxx406-xxx \
```

--replication-group-ids test-cluster

Output:

```json
{
    "ProcessedUpdateActions": [
        {
            "ReplicationGroupId": "pat-cluster",
            "ServiceUpdateName": "elc-xxxx406-xxx",
            "UpdateActionStatus": "stopping"
        }
    ],
    "UnprocessedUpdateActions": []
}
```

For more information, see [Self-Service Updates in Amazon ElastiCache](https://docs.aws.amazon.com/elasticache/latest/userguide/Elasticache-⾃-Servicing.html) in the *Elasticache User Guide*.

- For API details, see [BatchStopUpdateAction](https://docs.aws.amazon.com/cli/latest/reference/elasticache/batch-stop-update-action.html) in *AWS CLI Command Reference*.

### copy-snapshot

The following code example shows how to use `copy-snapshot`.

**AWS CLI**

#### To copy a snapshot

The following `copy-snapshot` example makes a copy of an existing snapshot.

```bash
aws elasticache copy-snapshot \
    --source-snapshot-name "my-snapshot" \
    --target-snapshot-name "my-snapshot-copy"
```

Output:

```json
{
    "Snapshot":{
        "Engine": "redis",
        "CacheParameterGroupName": "default.redis3.2",
        "VpcId": "vpc-3820329f3",
        "CacheClusterId": "my-redis4",
```

Actions and scenarios 2845
"SnapshotRetentionLimit": 7,
"NumCacheNodes": 1,
"SnapshotName": "my-snapshot-copy",
"CacheClusterCreateTime": "2016-12-21T22:24:04.955Z",
"AutoMinorVersionUpgrade": true,
"PreferredAvailabilityZone": "us-east-1c",
"SnapshotStatus": "creating",
"SnapshotSource": "manual",
"SnapshotWindow": "07:00-08:00",
"EngineVersion": "3.2.4",
"NodeSnapshots": [
    {
        "CacheSize": "3 MB",
        "SnapshotCreateTime": "2016-12-28T07:00:52Z",
        "CacheNodeId": "0001",
        "CacheNodeCreateTime": "2016-12-21T22:24:04.955Z"
    }
],
"CacheSubnetGroupName": "default",
"Port": 6379,
"PreferredMaintenanceWindow": "tue:09:30-tue:10:30",
"CacheNodeType": "cache.m3.large"
}
}

For more information, see Exporting a Backup in the Elasticache User Guide.

- For API details, see CopySnapshot in AWS CLI Command Reference.

create-cache-cluster

The following code example shows how to use create-cache-cluster.

AWS CLI

To create a cache cluster

The following create-cache-cluster example creates a cache cluster using the Redis engine.

```bash
aws elasticache create-cache-cluster \
    --cache-cluster-id "cluster-test" \
    --engine redis
```
Output:

```
{
    "CacheCluster": {
        "CacheClusterId": "cluster-test",
        "ClientDownloadLandingPage": "https://console.aws.amazon.com/elasticache/home#client-download:",
        "CacheNodeType": "cache.m5.large",
        "Engine": "redis",
        "EngineVersion": "5.0.5",
        "CacheClusterStatus": "creating",
        "NumCacheNodes": 1,
        "PreferredMaintenanceWindow": "sat:13:00-sat:14:00",
        "PendingModifiedValues": {},
        "CacheSecurityGroups": [],
        "CacheParameterGroup": {
            "CacheParameterGroupName": "default.redis5.0",
            "ParameterApplyStatus": "in-sync",
            "CacheNodeIdsToReboot": []
        },
        "CacheSubnetGroupName": "default",
        "AutoMinorVersionUpgrade": true,
        "SnapshotRetentionLimit": 0,
        "SnapshotWindow": "06:30-07:30",
        "TransitEncryptionEnabled": false,
        "AtRestEncryptionEnabled": false
    }
}
```

For more information, see [Creating a Cluster](https://docs.aws.amazon.com/elasticache/latest/ug/creating-a-cluster.html) in the [Elasticache User Guide](https://docs.aws.amazon.com/elasticache/latest/ug/creating-a-cluster.html).


create-cache-parameter-group

The following code example shows how to use `create-cache-parameter-group`.

AWS CLI

To create a cache parameter group
The following `create-cache-parameter-group` example creates a new Amazon ElastiCache cache parameter group.

```bash
code
aws elasticache create-cache-parameter-group \
  --cache-parameter-group-family "redis5.0" \
  --cache-parameter-group-name "mygroup" \
  --description "mygroup"
```

Output:

```json
{
  "CacheParameterGroup": {
    "CacheParameterGroupName": "mygroup",
    "CacheParameterGroupFamily": "redis5.0",
    "Description": "my group"
  }
}
```

For more information, see [Creating a Parameter Group](https://docs.aws.amazon.com/elasticache/latest/userguide/creating-parameter-group.html) in the *Elasticache User Guide*.

- For API details, see [CreateCacheParameterGroup](https://docs.aws.amazon.com/cli/latest/reference/elasticache/create-cache-parameter-group.html) in *AWS CLI Command Reference*.

---

**create-cache-subnet-group**

The following code example shows how to use `create-cache-subnet-group`.

**AWS CLI**

**To create a cache subnet group**

The following `create-cache-subnet-group` example creates a new cache subnet group.

```bash
code
aws elasticache create-cache-subnet-group \
  --cache-subnet-group-name "mygroup" \
  --cache-subnet-group-description "my subnet group" \
  --subnet-ids "subnet-xxxxec4f"
```

Output:

```json
{
  "CacheSubnetGroup": {
    "CacheSubnetGroupName": "mygroup",
    "CacheSubnetGroupDescription": "my subnet group"
  }
}
```
"CacheSubnetGroupDescription": "my subnet group",
"VpcId": "vpc-a3e97cdb",
"Subnets": [
  {
    "SubnetIdentifier": "subnet-xxxxec4f",
    "SubnetAvailabilityZone": {
      "Name": "us-west-2d"
    }
  }
]

For more information, see Creating a Cache Subnet Group in the Elasticache User Guide.

- For API details, see CreateCacheSubnetGroup in AWS CLI Command Reference.

create-global-replication-group

The following code example shows how to use create-global-replication-group.

AWS CLI

To create a global replication group

The following create-global-replication-group example creates a new global replication group.

```
aws elasticache create-global-replication-group \\
--global-replication-group-id-suffix my-global-replication-group \\
--primary-replication-group-id my-primary-cluster
```

Output:

```
{
  "GlobalReplicationGroup": {
    "GlobalReplicationGroupId": "sguai-my-global-replication-group",
    "GlobalReplicationGroupDescription": "",
    "Status": "creating",
    "CacheNodeType": "cache.r5.large",
    "Engine": "redis",
    "EngineVersion": "5.0.6",
    "Members": [
```
For more information, see Replication Across AWS Regions Using Global Datastore in the Elasticache User Guide.

- For API details, see CreateGlobalReplicationGroup in AWS CLI Command Reference.

create-replication-group

The following code example shows how to use create-replication-group.

AWS CLI

To create a replication group

The following create-replication-group example creates a Redis (cluster mode disabled) or a Redis (cluster mode enabled) replication group. This operation is valid for Redis only.

.aws elasticache create-replication-group \  --replication-group-id "mygroup" \  --replication-group-description "my group" \  --engine "redis" \  --cache-node-type "cache.m5.large"
Output:

```json
{
   "ReplicationGroup": {
      "ReplicationGroupId": "mygroup",
      "Description": "my group",
      "Status": "creating",
      "PendingModifiedValues": {},
      "MemberClusters": [
         "mygroup-001"
      ],
      "AutomaticFailover": "disabled",
      "SnapshotRetentionLimit": 0,
      "SnapshotWindow": "06:00-07:00",
      "ClusterEnabled": false,
      "CacheNodeType": "cache.m5.large",
      "TransitEncryptionEnabled": false,
      "AtRestEncryptionEnabled": false
   }
}
```

For more information, see [Creating a Redis Replication Group](https://docs.aws.amazon.com/elasticache/latest/userguide/creating-replication-group.html) in the *Elasticache User Guide*.

- For API details, see [CreateReplicationGroup](https://docs.aws.amazon.com/cli/latest/reference/elasticache/create-replication-group.html) in *AWS CLI Command Reference*.

---

### create-snapshot

The following code example shows how to use `create-snapshot`.

**AWS CLI**

**To create a snapshot**

The following `create-snapshot` example creates a snapshot using the Redis engine.

```bash
aws elasticache create-snapshot \  
   --snapshot-name mysnapshot \  
   --cache-cluster-id cluster-test
```

Output:

```json
{
}
```

- For API details, see [CreateSnapshot](https://docs.aws.amazon.com/cli/latest/reference/elasticache/create-snapshot.html) in AWS CLI Command Reference.

**create-user**

The following code example shows how to use `create-user`.

**AWS CLI**

**To create a user**

The following `create-user` example creates a new user.
aws elasticache create-user \
--user-id user1 \
--user-name myUser \
--passwords mYnuUzpAxXw2rdzx \
--engine redis \
--access-string "on ~app::* -@all +@read"

Output:

{
    "UserId": "user2",
    "UserName": "myUser",
    "Status": "active",
    "Engine": "redis",
    "AccessString": "on ~app::* -@all +@read +@hash +@bitmap +@geo -setbit -bitfield -hset -hsetnx -hmset -hincrby -hincrbyfloat -hdel -bitop -geoadmin -georadius -georadiusbymember",
    "UserGroupIds": [],
    "Authentication": {
        "Type": "password",
        "PasswordCount": 1
    },
    "ARN": "arn:aws:elasticache:us-west-2:xxxxxxxxxx52:user:user2"
}


- For API details, see [CreateUser] in AWS CLI Command Reference.

create-user-group

The following code example shows how to use create-user-group.

AWS CLI

To create a user group

The following create-user-group example creates a new user group.

aws elasticache create-user-group \
--user-group-id myusergroup \
AWS Command Line Interface

For more information, see [Authenticating Users with Role-Based Access Control (RBAC)](https://docs.aws.amazon.com/elasticache/latest/mdb/elasticache-authentication.html) in the Elasticache User Guide.

- For API details, see [CreateUserGroup](https://docs.aws.amazon.com/cli/latest/reference/elasticache/create-user-group.html)
  in AWS CLI Command Reference.

### decrease-node-groups-in-global-replication-group

The following code example shows how to use `decrease-node-groups-in-global-replication-group`.

#### AWS CLI

**To decrease the number of node groups in a global replication group**

The following `decrease-node-groups-in-global-replication-group` decreases the node group count using the Redis engine.

```
aws elasticache decrease-node-groups-in-global-replication-group \
    --global-replication-group-id sgaui-test \
    --node-group-count 1 \
    --apply-immediately \
    --global-node-groups-to-retain sgaui-test-0003
```

**Output:**

```
{

    "UserGroupId": "myusergroup",
    "Status": "creating",
    "Engine": "redis",
    "UserIds": [ "default" ],
    "ReplicationGroups": [],
}
```
"GlobalReplicationGroup":
{
  "GlobalReplicationGroupId": "sgau-test",
  "GlobalReplicationGroupDescription": "test",
  "Status": "modifying",
  "CacheNodeType": "cache.r5.large",
  "Engine": "redis",
  "EngineVersion": "5.0.6",
  "Members": [
    {
      "ReplicationGroupId": "test-2",
      "ReplicationGroupRegion": "us-east-1",
      "Role": "SECONDARY",
      "AutomaticFailover": "enabled",
      "Status": "associated"
    },
    {
      "ReplicationGroupId": "test-1",
      "ReplicationGroupRegion": "us-west-2",
      "Role": "PRIMARY",
      "AutomaticFailover": "enabled",
      "Status": "associated"
    }
  ],
  "ClusterEnabled": true,
  "GlobalNodeGroups": [
    {
      "GlobalNodeGroupId": "sgau-test-0001",
      "Slots": "0-449,1816-5461"
    },
    {
      "GlobalNodeGroupId": "sgau-test-0002",
      "Slots": "6827-10922"
    },
    {
      "GlobalNodeGroupId": "sgau-test-0003",
      "Slots": "10923-14052,15418-16383"
    },
    {
      "GlobalNodeGroupId": "sgau-test-0004",
      "Slots": "450-1815,5462-6826,14053-15417"
    }
  ],
  "AuthTokenEnabled": false,
For more information, see Replication Across AWS Regions Using Global Datastore in the Elasticache User Guide.

- For API details, see DecreaseNodeGroupsInGlobalReplicationGroup in AWS CLI Command Reference.

decrease-replica-count

The following code example shows how to use decrease-replica-count.

AWS CLI

To decrease replica count

The following decrease-replica-count example dynamically decreases the number of replicas in a Redis (cluster mode disabled) replication group or the number of replica nodes in one or more node groups (shards) of a Redis (cluster mode enabled) replication group. This operation is performed with no cluster downtime.

```bash
aws elasticache decrease-replica-count \
   --replication-group-id my-cluster \
   --apply-immediately \
   --new-replica-count 2
```

Output:

```json
{
   "ReplicationGroup": {
      "ReplicationGroupId": "my-cluster",
      "Description": "",
      "Status": "modifying",
      "PendingModifiedValues": {},
      "MemberClusters": [
         "myreplicae",
         "my-cluster-001",
         "my-cluster-002",
         "my-cluster-003"
      ]
   }
}
```
"NodeGroups": [
  {
    "NodeGroupId": "0001",
    "Status": "modifying",
    "PrimaryEndpoint": {
      "Address": "my-cluster.xxxxx.ng.0001.usw2.cache.amazonaws.com",
      "Port": 6379
    },
    "ReaderEndpoint": {
      "Address": "my-cluster-ro.xxxxx.ng.0001.usw2.cache.amazonaws.com",
      "Port": 6379
    },
    "NodeGroupMembers": [
      {
        "CacheClusterId": "myrepliace",
        "CacheNodeId": "0001",
        "ReadEndpoint": {
          "Address": "myrepliace.xxxxx.0001.usw2.cache.amazonaws.com",
          "Port": 6379
        },
        "PreferredAvailabilityZone": "us-west-2a",
        "CurrentRole": "replica"
      },
      {
        "CacheClusterId": "my-cluster-001",
        "CacheNodeId": "0001",
        "ReadEndpoint": {
          "Address": "my-cluster-001.xxxxx.0001.usw2.cache.amazonaws.com",
          "Port": 6379
        },
        "PreferredAvailabilityZone": "us-west-2a",
        "CurrentRole": "primary"
      },
      {
        "CacheClusterId": "my-cluster-002",
        "CacheNodeId": "0001",
        "ReadEndpoint": {
          "Address": "my-cluster-002.xxxxx.0001.usw2.cache.amazonaws.com",
          "Port": 6379
        }
      }]
  }
]
The following code example shows how to use delete-cache-cluster.

**AWS CLI**

**To delete a cache cluster**

The following delete-cache-cluster example deletes the specified previously provisioned cluster. The command deletes all associated cache nodes, node endpoints, and the cluster itself.
When you receive a successful response from this operation, Amazon ElastiCache immediately begins deleting the cluster; you can't cancel or revert this operation.

This operation is not valid for the following:

Redis (cluster mode enabled) clusters
A cluster that is the last read replica of a replication group
A node group (shard) that has Multi-AZ mode enabled
A cluster from a Redis (cluster mode enabled) replication group
A cluster that is not in the available state

```
aws elasticache delete-cache-cluster \\
    --cache-cluster-id "my-cluster-002"
```

Output:

```
{
    "CacheCluster": {
        "CacheClusterId": "my-cluster-002",
        "ClientDownloadLandingPage": "https://console.aws.amazon.com/elasticache/home#client-download:",
        "CacheNodeType": "cache.r5.xlarge",
        "Engine": "redis",
        "EngineVersion": "5.0.5",
        "CacheClusterStatus": "deleting",
        "NumCacheNodes": 1,
        "PreferredAvailabilityZone": "us-west-2a",
        "CacheClusterCreateTime": "2019-11-26T03:35:04.546Z",
        "PreferredMaintenanceWindow": "mon:04:05-mon:05:05",
        "PendingModifiedValues": {},
        "NotificationConfiguration": {
            "TopicStatus": "active"
        },
        "CacheSecurityGroups": [],
        "CacheParameterGroup": {
            "CacheParameterGroupName": "mygroup",
            "ParameterApplyStatus": "in-sync",
            "CacheNodeIdsToReboot": []
        },
        "CacheSubnetGroupName": "kxkxk",
        "AutoMinorVersionUpgrade": true,
        "SecurityGroups": [
            {
                "SecurityGroupId": "sg-xxxxxxxxx9836",
            }
        ]
    }
}
```
For more information, see [Deleting a Cluster](#) in the Elasticache User Guide.

- For API details, see [DeleteCacheCluster](#) in AWS CLI Command Reference.

**delete-cache-parameter-group**

The following code example shows how to use delete-cache-parameter-group.

**AWS CLI**

**To delete a cache parameter group**

The following delete-cache-parameter-group example deletes the specified cache parameter group. You can't delete a cache parameter group if it's associated with any cache clusters.

```bash
aws elasticache delete-cache-parameter-group \
   --cache-parameter-group-name myparamgroup
```

This command produces no output.

For more information, see [Deleting a Parameter Group](#) in the Elasticache User Guide.

- For API details, see [DeleteCacheParameterGroup](#) in AWS CLI Command Reference.

**delete-cache-subnet-group**

The following code example shows how to use delete-cache-subnet-group.
AWS CLI

To delete a cache subnet group

The following delete-cache-subnet-group example deletes the specified cache subnet group. You can't delete a cache subnet group if it's associated with any clusters.

```
aws elasticache delete-cache-subnet-group \
  --cache-subnet-group-name "mygroup"
```

This command produces no output.

For more information, see Deleting a Subnet Group in the Elasticache User Guide.
- For API details, see DeleteCacheSubnetGroup in AWS CLI Command Reference.

delete-global-replication-group

The following code example shows how to use delete-global-replication-group.

AWS CLI

To delete a global replication group

The following delete-global-replication-group example deletes a new global replication group.

```
aws elasticache delete-global-replication-group \
  --global-replication-group-id my-global-replication-group \
  --retain-primary-replication-group
```

Output:

```
{
  "GlobalReplicationGroup": {
    "GlobalReplicationGroupId": "sgau1-my-grg",
    "GlobalReplicationGroupDescription": "my-grg",
    "Status": "deleting",
    "CacheNodeType": "cache.r5.large",
    "Engine": "redis",
    "EngineVersion": "5.0.6",
    "Members": [
      {
        ...
      }
    ]
  }
}
```
For more information, see [Replication Across AWS Regions Using Global Datastore](#) in the Elasticache User Guide.

- For API details, see [DeleteGlobalReplicationGroup](#) in [AWS CLI Command Reference](#).

### delete-replication-group

The following code example shows how to use `delete-replication-group`.

**AWS CLI**

**To delete a replication group**

The following `delete-replication-group` example deletes an existing replication group. By default, this operation deletes the entire replication group, including the primary/primaries and all of the read replicas. If the replication group has only one primary, you can optionally delete only the read replicas, while retaining the primary by setting `RetainPrimaryCluster=true`.

When you receive a successful response from this operation, Amazon ElastiCache immediately begins deleting the selected resources; you cannot cancel or revert this operation. Valid for Redis only.

```bash
aws elasticache delete-replication-group
  --replication-group-id "mygroup"
```

**Output:**

```
{
  "ReplicationGroupId": "my-cluster-grg",
  "ReplicationGroupRegion": "us-west-2",
  "Role": "PRIMARY",
  "AutomaticFailover": "enabled",
  "Status": "associated"
}
```

[URL](#)

[URL](#)
"ReplicationGroup": {
  "ReplicationGroupId": "mygroup",
  "Description": "my group",
  "Status": "deleting",
  "PendingModifiedValues": {},
  "AutomaticFailover": "disabled",
  "SnapshotRetentionLimit": 0,
  "SnapshotWindow": "06:00-07:00",
  "TransitEncryptionEnabled": false,
  "AtRestEncryptionEnabled": false
}
}

- For API details, see [DeleteReplicationGroup](#) in *AWS CLI Command Reference*.

**delete-snapshot**

The following code example shows how to use delete-snapshot.

**AWS CLI**

**To delete a snapshot**

The following delete-snapshot example deleted a snapshot using the Redis engine.

```bash
aws elasticache delete-snapshot \
  --snapshot-name mysnapshot
```

**Output:**

```
{
  "Snapshot": {
    "SnapshotName": "my-cluster-snapshot",
    "ReplicationGroupId": "mycluster",
    "ReplicationGroupDescription": "mycluster",
    "SnapshotStatus": "deleting",
    "SnapshotSource": "manual",
    "CacheNodeType": "cache.r5.xlarge",
    "Engine": "redis",
    "EngineVersion": "5.0.5",
    "PreferredMaintenanceWindow": "thu:12:00-thu:13:00",
    "Port": 6379,
  }
}```
"CacheParameterGroupName": "default.redis5.0.cluster.on",
"CacheSubnetGroupName": "default",
"VpcId": "vpc-a3e97c6b",
"AutoMinorVersionUpgrade": true,
"SnapshotRetentionLimit": 1,
"SnapshotWindow": "13:00-14:00",
"NumNodeGroups": 4,
"AutomaticFailover": "enabled",
"NodeSnapshots": [
  {
    "CacheClusterId": "mycluster-0002-003",
    "NodeGroupId": "0002",
    "CacheNodeId": "0001",
    "CacheSize": "6 MB",
    "CacheNodeCreateTime": "2020-06-18T00:05:44.719000+00:00",
    "SnapshotCreateTime": "2020-06-25T20:34:30+00:00"
  },
  {
    "CacheClusterId": "mycluster-0003-003",
    "NodeGroupId": "0003",
    "CacheNodeId": "0001",
    "CacheSize": "6 MB",
    "CacheNodeCreateTime": "2019-12-05T19:13:15.912000+00:00",
    "SnapshotCreateTime": "2020-06-25T20:34:30+00:00"
  },
  {
    "CacheClusterId": "mycluster-0004-002",
    "NodeGroupId": "0004",
    "CacheNodeId": "0001",
    "CacheSize": "6 MB",
    "CacheNodeCreateTime": "2019-12-09T19:44:34.324000+00:00",
    "SnapshotCreateTime": "2020-06-25T20:34:30+00:00"
  },
  {
    "CacheClusterId": "mycluster-0005-003",
    "NodeGroupId": "0005",
    "CacheNodeId": "0001",
    "CacheSize": "6 MB",
    "CacheNodeCreateTime": "2020-06-18T00:05:44.775000+00:00",
    "SnapshotCreateTime": "2020-06-25T20:34:30+00:00"
  }
]
For more information, see [Backup and Restore for ElastiCache for Redis](https://docs.aws.amazon.com/elasticache/latest/euserguide/backup-restore.html) in the *Elasticache User Guide*.

- For API details, see [DeleteSnapshot](https://docs.aws.amazon.com/cli/latest/reference/elasticache/delete-snapshot.html) in *AWS CLI Command Reference*.

### delete-user

The following code example shows how to use `delete-user`.

**AWS CLI**

**To delete a user**

The following `delete-user` example deletes a user.

```bash
aws elasticache delete-user \
  --user-id user2
```

**Output:**

```json
{
    "UserId": "user1",
    "UserName": "myUser",
    "Status": "deleting",
    "Engine": "redis",
    "AccessString": "on ~* +@all",
    "UserGroupIds": [
        "myusergroup"
    ],
    "Authentication": {
        "Type": "password",
        "PasswordCount": 1
    },
    "ARN": "arn:aws:elasticache:us-west-2:xxxxxxxxxx52:user:user1"
}
```

For more information, see [Authenticating Users with Role-Based Access Control (RBAC)](https://docs.aws.amazon.com/elasticache/latest/euserguide/rbac-auth.html) in the *Elasticache User Guide*.

- For API details, see [DeleteUser](https://docs.aws.amazon.com/cli/latest/reference/elasticache/delete-user.html) in *AWS CLI Command Reference*.
delete-user-group

The following code example shows how to use delete-user-group.

AWS CLI

To delete a user group

The following delete-user-group example deletes a user group.

```
aws elasticache delete-user-group \
   --user-group-id myusergroup
```

Output:

```
{
   "UserGroupId": "myusergroup",
   "Status": "deleting",
   "Engine": "redis",
   "UserIds": [ 
      "default"
   ],
   "ReplicationGroups": [],
}
```

For more information, see [Authenticating Users with Role-Based Access Control (RBAC)](https://docs.aws.amazon.com/elasticache/latest/m却is/elasticache-user-guide.html) in the Elasticache User Guide.

- For API details, see [DeleteUserGroup](https://docs.aws.amazon.com/elasticache/latest/m却is/elasticache-api/API_DeleteUserGroup.html) in AWS CLI Command Reference.

describe-cache-clusters

The following code example shows how to use describe-cache-clusters.

AWS CLI

To describe a cache cluster

The following describe-cache-clusters example describes a cache cluster.

```
aws elasticache describe-cache-clusters
```
Output:

```json
{
  "CacheClusters": [
    {
      "CacheClusterId": "my-cluster-003",
      "ClientDownloadLandingPage": "https://console.aws.amazon.com/elasticache/home#client-download:",
      "CacheNodeType": "cache.r5.large",
      "Engine": "redis",
      "EngineVersion": "5.0.5",
      "CacheClusterStatus": "available",
      "NumCacheNodes": 1,
      "PreferredAvailabilityZone": "us-west-2a",
      "CacheClusterCreateTime": "2019-11-26T01:22:52.396Z",
      "PreferredMaintenanceWindow": "mon:17:30-mon:18:30",
      "PendingModifiedValues": {},
      "NotificationConfiguration": {
        "TopicStatus": "active"
      },
      "CacheSecurityGroups": [],
      "CacheParameterGroup": {
        "CacheParameterGroupName": "default.redis5.0",
        "ParameterApplyStatus": "in-sync",
        "CacheNodeIdsToReboot": []
      },
      "CacheSubnetGroupName": "kxkxk",
      "AutoMinorVersionUpgrade": true,
      "SecurityGroups": [
        {
          "SecurityGroupId": "sg-xxxxxD7B",
          "Status": "active"
        }
      ],
      "ReplicationGroupId": "my-cluster",
      "SnapshotRetentionLimit": 0,
      "SnapshotWindow": "06:30-07:30",
      "AuthTokenEnabled": false,
      "TransitEncryptionEnabled": false,
      "AtRestEncryptionEnabled": false,
      "ReplicationGroupLogDeliveryEnabled": false,
    }
  ]
}
```
"LogDeliveryConfigurations": [ 
  { 
    "LogType": "slow-log",
    "DestinationType": "cloudwatch-logs",
    "DestinationDetails": { 
      "CloudWatchLogsDetails": { 
        "LogGroup": "test-log"
      }
    },
    "LogFormat": "text",
    "Status": "active"
  }
]}

For more information, see Managing Clusters in the Elasticache User Guide.

- For API details, see DescribeCacheClusters in AWS CLI Command Reference.

**describe-cache-engine-versions**

The following code example shows how to use describe-cache-engine-versions.

**AWS CLI**

**To describe a cache engine version**

The following describe-cache-engine-versions example returns a list of the available cache engines and their versions.

```
aws elasticache describe-cache-engine-versions \
    --engine "Redis"
```

Output:

```
{
  "CacheEngineVersions": [
    {
      "Engine": "redis",
      "EngineVersion": "2.6.13",
      "CacheParameterGroupFamily": "redis2.6",
    }
  ]
}
```
"CacheEngineDescription": "Redis",
"CacheEngineVersionDescription": "redis version 2.6.13"
},
{
  "Engine": "redis",
  "EngineVersion": "2.8.19",
  "CacheParameterGroupFamily": "redis2.8",
  "CacheEngineDescription": "Redis",
  "CacheEngineVersionDescription": "redis version 2.8.19"
},
{
  "Engine": "redis",
  "EngineVersion": "2.8.21",
  "CacheParameterGroupFamily": "redis2.8",
  "CacheEngineDescription": "Redis",
  "CacheEngineVersionDescription": "redis version 2.8.21"
},
{
  "Engine": "redis",
  "EngineVersion": "2.8.22",
  "CacheParameterGroupFamily": "redis2.8",
  "CacheEngineDescription": "Redis",
  "CacheEngineVersionDescription": "redis version 2.8.22"
},
{
  "Engine": "redis",
  "EngineVersion": "2.8.23",
  "CacheParameterGroupFamily": "redis2.8",
  "CacheEngineDescription": "Redis",
  "CacheEngineVersionDescription": "redis version 2.8.23"
},
{
  "Engine": "redis",
  "EngineVersion": "2.8.24",
  "CacheParameterGroupFamily": "redis2.8",
  "CacheEngineDescription": "Redis",
  "CacheEngineVersionDescription": "redis version 2.8.24"
},
{
  "Engine": "redis",
  "EngineVersion": "2.8.6",
  "CacheParameterGroupFamily": "redis2.8",
  "CacheEngineDescription": "Redis",
  "CacheEngineVersionDescription": "redis version 2.8.6"
},
{
  "Engine": "redis",
  "EngineVersion": "3.2.10",
  "CacheParameterGroupFamily": "redis3.2",
  "CacheEngineDescription": "Redis",
  "CacheEngineVersionDescription": "redis version 3.2.10"
},
{
  "Engine": "redis",
  "EngineVersion": "3.2.4",
  "CacheParameterGroupFamily": "redis3.2",
  "CacheEngineDescription": "Redis",
  "CacheEngineVersionDescription": "redis version 3.2.4"
},
{
  "Engine": "redis",
  "EngineVersion": "3.2.6",
  "CacheParameterGroupFamily": "redis3.2",
  "CacheEngineDescription": "Redis",
  "CacheEngineVersionDescription": "redis version 3.2.6"
},
{
  "Engine": "redis",
  "EngineVersion": "4.0.10",
  "CacheParameterGroupFamily": "redis4.0",
  "CacheEngineDescription": "Redis",
  "CacheEngineVersionDescription": "redis version 4.0.10"
},
{
  "Engine": "redis",
  "EngineVersion": "5.0.0",
  "CacheParameterGroupFamily": "redis5.0",
  "CacheEngineDescription": "Redis",
  "CacheEngineVersionDescription": "redis version 5.0.0"
},
{
  "Engine": "redis",
  "EngineVersion": "5.0.3",
  "CacheParameterGroupFamily": "redis5.0",
  "CacheEngineDescription": "Redis",
  "CacheEngineVersionDescription": "redis version 5.0.3"
},

For API details, see [DescribeCacheEngineVersions](https://docs.aws.amazon.com/cli/latest/reference/ec2/describe-cache-engine-versions.html) in *AWS CLI Command Reference*.

**describe-cache-parameter-groups**

The following code example shows how to use describe-cache-parameter-groups.

**AWS CLI**

To describe a cache parameter group

The following `describe-cache-parameter-groups` example returns a list of cache parameter group descriptions.

```
aws elasticache describe-cache-parameter-groups \
    --cache-parameter-group-name "mygroup"
```

Output:

```
{
    "CacheParameterGroups": [
        {
            "CacheParameterGroupName": "mygroup",
            "CacheParameterGroupFamily": "redis5.0",
            "Description": ""
        }
    ]
}
```
For more information, see Configuring Engine Parameters Using Parameter Groups in the Elasticache User Guide.

- For API details, see DescribeCacheParameterGroups in AWS CLI Command Reference.

**describe-cache-parameters**

The following code example shows how to use describe-cache-parameters.

**AWS CLI**

**To describe cache parameters**

The following "describe-cache-parameters" example returns the detailed parameter list for the specified cache parameter group.

```bash
aws elasticache describe-cache-parameters \ 
--cache-parameter-group-name "myparamgroup"
```

Output:

```json
{
   "Parameters": [
   {
       "ParameterName": "activedefrag",
       "ParameterValue": "yes",
       "Description": "Enabled active memory defragmentation",
       "Source": "user",
       "DataType": "string",
       "AllowedValues": "yes,no",
       "IsModifiable": true,
       "MinimumEngineVersion": "5.0.0",
       "ChangeType": "immediate"
   },
   {
       "ParameterName": "active-defrag-cycle-max",
       "ParameterValue": "75",
       "Description": "Maximal effort for defrag in CPU percentage",
       "Source": "user",
       "DataType": "integer",
       "AllowedValues": "1-75",
   }
   ]
}
```
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "active-defrag-cycle-min",
"ParameterValue": "5",
"Description": "Minimal effort for defrag in CPU percentage",
"Source": "user",
"DataType": "integer",
"AllowedValues": "1-75",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "active-defrag-ignore-bytes",
"ParameterValue": "104857600",
"Description": "Minimum amount of fragmentation waste to start active
defrag",
"Source": "user",
"DataType": "integer",
"AllowedValues": "1048576-",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "active-defrag-max-scan-fields",
"ParameterValue": "1000",
"Description": "Maximum number of set/hash/zset/list fields that will be
processed from the main dictionary scan",
"Source": "user",
"DataType": "integer",
"AllowedValues": "1-1000000",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "active-defrag-threshold-lower",
"ParameterValue": "10",
"Description": "Minimum percentage of fragmentation to start active
defrag"
"ParameterName": "active-defrag-threshold-upper",
"ParameterValue": "100",
"Description": "Maximum percentage of fragmentation at which we use maximum effort",
"Source": "user",
"DataType": "integer",
"AllowedValues": "1-100",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
",
{
"ParameterName": "activerehashing",
"ParameterValue": "yes",
"Description": "Apply rehashing or not.",
"Source": "user",
"DataType": "string",
"AllowedValues": "yes,no",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "requires-reboot"
},
{
"ParameterName": "appendfsync",
"ParameterValue": "everysec",
"Description": "fsync policy for AOF persistence",
"Source": "system",
"DataType": "string",
"AllowedValues": "always,everysec,no",
"IsModifiable": false,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "appendonly",
"ParameterValue": "no",
"Description": "maximum effort",
"Source": "user",
"DataType": "integer",
"AllowedValues": "1-100",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
}
"Description": "Enable Redis persistence.",
"Source": "system",
"DataType": "string",
"AllowedValues": "yes,no",
"IsModifiable": false,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "client-output-buffer-limit-normal-hard-limit",
"ParameterValue": "0",
"Description": "Normal client output buffer hard limit in bytes.",
"Source": "user",
"DataType": "integer",
"AllowedValues": "0-",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "client-output-buffer-limit-normal-soft-limit",
"ParameterValue": "0",
"Description": "Normal client output buffer soft limit in bytes.",
"Source": "user",
"DataType": "integer",
"AllowedValues": "0-",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "client-output-buffer-limit-normal-soft-seconds",
"ParameterValue": "0",
"Description": "Normal client output buffer soft limit in seconds.",
"Source": "user",
"DataType": "integer",
"AllowedValues": "0-",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "client-output-buffer-limit-pubsub-hard-limit",
"ParameterValue": "33554432",
"Description": "Normal client output buffer hard limit in bytes.",
"Source": "user",
"DataType": "integer",
"AllowedValues": "0-",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
"Description": "Pubsub client output buffer hard limit in bytes.",
"Source": "user",
"DataType": "integer",
"AllowedValues": "0-",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "client-output-buffer-limit-pubsub-soft-limit",
"ParameterValue": "8388608",
"Description": "Pubsub client output buffer soft limit in bytes.",
"Source": "user",
"DataType": "integer",
"AllowedValues": "0-",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "client-output-buffer-limit-pubsub-soft-seconds",
"ParameterValue": "60",
"Description": "Pubsub client output buffer soft limit in seconds.",
"Source": "user",
"DataType": "integer",
"AllowedValues": "0-",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "client-output-buffer-limit-replica-soft-seconds",
"ParameterValue": "60",
"Description": "Replica client output buffer soft limit in seconds.",
"Source": "system",
"DataType": "integer",
"AllowedValues": "0-",
"IsModifiable": false,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "client-query-buffer-limit",
"ParameterValue": "1073741824",
"Description": "Replica client output buffer soft limit in seconds.",
"Source": "system",
"DataType": "integer",
"AllowedValues": "0-",
"IsModifiable": false,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"}
"Description": "Max size of a single client query buffer",
"Source": "user",
"DataType": "integer",
"AllowedValues": "1048576-1073741824",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "close-on-replica-write",
"ParameterValue": "yes",
"Description": "If enabled, clients who attempt to write to a read-only replica will be disconnected. Applicable to 2.8.23 and higher.",&
"Source": "user",
"DataType": "string",
"AllowedValues": "yes,no",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "cluster-enabled",
"ParameterValue": "no",
"Description": "Enable cluster mode",
"Source": "user",
"DataType": "string",
"AllowedValues": "yes,no",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "requires-reboot"
},
{
"ParameterName": "cluster-require-full-coverage",
"ParameterValue": "no",
"Description": "Whether cluster becomes unavailable if one or more slots are not covered",
"Source": "user",
"DataType": "string",
"AllowedValues": "yes,no",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},

"ParameterName": "databases",
"ParameterValue": "16",
"Description": "Set the number of databases.",
"Source": "user",
"DataType": "integer",
"AllowedValues": "1-1200000",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "requires-reboot"
},
{
"ParameterName": "hash-max-ziplist-entries",
"ParameterValue": "512",
"Description": "The maximum number of hash entries in order for the dataset to be compressed.",
"Source": "user",
"DataType": "integer",
"AllowedValues": "0-",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "hash-max-ziplist-value",
"ParameterValue": "64",
"Description": "The threshold of biggest hash entries in order for the dataset to be compressed.",
"Source": "user",
"DataType": "integer",
"AllowedValues": "0-",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "hll-sparse-max-bytes",
"ParameterValue": "3000",
"Description": "HyperLogLog sparse representation bytes limit",
"Source": "user",
"DataType": "integer",
"AllowedValues": "1-16000",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
    "ParameterName": "lazyfree-lazy-eviction",
    "ParameterValue": "no",
    "Description": "Perform an asynchronous delete on evictions",
    "Source": "user",
    "DataType": "string",
    "AllowedValues": "yes,no",
    "IsModifiable": true,
    "MinimumEngineVersion": "5.0.0",
    "ChangeType": "immediate"
},
{
    "ParameterName": "lazyfree-lazy-expire",
    "ParameterValue": "no",
    "Description": "Perform an asynchronous delete on expired keys",
    "Source": "user",
    "DataType": "string",
    "AllowedValues": "yes,no",
    "IsModifiable": true,
    "MinimumEngineVersion": "5.0.0",
    "ChangeType": "immediate"
},
{
    "ParameterName": "lazyfree-lazy-server-del",
    "ParameterValue": "no",
    "Description": "Perform an asynchronous delete on key updates",
    "Source": "user",
    "DataType": "string",
    "AllowedValues": "yes,no",
    "IsModifiable": true,
    "MinimumEngineVersion": "5.0.0",
    "ChangeType": "immediate"
},
{
    "ParameterName": "lfu-decay-time",
    "ParameterValue": "1",
    "Description": "The amount of time in minutes to decrement the key counter for LFU eviction policy",
    "Source": "user",
    "DataType": "integer",
    "AllowedValues": "0-",
    "IsModifiable": true,
    "MinimumEngineVersion": "5.0.0"
"ChangeType": "immediate"
},
{
  "ParameterName": "lfu-log-factor",
  "ParameterValue": "10",
  "Description": "The log factor for incrementing key counter for LFU eviction policy",
  "Source": "user",
  "DataType": "integer",
  "AllowedValues": "1-",
  "IsModifiable": true,
  "MinimumEngineVersion": "5.0.0",
  "ChangeType": "immediate"
},
{
  "ParameterName": "list-compress-depth",
  "ParameterValue": "0",
  "Description": "Number of quicklist ziplist nodes from each side of the list to exclude from compression. The head and tail of the list are always uncompressed for fast push/pop operations",
  "Source": "user",
  "DataType": "integer",
  "AllowedValues": "0-",
  "IsModifiable": true,
  "MinimumEngineVersion": "5.0.0",
  "ChangeType": "immediate"
},
{
  "ParameterName": "list-max-ziplist-size",
  "ParameterValue": "-2",
  "Description": "The number of entries allowed per internal list node can be specified as a fixed maximum size or a maximum number of elements",
  "Source": "system",
  "DataType": "integer",
  "AllowedValues": "-5,-4,-3,-2,-1,1-",
  "IsModifiable": false,
  "MinimumEngineVersion": "5.0.0",
  "ChangeType": "immediate"
},
{
  "ParameterName": "lua-replicate-commands",
  "ParameterValue": "yes",
  "Description": "Always enable Lua effect replication or not",
  "Source": "user",
"DataType": "string",
"AllowedValues": "yes,no",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "lua-time-limit",
"ParameterValue": "5000",
"Description": "Max execution time of a Lua script in milliseconds. 0 for unlimited execution without warnings.",
"Source": "system",
"DataType": "integer",
"AllowedValues": "5000",
"IsModifiable": false,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "maxclients",
"ParameterValue": "65000",
"Description": "The maximum number of Redis clients.",
"Source": "system",
"DataType": "integer",
"AllowedValues": "1-65000",
"IsModifiable": false,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "requires-reboot"
},
{
"ParameterName": "maxmemory-policy",
"ParameterValue": "volatile-lru",
"Description": "Max memory policy.",
"Source": "user",
"DataType": "string",
"AllowedValues": "volatile-lru,allkeys-lru,volatile-lfu,allkeys-lfu,volatile-random,allkeys-random,volatile-ttl,noeviction",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "maxmemory-samples",
"ParameterValue": "3",
"Description": "Max memory sampling.",
"Source": "user",
"DataType": "integer",
"AllowedValues": "1-10",
"IsModifiable": false,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"}
"Description": "Max memory samples.",
"Source": "user",
"DataType": "integer",
"AllowedValues": "1-",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "min-replicas-max-lag",
"ParameterValue": "10",
"Description": "The maximum amount of replica lag in seconds beyond which the master would stop taking writes. A value of 0 means the master always takes writes.",
"Source": "user",
"DataType": "integer",
"AllowedValues": "0-",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "min-replicas-to-write",
"ParameterValue": "0",
"Description": "The minimum number of replicas that must be present with lag no greater than min-replicas-max-lag for master to take writes. Setting this to 0 means the master always takes writes.",
"Source": "user",
"DataType": "integer",
"AllowedValues": "0-",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "notify-keyspace-events",
"Description": "The keyspace events for Redis to notify Pub/Sub clients about. By default all notifications are disabled",
"Source": "user",
"DataType": "string",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
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{  
    "ParameterName": "proto-max-bulk-len",
    "ParameterValue": "536870912",
    "Description": "Max size of a single element request",
    "Source": "user",
    "DataType": "integer",
    "AllowedValues": "1048576-536870912",
    "IsModifiable": true,
    "MinimumEngineVersion": "5.0.0",
    "ChangeType": "immediate"
},
{
    "ParameterName": "rename-commands",
    "ParameterValue": "",
    "Description": "Redis commands that can be dynamically renamed by the customer",
    "Source": "user",
    "DataType": "string",
    "AllowedValues": ["APPEND,BITCOUNT,BITFIELD,BITOP,BITPOS,BLPOP,BRPOP,BRPOPBLUSH,BZPOPMIN,BZPOPMAX,CLIENT,COMMAND,DBSIZE,DECR,DECRBY,DEL,DISCARD,DISCARD Starter,DEL,RANGE,XREVRANGE,XLEN,XREAD,XGROUP,XREADGROUP,XACK,XCLAIM,XPENDING,GEORADIUS,GEORADIUSRO,GEORADIUSBYMEMBER,GEORADIUSBYMEMBERRO,LOLWUT,XSETID,SUBSTR", "APPEND, BITCOUNT, BITFIELD, BITOP, BITPOS, BLPOP, BRPOP, BRPOPBLUSH, BZPOPMIN, BZPOPMAX, CLIENT, COMMAND, DBSIZE, DECR, DECRBY, DEL, DISCARD, DISCARD Starter, DEL, RANGE, XREVRANGE, XLEN, XREAD, XGROUP, XREADGROUP, XACK, XCLAIM, XPENDING, GEORADIUS, GEORADIUSRO, GEORADIUSBYMEMBER, GEORADIUSBYMEMBERRO, LOLWUT, XSETID, SUBSTR"],
    "IsModifiable": true,
    "MinimumEngineVersion": "5.0.3",
    "ChangeType": "immediate"
},
{
    "ParameterName": "repl-backlog-size",
    "ParameterValue": "1048576",
    "Description": "The replication backlog size in bytes for PSYNC. This is the size of the buffer which accumulates slave data when slave is disconnected for some time, so that when slave reconnects again, only transfer the portion of data which the slave missed. Minimum value is 16K.",
    "Source": "user",
    "DataType": "integer",
    "AllowedValues": "16384-",
    "IsModifiable": true,
    "MinimumEngineVersion": "5.0.0",
    "ChangeType": "immediate"
},
{
    "ParameterName": "repl-backlog-ttl",
    "ParameterValue": "3600",
    "Description": "The amount of time in seconds after the master no longer have any slaves connected for the master to free the replication backlog. A value of 0 means to never release the backlog.",
    "Source": "user",
    "DataType": "integer",
    "AllowedValues": "",
    "IsModifiable": true,
    "MinimumEngineVersion": "",
    "ChangeType": "immediate"}
"Source": "user",
"DataType": "integer",
"AllowedValues": "0-",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
    "ParameterName": "replica-allow-chaining",
    "ParameterValue": "no",
    "Description": "Configures if chaining of replicas is allowed",
    "Source": "system",
    "DataType": "string",
    "AllowedValues": "yes,no",
    "IsModifiable": false,
    "MinimumEngineVersion": "5.0.0",
    "ChangeType": "immediate"
},
{
    "ParameterName": "replica-ignore-maxmemory",
    "ParameterValue": "yes",
    "Description": "Determines if replica ignores maxmemory setting by not evicting items independent from the master",
    "Source": "system",
    "DataType": "string",
    "AllowedValues": "yes,no",
    "IsModifiable": false,
    "MinimumEngineVersion": "5.0.0",
    "ChangeType": "immediate"
},
{
    "ParameterName": "replica-lazy-flush",
    "ParameterValue": "no",
    "Description": "Perform an asynchronous flushDB during replica sync",
    "Source": "system",
    "DataType": "string",
    "AllowedValues": "yes,no",
    "IsModifiable": false,
    "MinimumEngineVersion": "5.0.0",
    "ChangeType": "immediate"
},
{
    "ParameterName": "reserved-memory-percent",
    "ParameterValue": "25",
    "Description": ""
"Description": "The percent of memory reserved for non-cache memory usage. You may want to increase this parameter for nodes with read replicas, AOF enabled, etc, to reduce swap usage.",
  "Source": "user",
  "DataType": "integer",
  "AllowedValues": "0-100",
  "IsModifiable": true,
  "MinimumEngineVersion": "5.0.0",
  "ChangeType": "immediate"
},
{
  "ParameterName": "set-max-intset-entries",
  "ParameterValue": "512",
  "Description": "The limit in the size of the set in order for the dataset to be compressed.",
  "Source": "user",
  "DataType": "integer",
  "AllowedValues": "0-",
  "IsModifiable": true,
  "MinimumEngineVersion": "5.0.0",
  "ChangeType": "immediate"
},
{
  "ParameterName": "slowlog-log-slower-than",
  "ParameterValue": "10000",
  "Description": "The execution time, in microseconds, to exceed in order for the command to get logged. Note that a negative number disables the slow log, while a value of zero forces the logging of every command.",
  "Source": "user",
  "DataType": "integer",
  "AllowedValues": "-",
  "IsModifiable": true,
  "MinimumEngineVersion": "5.0.0",
  "ChangeType": "immediate"
},
{
  "ParameterName": "slowlog-max-len",
  "ParameterValue": "128",
  "Description": "The length of the slow log. There is no limit to this length. Just be aware that it will consume memory. You can reclaim memory used by the slow log with SLOWLOG RESET.",
  "Source": "user",
  "DataType": "integer",
  "AllowedValues": "0-",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "stream-node-max-bytes",
"ParameterValue": "4096",
"Description": "The maximum size of a single node in a stream in bytes",
"Source": "user",
"DataType": "integer",
"AllowedValues": "0-",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "stream-node-max-entries",
"ParameterValue": "100",
"Description": "The maximum number of items a single node in a stream can contain",
"Source": "user",
"DataType": "integer",
"AllowedValues": "0-",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "tcp-keepalive",
"ParameterValue": "300",
"Description": "If non-zero, send ACKs every given number of seconds.",
"Source": "user",
"DataType": "integer",
"AllowedValues": "0-",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "timeout",
"ParameterValue": "0",
"Description": "Close connection if client is idle for a given number of seconds, or never if 0.",
"Source": "user",
"DataType": "integer",
"AllowedValues": "0-",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"}
For more information, see [Parameter Management](#) in the [Elasticache User Guide](#).

- For API details, see [DescribeCacheParameters](#) in [AWS CLI Command Reference](#).

**describe-cache-subnet-groups**

The following code example shows how to use describe-cache-subnet-groups.

**AWS CLI**

To describe cache subnet groups
The following `describe-cache-subnet-groups` example returns a list of subnet groups.

```bash
aws elasticache describe-cache-subnet-groups
```

Output:

```json
{
  "CacheSubnetGroups": [
  {
    "CacheSubnetGroupName": "default",
    "CacheSubnetGroupDescription": "Default CacheSubnetGroup",
    "VpcId": "vpc-a3e97cdb",
    "Subnets": [
      {
        "SubnetIdentifier": "subnet-8d4bacf5",
        "SubnetAvailabilityZone": {
          "Name": "us-west-2b"
        }
      },
      {
        "SubnetIdentifier": "subnet-dde21380",
        "SubnetAvailabilityZone": {
          "Name": "us-west-2c"
        }
      },
      {
        "SubnetIdentifier": "subnet-6485ec4f",
        "SubnetAvailabilityZone": {
          "Name": "us-west-2d"
        }
      },
      {
        "SubnetIdentifier": "subnet-b4ebebff",
        "SubnetAvailabilityZone": {
          "Name": "us-west-2a"
        }
      }
    ]
  },
  {
    "CacheSubnetGroupName": "kxkxk",
    "CacheSubnetGroupDescription": "mygroup",
    "VpcId": "vpc-a3e97cdb",
  }
]
```
"Subnets": [
    {
        "SubnetIdentifier": "subnet-b4ebebff",
        "SubnetAvailabilityZone": {
            "Name": "us-west-2a"
        }
    }
],

],

{"CacheSubnetGroupName": "test",
"CacheSubnetGroupDescription": "test",
"VpcId": "vpc-a3e97cdb",
"Subnets": [
    {
        "SubnetIdentifier": "subnet-b4ebebff",
        "SubnetAvailabilityZone": {
            "Name": "us-west-2a"
        }
    }
]
}

For more information, see Subnets and Subnet Groups in the Elasticache User Guide or Subnets and Subnet Groups in the ElastiCache for Memcached User Guide.

- For API details, see DescribeCacheSubnetGroups in AWS CLI Command Reference.

describe-engine-default-parameters

The following code example shows how to use describe-engine-default-parameters.

AWS CLI

To describe engine default parameters

The following describe-engine-default-parameters example returns the default engine and system parameter information for the specified cache engine.

aws elasticache describe-engine-default-parameters
   --cache-parameter-group-family "redis5.0"
Output:

```json
{
    "EngineDefaults": {
        "Parameters": [
            {
                "ParameterName": "activedefrag",
                "ParameterValue": "no",
                "Description": "Enabled active memory defragmentation",
                "Source": "system",
                "DataType": "string",
                "AllowedValues": "yes,no",
                "IsModifiable": true,
                "MinimumEngineVersion": "5.0.0",
                "ChangeType": "immediate"
            },
            {
                "ParameterName": "active-defrag-cycle-max",
                "ParameterValue": "75",
                "Description": "Maximal effort for defrag in CPU percentage",
                "Source": "system",
                "DataType": "integer",
                "AllowedValues": "1-75",
                "IsModifiable": true,
                "MinimumEngineVersion": "5.0.0",
                "ChangeType": "immediate"
            },
            {
                "ParameterName": "active-defrag-cycle-min",
                "ParameterValue": "5",
                "Description": "Minimal effort for defrag in CPU percentage",
                "Source": "system",
                "DataType": "integer",
                "AllowedValues": "1-75",
                "IsModifiable": true,
                "MinimumEngineVersion": "5.0.0",
                "ChangeType": "immediate"
            },
            {
                "ParameterName": "active-defrag-ignore-bytes",
                "ParameterValue": "104857600",
                "Description": "Minimum amount of fragmentation waste to start active defrag",
                "Source": "system",
                "DataType": "integer",
                "AllowedValues": "1-104857600",
                "IsModifiable": true,
                "MinimumEngineVersion": "5.0.0",
                "ChangeType": "immediate"
            }
        ]
    }
}
```
"ParameterName": "active-defrag-max-scan-fields",
"ParameterValue": "1000",
"Description": "Maximum number of set/hash/zset/list fields that will be processed from the main dictionary scan",
"Source": "system",
"DataType": "integer",
"AllowedValues": "1-1000000",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "active-defrag-threshold-lower",
"ParameterValue": "10",
"Description": "Minimum percentage of fragmentation to start active defrag",
"Source": "system",
"DataType": "integer",
"AllowedValues": "1-100",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "active-defrag-threshold-upper",
"ParameterValue": "100",
"Description": "Maximum percentage of fragmentation at which we use maximum effort",
"Source": "system",
"DataType": "integer",
"AllowedValues": "1-100",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "activerehashing",
"ParameterValue": "yes",
"Description": "Apply rehashing or not.",
"Source": "system",
"DataType": "string",
"AllowedValues": "yes,no",
"IsModifiable": false,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "requires-reboot"
},
{
"ParameterName": "appendfsync",
"ParameterValue": "everysec",
"Description": "fsync policy for AOF persistence",
"Source": "system",
"DataType": "string",
"AllowedValues": "always,everysec,no",
"IsModifiable": false,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "appendonly",
"ParameterValue": "no",
"Description": "Enable Redis persistence.",
"Source": "system",
"DataType": "string",
"AllowedValues": "yes,no",
"IsModifiable": false,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "client-output-buffer-limit-normal-hard-limit",
"ParameterValue": "0",
"Description": "Normal client output buffer hard limit in bytes.",
"Source": "system",
"DataType": "integer",
"AllowedValues": "0-",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "client-output-buffer-limit-normal-soft-limit",
"ParameterValue": "0",
"Description": "Normal client output buffer soft limit in bytes.",
"Source": "system",
"DataType": "integer",
"AllowedValues": "0-",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
"ParameterValue": "0",
"Description": "Normal client output buffer soft limit in bytes.",
"Source": "system",
"DataType": "integer",
"AllowedValues": "0-",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "client-output-buffer-limit-normal-soft-seconds",
"ParameterValue": "0",
"Description": "Normal client output buffer soft limit in seconds.",
"Source": "system",
"DataType": "integer",
"AllowedValues": "0-",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "client-output-buffer-limit-pubsub-hard-limit",
"ParameterValue": "33554432",
"Description": "Pubsub client output buffer hard limit in bytes.",
"Source": "system",
"DataType": "integer",
"AllowedValues": "0-",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "client-output-buffer-limit-pubsub-soft-limit",
"ParameterValue": "8388608",
"Description": "Pubsub client output buffer soft limit in bytes.",
"Source": "system",
"DataType": "integer",
"AllowedValues": "0-",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "client-output-buffer-limit-pubsub-soft-seconds",
"ParameterValue": "0",
"Description": "Pubsub client output buffer soft limit in seconds.",
"Source": "system",
"DataType": "integer",
"AllowedValues": "0-",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"}
"ParameterValue": "60",
"Description": "Pubsub client output buffer soft limit in seconds.",
"Source": "system",
"DataType": "integer",
"AllowedValues": "0-",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "client-output-buffer-limit-replica-soft-seconds",
"ParameterValue": "60",
"Description": "Replica client output buffer soft limit in seconds.",
"Source": "system",
"DataType": "integer",
"AllowedValues": "0-",
"IsModifiable": false,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "client-query-buffer-limit",
"ParameterValue": "1073741824",
"Description": "Max size of a single client query buffer",
"Source": "system",
"DataType": "integer",
"AllowedValues": "1048576-1073741824",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "close-on-replica-write",
"ParameterValue": "yes",
"Description": "If enabled, clients who attempt to write to a read-only replica will be disconnected. Applicable to 2.8.23 and higher.",
"Source": "system",
"DataType": "string",
"AllowedValues": "yes,no",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
    "ParameterName": "cluster-enabled",
    "ParameterValue": "no",
    "Description": "Enable cluster mode",
    "Source": "system",
    "DataType": "string",
    "AllowedValues": "yes,no",
    "IsModifiable": false,
    "MinimumEngineVersion": "5.0.0",
    "ChangeType": "requires-reboot"
},
{
    "ParameterName": "cluster-require-full-coverage",
    "ParameterValue": "no",
    "Description": "Whether cluster becomes unavailable if one or more slots are not covered",
    "Source": "system",
    "DataType": "string",
    "AllowedValues": "yes,no",
    "IsModifiable": true,
    "MinimumEngineVersion": "5.0.0",
    "ChangeType": "immediate"
},
{
    "ParameterName": "databases",
    "ParameterValue": "16",
    "Description": "Set the number of databases.",
    "Source": "system",
    "DataType": "integer",
    "AllowedValues": "1-1200000",
    "IsModifiable": false,
    "MinimumEngineVersion": "5.0.0",
    "ChangeType": "requires-reboot"
},
{
    "ParameterName": "hash-max-zipmap-entries",
    "ParameterValue": "512",
    "Description": "The maximum number of hash entries in order for the dataset to be compressed."
    "Source": "system",
    "DataType": "integer",
    "AllowedValues": "0-",
    "IsModifiable": true,
    "MinimumEngineVersion": "5.0.0"}
"ChangeType": "immediate"
},
{
"ParameterName": "hash-max-ziplist-value",
"ParameterValue": "64",
"Description": "The threshold of biggest hash entries in order for the dataset to be compressed.",
"Source": "system",
"DataType": "integer",
"AllowedValues": "0-",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "hll-sparse-max-bytes",
"ParameterValue": "3000",
"Description": "HyperLogLog sparse representation bytes limit",
"Source": "system",
"DataType": "integer",
"AllowedValues": "1-16000",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "lazyfree-lazy-eviction",
"ParameterValue": "no",
"Description": "Perform an asynchronous delete on evictions",
"Source": "system",
"DataType": "string",
"AllowedValues": "yes,no",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "lazyfree-lazy-expire",
"ParameterValue": "no",
"Description": "Perform an asynchronous delete on expired keys",
"Source": "system",
"DataType": "string",
"AllowedValues": "yes,no",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
  "ParameterName": "lazyfree-lazy-server-del",
  "ParameterValue": "no",
  "Description": "Perform an asynchronous delete on key updates",
  "Source": "system",
  "DataType": "string",
  "AllowedValues": "yes,no",
  "IsModifiable": true,
  "MinimumEngineVersion": "5.0.0",
  "ChangeType": "immediate"
},
{
  "ParameterName": "lfu-decay-time",
  "ParameterValue": "1",
  "Description": "The amount of time in minutes to decrement the key counter for LFU eviction policy",
  "Source": "system",
  "DataType": "integer",
  "AllowedValues": "0-",
  "IsModifiable": true,
  "MinimumEngineVersion": "5.0.0",
  "ChangeType": "immediate"
},
{
  "ParameterName": "lfu-log-factor",
  "ParameterValue": "10",
  "Description": "The log factor for incrementing key counter for LFU eviction policy",
  "Source": "system",
  "DataType": "integer",
  "AllowedValues": "1-",
  "IsModifiable": true,
  "MinimumEngineVersion": "5.0.0",
  "ChangeType": "immediate"
},
{
  "ParameterName": "list-compress-depth",
  "ParameterValue": "0",
  "Description": "Number of quicklist ziplist nodes from each side of the list to exclude from compression. The head and tail of the list are always uncompressed for fast push/pop operations",}
"ParameterName": "list-max-ziplist-size",
"ParameterValue": ":-2",
"Description": "The number of entries allowed per internal list node can be specified as a fixed maximum size or a maximum number of elements",
"Source": "system",
"DataType": "integer",
"AllowedValues": "-5,-4,-3,-2,-1,1-",
"IsModifiable": false,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},

"ParameterName": "lua-replicate-commands",
"ParameterValue": "yes",
"Description": "Always enable Lua effect replication or not",
"Source": "system",
"DataType": "string",
"AllowedValues": "yes,no",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},

"ParameterName": "lua-time-limit",
"ParameterValue": "5000",
"Description": "Max execution time of a Lua script in milliseconds. 0 for unlimited execution without warnings.",
"Source": "system",
"DataType": "integer",
"AllowedValues": "5000",
"IsModifiable": false,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},

"ParameterName": "maxclients",
"ParameterValue": ":-1",
"Description": "The maximum number of concurrent connections to the Redis server. A negative value means to allow unbounded connections.",
"Source": "system",
"DataType": "integer",
"AllowedValues": "-1,1-",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
"ParameterValue": "65000",
"Description": "The maximum number of Redis clients.",
"Source": "system",
"DataType": "integer",
"AllowedValues": "1-65000",
"IsModifiable": false,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "requires-reboot"
},

{
  "ParameterName": "maxmemory-policy",
  "ParameterValue": "volatile-lru",
  "Description": "Max memory policy.",
  "Source": "system",
  "DataType": "string",
  "AllowedValues": "volatile-lru,allkeys-lru,volatile-lfu,allkeys-lfu,volatile-random,allkeys-random,volatile-ttl,noeviction",
  "IsModifiable": true,
  "MinimumEngineVersion": "5.0.0",
  "ChangeType": "immediate"
},

{
  "ParameterName": "maxmemory-samples",
  "ParameterValue": "3",
  "Description": "Max memory samples.",
  "Source": "system",
  "DataType": "integer",
  "AllowedValues": "1-",
  "IsModifiable": true,
  "MinimumEngineVersion": "5.0.0",
  "ChangeType": "immediate"
},

{
  "ParameterName": "min-replicas-max-lag",
  "ParameterValue": "10",
  "Description": "The maximum amount of replica lag in seconds beyond which the master would stop taking writes. A value of 0 means the master always takes writes.",
  "Source": "system",
  "DataType": "integer",
  "AllowedValues": "0-",
  "IsModifiable": true,
  "MinimumEngineVersion": "5.0.0",
  "ChangeType": "immediate"
"ParameterName": "min-replicas-to-write",
"ParameterValue": "0",
"Description": "The minimum number of replicas that must be present with lag no greater than min-replicas-max-lag for master to take writes. Setting this to 0 means the master always takes writes.",
"Source": "system",
"DataType": "integer",
"AllowedValues": "0-",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},

"ParameterName": "notify-keyspace-events",
"Description": "The keyspace events for Redis to notify Pub/Sub clients about. By default all notifications are disabled",
"Source": "system",
"DataType": "string",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},

"ParameterName": "proto-max-bulk-len",
"ParameterValue": "536870912",
"Description": "Max size of a single element request",
"Source": "system",
"DataType": "integer",
"AllowedValues": "1048576-536870912",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},

"ParameterName": "rename-commands",
"ParameterValue": "",
"Description": "Redis commands that can be dynamically renamed by the customer",
"Source": "system",
"DataType": "string",
"AllowedValues": "APPEND,BITCOUNT,BITFIELD,BITOP,BITPOS,BLPOP,BRPOP,BRPOPFLUSH,BZPOPMIN,BZPOPMAX,CLIENT,COM..."
"IsModifiable": true,
"MinimumEngineVersion": "5.0.3",
"ChangeType": "immediate"
},

{
  "ParameterName": "repl-backlog-size",
  "ParameterValue": "1048576",
  "Description": "The replication backlog size in bytes for PSYNC. This is the size of the buffer which accumulates slave data when slave is disconnected for some time, so that when slave reconnects again, only transfer the portion of data which the slave missed. Minimum value is 16K.",
  "Source": "system",
  "DataType": "integer",
  "AllowedValues": "16384-",
  "IsModifiable": true,
  "MinimumEngineVersion": "5.0.0",
  "ChangeType": "immediate"
},

{
  "ParameterName": "repl-backlog-ttl",
  "ParameterValue": "3600",
  "Description": "The amount of time in seconds after the master no longer have any slaves connected for the master to free the replication backlog. A value of 0 means to never release the backlog.",
  "Source": "system",
  "DataType": "integer",
  "AllowedValues": "0-",
  "IsModifiable": true,
  "MinimumEngineVersion": "5.0.0",
  "ChangeType": "immediate"
},

{
  "ParameterName": "replica-allow-chaining",
  "ParameterValue": "no",
  "Description": "Configures if chaining of replicas is allowed",
  "Source": "system",
  "DataType": "string",
  "AllowedValues": "yes,no",
  "IsModifiable": false,
  "MinimumEngineVersion": "5.0.0",
  "ChangeType": "immediate"
},

{
  "ParameterName": "replica-ignore-maxmemory",
  "ParameterValue": "false",
  "Description": "Configures if the replica should ignore the maxmemory setting of the master",
  "Source": "system",
  "DataType": "boolean",
  "AllowedValues": "true,false",
  "IsModifiable": true,
  "MinimumEngineVersion": "5.0.0",
  "ChangeType": "immediate"
}
"ParameterValue": "yes",
"Description": "Determines if replica ignores maxmemory setting by not evicting items independent from the master",
"Source": "system",
"DataType": "string",
"AllowedValues": "yes,no",
"IsModifiable": false,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
  "ParameterName": "replica-lazy-flush",
  "ParameterValue": "no",
  "Description": "Perform an asynchronous flushDB during replica sync",
  "Source": "system",
  "DataType": "string",
  "AllowedValues": "yes,no",
  "IsModifiable": false,
  "MinimumEngineVersion": "5.0.0",
  "ChangeType": "immediate"
},
{
  "ParameterName": "reserved-memory-percent",
  "ParameterValue": "25",
  "Description": "The percent of memory reserved for non-cache memory usage. You may want to increase this parameter for nodes with read replicas, AOF enabled, etc, to reduce swap usage."
  "Source": "system",
  "DataType": "integer",
  "AllowedValues": "0-100",
  "IsModifiable": true,
  "MinimumEngineVersion": "5.0.0",
  "ChangeType": "immediate"
},
{
  "ParameterName": "set-max-intset-entries",
  "ParameterValue": "512",
  "Description": "The limit in the size of the set in order for the dataset to be compressed."
  "Source": "system",
  "DataType": "integer",
  "AllowedValues": "0-",
  "IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
  "ParameterName": "slowlog-log-slower-than",
  "ParameterValue": "10000",
  "Description": "The execution time, in microseconds, to exceed in order for the command to get logged. Note that a negative number disables the slow log, while a value of zero forces the logging of every command."
},
{
  "ParameterName": "slowlog-max-len",
  "ParameterValue": "128",
  "Description": "The length of the slow log. There is no limit to this length. Just be aware that it will consume memory. You can reclaim memory used by the slow log with SLOWLOG RESET."
},
{
  "ParameterName": "stream-node-max-bytes",
  "ParameterValue": "4096",
  "Description": "The maximum size of a single node in a stream in bytes"
},
{
  "ParameterName": "stream-node-max-entries",
  "ParameterValue": "100"
}
"Description": "The maximum number of items a single node in a stream can contain",
"Source": "system",
"DataType": "integer",
"AllowedValues": "0-",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "tcp-keepalive",
"ParameterValue": "300",
"Description": "If non-zero, send ACKs every given number of seconds."
,
"Source": "system",
"DataType": "integer",
"AllowedValues": "0-",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "timeout",
"ParameterValue": "0",
"Description": "Close connection if client is idle for a given number of seconds, or never if 0."
,
"Source": "system",
"DataType": "integer",
"AllowedValues": "0,20-",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
},
{
"ParameterName": "zset-max-ziplist-entries",
"ParameterValue": "128",
"Description": "The maximum number of sorted set entries in order for the dataset to be compressed."
,
"Source": "system",
"DataType": "integer",
"AllowedValues": "0-",
"IsModifiable": true,
"MinimumEngineVersion": "5.0.0",
"ChangeType": "immediate"
For API details, see [DescribeEngineDefaultParameters](https://docs.aws.amazon.com/cli/latest/reference/elasticache/describe-engine-default-parameters.html) in *AWS CLI Command Reference*.

**describe-events**

The following code example shows how to use `describe-events`.

**AWS CLI**

**To describe events of a replication group**

The following `describe-events` example returns a list of events for a replication group.

```
aws elasticache describe-events \
  --source-identifier test-cluster \
  --source-type replication-group
```

**Output:**

```
{
  "Events": [
  {
    "SourceIdentifier": "test-cluster",
    "SourceType": "replication-group",
    "Message": "Automatic failover has been turned on for replication group test-cluster",
    "Date": "2020-03-18T23:51:34.457Z"
  }
  ]
}
```
For more information, see Monitoring Events in the Elasticache User Guide.

- For API details, see DescribeEvents in AWS CLI Command Reference.

**describe-global-replication-groups**

The following code example shows how to use describe-global-replication-groups.

**AWS CLI**

**To describe global replication groups**

The following describe-global-replication-groups example returns details of a Global datastore.

```
aws elasticache describe-global-replication-groups \
  --global-replication-group-id my-grg
```

Output:

```json
{
  "GlobalReplicationGroups": [
    {
      "GlobalReplicationGroupId": "my-grg",
      "GlobalReplicationGroupDescription": "my-grg",
      "Status": "creating",
      "CacheNodeType": "cache.r5.large",
      "Engine": "redis",
      "EngineVersion": "5.0.6",
      "ClusterEnabled": false,
      "AuthTokenEnabled": false,
      "TransitEncryptionEnabled": false,
      "AtRestEncryptionEnabled": false
    }
  ]
}
```
For more information, see [Replication Across AWS Regions Using Global Datastore](#) in the [Elasticache User Guide](#).

- For API details, see [DescribeGlobalReplicationGroups](#) in *AWS CLI Command Reference*.

### describe-replication-groups

The following code example shows how to use `describe-replication-groups`.

**AWS CLI**

**To return a list of replication group details**

The following `describe-replication-groups` example returns the replication groups.

```bash
aws elasticache describe-replication-groups
```

**Output:**

```json
{
   "ReplicationGroups": [
   {
      "ReplicationGroupId": "my-cluster",
      "Description": "mycluster",
      "Status": "available",
      "PendingModifiedValues": {},
      "MemberClusters": [
         "pat-cluster-001",
         "pat-cluster-002",
         "pat-cluster-003",
         "pat-cluster-004"
      ],
      "NodeGroups": [
         {
            "NodeGroupId": "0001",
            "Status": "available",
            "PrimaryEndpoint": {
               "Address": "my-cluster.xxxxih.ng.0001.usw2.cache.amazonaws.com",
            }
         }
      ]
   }
]}
```
"Port": 6379
},
"ReaderEndpoint": {
  "Address": "my-cluster-ro.xxxih.ng.0001.usw2.cache.amazonaws.com",
  "Port": 6379
},
"NodeGroupMembers": [
{
  "CacheClusterId": "my-cluster-001",
  "CacheNodeId": "0001",
  "ReadEndpoint": {
    "Address": "pat-cluster-001.xxxih.0001.usw2.cache.amazonaws.com",
    "Port": 6379
  },
  "PreferredAvailabilityZone": "us-west-2a",
  "CurrentRole": "primary"
},
{
  "CacheClusterId": "my-cluster-002",
  "CacheNodeId": "0001",
  "ReadEndpoint": {
    "Address": "pat-cluster-002.xxxih.0001.usw2.cache.amazonaws.com",
    "Port": 6379
  },
  "PreferredAvailabilityZone": "us-west-2a",
  "CurrentRole": "replica"
},
{
  "CacheClusterId": "my-cluster-003",
  "CacheNodeId": "0001",
  "ReadEndpoint": {
    "Address": "pat-cluster-003.xxxih.0001.usw2.cache.amazonaws.com",
    "Port": 6379
  },
  "PreferredAvailabilityZone": "us-west-2a",
  "CurrentRole": "replica"
},
{
  "CacheClusterId": "my-cluster-004",
  "CacheNodeId": "0001",
  "ReadEndpoint": {
    "Address": "pat-cluster-004.xxxih.0001.usw2.cache.amazonaws.com",
    "Port": 6379
  },
  "PreferredAvailabilityZone": "us-west-2a",
  "CurrentRole": "replica"}
For more information, see Managing Clusters in the Elasticache User Guide.

- For API details, see DescribeReplicationGroups in AWS CLI Command Reference.
**describe-reserved-cache-nodes**

The following code example shows how to use `describe-reserved-cache-nodes`.

**AWS CLI**

**To describe reserved cache nodes**

The following `describe-reserved-cache-nodes` example returns information about reserved cache nodes for this account, or about the specified reserved cache node.

```
aws elasticache describe-reserved-cache-nodes
```

**Output:**

```json
{
  "ReservedCacheNodes": [
    {
      "ReservedCacheNodeId": "mynode",
      "ReservedCacheNodesOfferingId": "xxxxxxxxx-xxxxx-xxxxx-xxxxx-xxxxxxx71",
      "CacheNodeType": "cache.t3.small",
      "StartTime": "2019-12-06T02:50:44.003Z",
      "Duration": 31536000,
      "FixedPrice": 0.0,
      "UsagePrice": 0.0,
      "CacheNodeCount": 1,
      "ProductDescription": "redis",
      "OfferingType": "No Upfront",
      "State": "payment-pending",
      "RecurringCharges": [
        {
          "RecurringChargeAmount": 0.023,
          "RecurringChargeFrequency": "Hourly"
        }
      ],
    }
  ]
}
```

For more information, see [Managing Costs with Reserved Nodes](https://docs.aws.amazon.com/elasticache/latest/mdb/user-guide/managing-costs-reserved-nodes.html) in the *Elasticache User Guide*.

- For API details, see [DescribeReservedCacheNodes](https://docs.aws.amazon.com/cli/latest/reference/elasticache/describe-reserved-cache-nodes.html) in *AWS CLI Command Reference*. 
describe-reserved-cache-nodes-offerings

The following code example shows how to use describe-reserved-cache-nodes-offerings.

AWS CLI

To describe reserved-cache-nodes-offerings

The following describe-reserved-cache-nodes-offerings example returns details of a reserved-cache-node options.

aws elasticache describe-reserved-cache-nodes-offerings

Output:

```json
{
    "ReservedCacheNodesOfferings": [
        {
            "ReservedCacheNodesOfferingId": "01ce0a19-a476-41cb-8aee-48eacbc8c8e5",
            "CacheNodeType": "cache.t3.small",
            "Duration": 31536000,
            "FixedPrice": 97.0,
            "UsagePrice": 0.0,
            "ProductDescription": "memcached",
            "OfferingType": "Partial Upfront",
            "RecurringCharges": [
                {
                    "RecurringChargeAmount": 0.011,
                    "RecurringChargeFrequency": "Hourly"
                }
            ]
        },
        {
            "ReservedCacheNodesOfferingId": "0443a27b-4da5-4b90-b92d-929fbd7abed2",
            "CacheNodeType": "cache.m3.2xlarge",
            "Duration": 31536000,
            "FixedPrice": 1772.0,
            "UsagePrice": 0.0,
            "ProductDescription": "redis",
            "OfferingType": "Heavy Utilization",
            "RecurringCharges": [
                {
                    "RecurringChargeAmount": 0.25,
                    "RecurringChargeFrequency": "Hourly"
                }
            ]
        }
    ]
}
```
"RecurringChargeFrequency": "Hourly"
}
]
},
...
]
}


- For API details, see DescribeReservedCacheNodesOfferings in AWS CLI Command Reference.

describe-service-updates

The following code example shows how to use describe-service-updates.

AWS CLI

To describe service updates

The following describe-service-updates example returns details about service updates.

aws elasticache describe-service-updates

Output:

{
    "ServiceUpdates": [
    {
        "ServiceUpdateName": "elc-xxxxxxxx7-001",
        "ServiceUpdateReleaseDate": "2019-10-09T16:00:00Z",
        "ServiceUpdateEndDate": "2020-02-09T15:59:59Z",
        "ServiceUpdateSeverity": "important",
        "ServiceUpdateRecommendedApplyByDate": "2019-11-08T15:59:59Z",
        "ServiceUpdateStatus": "available",
        "ServiceUpdateDescription": "Upgrades to improve the security, reliability, and operational performance of your ElastiCache nodes",
        "ServiceUpdateType": "security-update",
        "Engine": "redis, memcached",
    }
    ]
}
For API details, see DescribeServiceUpdates in AWS CLI Command Reference.

**describe-snapshots**

The following code example shows how to use describe-snapshots.

**AWS CLI**

To describe snapshots

The following "describe-snapshots" example returns information about your cluster or replication group snapshots.

```bash
aws elasticache describe-snapshots
```

Output:

```
{
    "Snapshots": [
```


```json
{
    "SnapshotName": "automatic.my-cluster2-002-2019-12-05-06-38",
    "CacheClusterId": "my-cluster2-002",
    "SnapshotStatus": "available",
    "SnapshotSource": "automated",
    "CacheNodeType": "cache.r5.large",
    "Engine": "redis",
    "EngineVersion": "5.0.5",
    "NumCacheNodes": 1,
    "PreferredAvailabilityZone": "us-west-2a",
    "CacheClusterCreateTime": "2019-11-26T01:22:52.396Z",
    "PreferredMaintenanceWindow": "mon:17:30-mon:18:30",
    "Port": 6379,
    "CacheParameterGroupName": "default.redis5.0",
    "CacheSubnetGroupName": "kxxkx",
    "VpcId": "vpc-a3e97cdb",
    "AutoMinorVersionUpgrade": true,
    "SnapshotRetentionLimit": 1,
    "SnapshotWindow": "06:30-07:30",
    "NodeSnapshots": [
        {
            "CacheNodeId": "0001",
            "CacheSize": "5 MB",
            "SnapshotCreateTime": "2019-12-05T06:38:23Z"
        }
    ],
},
{
    "SnapshotName": "myreplica-backup",
    "CacheClusterId": "myreplica",
    "SnapshotStatus": "available",
    "SnapshotSource": "manual",
    "CacheNodeType": "cache.r5.large",
    "Engine": "redis",
    "EngineVersion": "5.0.5",
    "NumCacheNodes": 1,
    "PreferredAvailabilityZone": "us-west-2a",
    "CacheClusterCreateTime": "2019-11-26T00:14:52.439Z",
    "PreferredMaintenanceWindow": "sat:10:00-sat:11:00",
    "Port": 6379,
    "CacheParameterGroupName": "default.redis5.0",
```

Actions and scenarios
"CacheSubnetGroupName": "kxkxk",
"VpcId": "vpc-a3e97cdb",
"AutoMinorVersionUpgrade": true,
"SnapshotRetentionLimit": 0,
"SnapshotWindow": "09:00-10:00",
"NodeSnapshots": [
  {
    "CacheNodeId": "0001",
    "CacheSize": "5 MB",
    "CacheNodeCreateTime": "2019-11-26T00:14:52.439Z",
    "SnapshotCreateTime": "2019-11-26T00:25:01Z"
  }
],
{
  "SnapshotName": "my-cluster",
  "CacheClusterId": "my-cluster-003",
  "SnapshotStatus": "available",
  "SnapshotSource": "manual",
  "CacheNodeType": "cache.r5.large",
  "Engine": "redis",
  "EngineVersion": "5.0.5",
  "NumCacheNodes": 1,
  "PreferredAvailabilityZone": "us-west-2a",
  "PreferredMaintenanceWindow": "sat:10:00-sat:11:00",
  "Port": 6379,
  "CacheParameterGroupName": "default.redis5.0",
  "CacheSubnetGroupName": "kxkxk",
  "VpcId": "vpc-a3e97cdb",
  "AutoMinorVersionUpgrade": true,
  "SnapshotRetentionLimit": 0,
  "SnapshotWindow": "09:00-10:00",
  "NodeSnapshots": [
    {
      "CacheNodeId": "0001",
      "CacheSize": "5 MB",
      "SnapshotCreateTime": "2019-11-26T03:08:33Z"
    }
  ]
}
For more information, see [Backup and Restore for ElastiCache for Redis](#) in the *Elasticache User Guide*.

- For API details, see [DescribeSnapshots](#) in *AWS CLI Command Reference*.

**describe-update-actions**

The following code example shows how to use `describe-update-actions`.

**AWS CLI**

**To describe update actions**

The following `describe-update-actions` example returns details of update actions.

```
aws elasticache describe-update-actions
```

**Output:**

```
{
    "UpdateActions": [
        {
            "ReplicationGroupId": "mycluster",
            "ServiceUpdateName": "elc-20191007-001",
            "ServiceUpdateReleaseDate": "2019-10-09T16:00:00Z",
            "ServiceUpdateSeverity": "important",
            "ServiceUpdateStatus": "available",
            "ServiceUpdateRecommendedApplyByDate": "2019-11-08T15:59:59Z",
            "ServiceUpdateType": "security-update",
            "UpdateActionAvailableDate": "2019-12-05T19:15:19.995Z",
            "UpdateActionStatus": "complete",
            "NodesUpdated": "9/9",
            "UpdateActionStatusModifiedDate": "2019-12-05T19:15:20.461Z",
            "SlaMet": "n/a",
            "Engine": "redis"
        },
        {
            "CacheClusterId": "my-memcached-cluster",
            "ServiceUpdateName": "elc-20191007-001",
            "ServiceUpdateReleaseDate": "2019-10-09T16:00:00Z",
            "ServiceUpdateSeverity": "important",
```
"ServiceUpdateStatus": "available",
"ServiceUpdateRecommendedApplyByDate": "2019-11-08T15:59:59Z",
"ServiceUpdateType": "security-update",
"UpdateActionAvailableDate": "2019-12-04T18:26:05.349Z",
"UpdateActionStatus": "complete",
"NodesUpdated": "1/1",
"UpdateActionStatusModifiedDate": "2019-12-04T18:26:05.352Z",
"SlaMet": "n/a",
"Engine": "redis"
}
{
  "ReplicationGroupId": "my-cluster",
  "ServiceUpdateName": "elc-20191007-001",
  "ServiceUpdateReleaseDate": "2019-10-09T16:00:00Z",
  "ServiceUpdateSeverity": "important",
  "ServiceUpdateStatus": "available",
  "ServiceUpdateRecommendedApplyByDate": "2019-11-08T15:59:59Z",
  "ServiceUpdateType": "security-update",
  "UpdateActionAvailableDate": "2019-11-26T03:36:26.320Z",
  "UpdateActionStatus": "complete",
  "NodesUpdated": "4/4",
  "UpdateActionStatusModifiedDate": "2019-12-04T22:11:12.664Z",
  "SlaMet": "n/a",
  "Engine": "redis"
}
{
  "ReplicationGroupId": "my-cluster2",
  "ServiceUpdateName": "elc-20191007-001",
  "ServiceUpdateReleaseDate": "2019-10-09T16:00:00Z",
  "ServiceUpdateSeverity": "important",
  "ServiceUpdateStatus": "available",
  "ServiceUpdateRecommendedApplyByDate": "2019-11-08T15:59:59Z",
  "ServiceUpdateType": "security-update",
  "UpdateActionAvailableDate": "2019-11-26T01:26:01.617Z",
  "UpdateActionStatus": "complete",
  "NodesUpdated": "3/3",
  "UpdateActionStatusModifiedDate": "2019-11-26T01:26:01.753Z",
  "SlaMet": "n/a",
  "Engine": "redis"
}
]
For more information, see [Self-Service Updates in Amazon ElastiCache](https://aws.amazon.com/documentation/elasticache/) in the *Elasticache User Guide*.

- For API details, see [DescribeUpdateActions](https://aws.amazon.com/documentation/elasticache/) in *AWS CLI Command Reference*.

**describe-user-groups**

The following code example shows how to use `describe-user-groups`.

**AWS CLI**

**To describe user-groups**

The following `describe-user-groups` example returns a list of user groups.

```
aws elasticache describe-user-groups
```

**Output:**

```
{
   "UserGroups": [
      {
         "UserGroupId": "myusergroup",
         "Status": "active",
         "Engine": "redis",
         "UserIds": [
            "default"
         ],
         "ReplicationGroups": [],
      }
   ]
}
```

For more information, see [Authenticating Users with Role-Based Access Control (RBAC)](https://aws.amazon.com/documentation/elasticache/) in the *Elasticache User Guide*.

- For API details, see [DescribeUserGroups](https://aws.amazon.com/documentation/elasticache/) in *AWS CLI Command Reference*. 

---

Actions and scenarios
**describe-users**

The following code example shows how to use describe-users.

**AWS CLI**

**To describe users**

The following describe-users example returns a list of users.

```
aws elasticache describe-users
```

**Output:**

```json
{
    "Users": [
        {
            "UserId": "default",
            "UserName": "default",
            "Status": "active",
            "Engine": "redis",
            "AccessString": "on ~* +@all",
            "UserGroupIds": [
                "myusergroup"
            ],
            "Authentication": {
                "Type": "no-password"
            },
            "ARN": "arn:aws:elasticache:us-west-2:xxxxxxxxxx52:user:default"
        },
        {
            "UserId": "user1",
            "UserName": "myUser",
            "Status": "active",
            "Engine": "redis",
            "AccessString": "on ~* +@all",
            "UserGroupIds": [],
            "Authentication": {
                "Type": "password",
                "PasswordCount": 1
            },
            "ARN": "arn:aws:elasticache:us-west-2:xxxxxxxxxx52:user:user1"
        }
    ]
}
```
For more information, see Authenticating Users with Role-Based Access Control (RBAC) in the Elasticache User Guide.

- For API details, see DescribeUsers in AWS CLI Command Reference.

disassociate-global-replication-group

The following code example shows how to use disassociate-global-replication-group.

AWS CLI

To diassociate a secondary cluster from a global replication group

The following disassociate-global-replication-group example removes a secondary cluster from a Global datastore

```bash
aws elasticache disassociate-global-replication-group \
   --global-replication-group-id my-grg \
   --replication-group-id my-cluster-grg-secondary \
   --replication-group-region us-east-1
```

Output:

```json
{

}
```
"GlobalReplicationGroup": {
    "GlobalReplicationGroupId": "my-grg",
    "GlobalReplicationGroupDescription": "my-grg",
    "Status": "modifying",
    "CacheNodeType": "cache.r5.large",
    "Engine": "redis",
    "EngineVersion": "5.0.6",
    "Members": [
        {
            "ReplicationGroupId": "my-cluster-grg-secondary",
            "ReplicationGroupRegion": "us-east-1",
            "Role": "SECONDARY",
            "AutomaticFailover": "enabled",
            "Status": "associated"
        },
        {
            "ReplicationGroupId": "my-cluster-grg",
            "ReplicationGroupRegion": "us-west-2",
            "Role": "PRIMARY",
            "AutomaticFailover": "enabled",
            "Status": "associated"
        }
    ],
    "ClusterEnabled": false,
    "AuthTokenEnabled": false,
    "TransitEncryptionEnabled": false,
    "AtRestEncryptionEnabled": false
}

For more information, see [Replication Across AWS Regions Using Global Datastore](https://docs.aws.amazon.com/elasticache/latest/userguide/replication-across-regions.html) in the [Elasticache User Guide](https://docs.aws.amazon.com/elasticache/latest/userguide/).


### increase-node-groups-in-global-replication-group

The following code example shows how to use `increase-node-groups-in-global-replication-group`.

**AWS CLI**

To increase the number of node groups in a global replication group.
The following `increase-node-groups-in-global-replication-group` increases the node group count using the Redis engine.

```
aws elasticache increase-node-groups-in-global-replication-group \
   --global-replication-group-id sgaui-pat-test-4 \
   --node-group-count 6 \
   --apply-immediately
```

Output:

```
{
   "GlobalReplicationGroupId": "sgaui-test-4",
   "GlobalReplicationGroupDescription": "test-4",
   "Status": "modifying",
   "CacheNodeType": "cache.r5.large",
   "Engine": "redis",
   "EngineVersion": "5.0.6",
   "Members": [
      {
         "ReplicationGroupId": "my-cluster-b",
         "ReplicationGroupRegion": "us-east-1",
         "Role": "SECONDARY",
         "AutomaticFailover": "enabled",
         "Status": "associated"
      },
      {
         "ReplicationGroupId": "my-cluster-a",
         "ReplicationGroupRegion": "us-west-2",
         "Role": "PRIMARY",
         "AutomaticFailover": "enabled",
         "Status": "associated"
      }
   ],
   "ClusterEnabled": true,
   "GlobalNodeGroups": [
      {
         "GlobalNodeGroupId": "sgaui-test-4-0001",
         "Slots": "0-234,2420-5461"
      },
      {
         "GlobalNodeGroupId": "sgaui-test-4-0002",
         "Slots": "5462-5904,6997-9830"
      }
   ]
}
```
For more information, see [Replication Across AWS Regions Using Global Datastore](#) in the Elasticache User Guide.

- For API details, see [IncreaseNodeGroupsInGlobalReplicationGroup](#) in [AWS CLI Command Reference](#).

increase-replica-count

The following code example shows how to use `increase-replica-count`.

**AWS CLI**

To increase replica count

The following `increase-replica-count` example does one of two things. It can dynamically increase the number of replicas in a Redis (cluster mode disabled) replication group. Or it can dynamically increase the number of replica nodes in one or more node groups (shards) of a Redis (cluster mode enabled) replication group. This operation is performed with no cluster downtime.

```
aws elasticache increase-replica-count \
   --replication-group-id "my-cluster"
```
--apply-immediately \
--new-replica-count 3

Output:

```json
{
  "ReplicationGroup": {
    "ReplicationGroupId": "my-cluster",
    "Description": "",
    "Status": "modifying",
    "PendingModifiedValues": {},
    "MemberClusters": [
      "my-cluster-001",
      "my-cluster-002",
      "my-cluster-003",
      "my-cluster-004"
    ],
    "NodeGroups": [
      {
        "NodeGroupId": "0001",
        "Status": "modifying",
        "PrimaryEndpoint": {
          "Address": "my-cluster.xxxxxih.ng.0001.usw2.cache.amazonaws.com",
          "Port": 6379
        },
        "ReaderEndpoint": {
          "Address": "my-cluster-ro.xxxxxxih.ng.0001.usw2.cache.amazonaws.com",
          "Port": 6379
        },
        "NodeGroupMembers": [
          {
            "CacheClusterId": "my-cluster-001",
            "CacheNodeId": "0001",
            "ReadEndpoint": {
              "Address": "my-cluster-001.xxxxxih.0001.usw2.cache.amazonaws.com",
              "Port": 6379
            },
            "PreferredAvailabilityZone": "us-west-2a",
            "CurrentRole": "primary"
          }
        ]
      }
    ]
  }
}```
For more information, see [Increasing the Number of Replicas in a Shard](#) in the Elasticache User Guide.

- For API details, see [IncreaseReplicaCount](#) in AWS CLI Command Reference.

### list-allowed-node-type-modifications

The following code example shows how to use `list-allowed-node-type-modifications`.

**AWS CLI**

**To list the allowed node modifications**

The following `list-allowed-node-type-modifications` example lists all the available node types that you can scale your Redis cluster's or replication group's current node type to.

```
aws elasticache list-allowed-node-type-modifications \
   --replication-group-id "my-replication-group"
```
Output:

```json
{
  "ScaleUpModifications": [
    "cache.m5.12xlarge",
    "cache.m5.24xlarge",
    "cache.m5.4xlarge",
    "cache.r5.12xlarge",
    "cache.r5.24xlarge",
    "cache.r5.2xlarge",
    "cache.r5.4xlarge"
  ],
  "ScaleDownModifications": [
    "cache.m3.large",
    "cache.m3.medium",
    "cache.m3.xlarge",
    "cache.m4.large",
    "cache.m4.xlarge",
    "cache.m5.2xlarge",
    "cache.m5.large",
    "cache.m5.xlarge",
    "cache.r3.large",
    "cache.r4.large",
    "cache.r4.xlarge",
    "cache.r5.large",
    "cache.t2.medium",
    "cache.t2.micro",
    "cache.t2.small",
    "cache.t3.medium",
    "cache.t3.micro",
    "cache.t3.small"
  ]
}
```

For more information, see Scaling ElastiCache for Redis Clusters in the Elasticache User Guide.

- For API details, see ListAllowedNodeTypeModifications in AWS CLI Command Reference.

**list-tags-for-resource**

The following code example shows how to use list-tags-for-resource.
AWS CLI

To list tags for a resource

The following list-tags-for-resource example lists tags for a resource.

```bash
aws elasticache list-tags-for-resource \
   --resource-name "arn:aws:elasticache:us-east-1:123456789012:cluster:my-cluster"
```

Output:

```json
{
   "TagList": [
      {
         "Key": "Project",
         "Value": "querySpeedUp"
      },
      {
         "Key": "Environment",
         "Value": "PROD"
      }
   ]
}
```

For more information, see Listing Tags Using the AWS CLI in the Elasticache User Guide.  
- For API details, see ListTagsForResource in AWS CLI Command Reference.

modify-cache-cluster

The following code example shows how to use modify-cache-cluster.

AWS CLI

To modify cache clusters

The following modify-cache-cluster example modifies the settings for the specified cluster.

```bash
aws elasticache modify-cache-cluster \
   --cache-cluster-id "my-cluster" \
   --num-cache-nodes 1
```

Output:
For more information, see Modifying an ElastiCache Cluster in the Elasticache User Guide.

- For API details, see ModifyCacheCluster in AWS CLI Command Reference.

modify-cache-parameter-group

The following code example shows how to use modify-cache-parameter-group.

AWS CLI

To modify a cache parameter group

The following modify-cache-parameter-group example modifies the parameters of the specified cache parameter group.
aws elasticache modify-cache-parameter-group \
   --cache-parameter-group-name "mygroup" \
   --parameter-name-values "ParameterName=activedefrag, ParameterValue=no"

Output:

```json
{
   "CacheParameterGroupName": "mygroup"
}
```

For more information, see Modifying a Parameter Group in the Elasticache User Guide.  
- For API details, see ModifyCacheParameterGroup in AWS CLI Command Reference.

**modify-cache-subnet-group**

The following code example shows how to use modify-cache-subnet-group.

**AWS CLI**

**To modify a cache subnet group**

The following modify-cache-subnet-group example modifies the specified cache subnet group.

aws elasticache modify-cache-subnet-group \
   --cache-subnet-group-name kxxk \
   --cache-subnet-group-description "mygroup"

Output:

```json
{
   "CacheSubnetGroup": {
      "CacheSubnetGroupName": "kxxk",
      "CacheSubnetGroupDescription": "mygroup",
      "VpcId": "vpc-xxxxcdb",
      "Subnets": [
         {
            "SubnetIdentifier": "subnet-xxxxbff",
            "SubnetAvailabilityZone": {
               "Name": "us-west-2a"
            }
         }
      ]
   }
}
```
modify-global-replication-group

The following code example shows how to use modify-global-replication-group.

AWS CLI

To modify a global replication group

The following modify-global-replication-group modifies the properties of a global replication group, in this case disabling automatic failover, using the Redis engine.

```
aws elasticache modify-global-replication-group \
  --global-replication-group-id sgaui-pat-group \
  --apply-immediately \
  --no-automatic-failover-enabled
```

Output

```
{
  "GlobalReplicationGroup": {
    "GlobalReplicationGroupId": "sgaui-test-group",
    "GlobalReplicationGroupDescription": " ",
    "Status": "modifying",
    "CacheNodeType": "cache.r5.large",
    "Engine": "redis",
    "EngineVersion": "5.0.6",
    "ClusterEnabled": false,
    "AuthTokenEnabled": false,
    "TransitEncryptionEnabled": false,
    "AtRestEncryptionEnabled": false
  }
}
```
For more information, see Replication Across AWS Regions Using Global Datastore in the Elasticache User Guide.

- For API details, see ModifyGlobalReplicationGroup in AWS CLI Command Reference.

modify-replication-group

The following code example shows how to use modify-replication-group.

AWS CLI

To modify a replication group

The following modify-replication-group disables Multi-AZ using the Redis engine.

```
aws elasticache modify-replication-group \\
    --replication-group-id test-cluster \\
    --no-multi-az-enabled \\
    --apply-immediately
```

Output

```
{
    "ReplicationGroup": {
        "ReplicationGroupId": "test-cluster",
        "Description": "test-cluster",
        "GlobalReplicationGroupInfo": {
            "GlobalReplicationGroupId": "sgaui-pat-group",
            "GlobalReplicationGroupMemberRole": "PRIMARY"
        },
        "Status": "available",
        "PendingModifiedValues": {},
        "MemberClusters": [
            "test-cluster-001",
            "test-cluster-002",
            "test-cluster-003"
        ],
        "NodeGroups": [
            {
                "NodeGroupId": "0001",
                "Status": "available",
                "PrimaryEndpoint": {
```
"Address": "test-cluster.g2xbih.ng.0001.usw2.cache.amazonaws.com",
  "Port": 6379
},
  "ReaderEndpoint": {
    "Address": "test-cluster-ro.g2xbih.ng.0001.usw2.cache.amazonaws.com",
    "Port": 6379
  },
  "NodeGroupMembers": [
    {
      "CacheClusterId": "test-cluster-001",
      "CacheNodeId": "0001",
      "ReadEndpoint": {
        "Address": "test-cluster-001.g2xbih.0001.usw2.cache.amazonaws.com",
        "Port": 6379
      },
      "PreferredAvailabilityZone": "us-west-2c",
      "CurrentRole": "primary"
    },
    {
      "CacheClusterId": "test-cluster-002",
      "CacheNodeId": "0001",
      "ReadEndpoint": {
        "Address": "test-cluster-002.g2xbih.0001.usw2.cache.amazonaws.com",
        "Port": 6379
      },
      "PreferredAvailabilityZone": "us-west-2b",
      "CurrentRole": "replica"
    },
    {
      "CacheClusterId": "test-cluster-003",
      "CacheNodeId": "0001",
      "ReadEndpoint": {
        "Address": "test-cluster-003.g2xbih.0001.usw2.cache.amazonaws.com",
        "Port": 6379
      },
      "PreferredAvailabilityZone": "us-west-2a",
      "CurrentRole": "replica"
    }
  ]
For more information, see Modifying a Replication Group in the Elasticache User Guide.

- For API details, see ModifyReplicationGroup in AWS CLI Command Reference.

modify-replication-group-shard-configuration

The following code example shows how to use modify-replication-group-shard-configuration.

AWS CLI

To modify a replication group shard configuration

The following modify-replication-group-shard-configuration decreases the node group count using the Redis engine.

```bash
aws elasticache modify-replication-group-shard-configuration \
    --replication-group-id mycluster \
    --node-group-count 3 \
    --apply-immediately \
    --node-groups-to-remove 0002
```

Output

```json
{
    "ReplicationGroup": {
        "ReplicationGroupId": "mycluster",
        "Description": "mycluster",
        "GlobalReplicationGroupInfo": {},
        "SnapshottingClusterId": "test-cluster-002",
        "AutomaticFailover": "enabled",
        "MultiAZ": "disabled",
        "SnapshotRetentionLimit": 1,
        "SnapshotWindow": "08:00-09:00",
        "ClusterEnabled": false,
        "CacheNodeType": "cache.r5.large",
        "TransitEncryptionEnabled": false,
        "AtRestEncryptionEnabled": false
    }
}
```
"Status": "modifying",
"PendingModifiedValues": {},
"MemberClusters": [
  "mycluster-0002-001",
  "mycluster-0002-002",
  "mycluster-0002-003",
  "mycluster-0003-001",
  "mycluster-0003-002",
  "mycluster-0003-003",
  "mycluster-0003-004",
  "mycluster-0004-001",
  "mycluster-0004-002",
  "mycluster-0004-003",
  "mycluster-0005-001",
  "mycluster-0005-002",
  "mycluster-0005-003"
],
"NodeGroups": [
  {
    "NodeGroupId": "0002",
    "Status": "modifying",
    "Slots": "894-1767,3134-4443,5149-5461,6827-7332,12570-13662",
    "NodeGroupMembers": [
      {
        "CacheClusterId": "mycluster-0002-001",
        "CacheNodeId": "0001",
        "PreferredAvailabilityZone": "us-west-2c"
      },
      {
        "CacheClusterId": "mycluster-0002-002",
        "CacheNodeId": "0001",
        "PreferredAvailabilityZone": "us-west-2a"
      },
      {
        "CacheClusterId": "mycluster-0002-003",
        "CacheNodeId": "0001",
        "PreferredAvailabilityZone": "us-west-2b"
      }
    ]
  },
  {
    "NodeGroupId": "0003",
    "Status": "modifying",
    "NodeGroupMembers": [
      {
        "CacheClusterId": "mycluster-0003-001",
        "CacheNodeId": "0001",
        "PreferredAvailabilityZone": "us-west-2c"
      },
      {
        "CacheClusterId": "mycluster-0003-002",
        "CacheNodeId": "0001",
        "PreferredAvailabilityZone": "us-west-2a"
      },
      {
        "CacheClusterId": "mycluster-0003-003",
        "CacheNodeId": "0001",
        "PreferredAvailabilityZone": "us-west-2b"
      }
    ]
  }
]
"Slots": "0-324,5462-5692,6784-6826,7698-8191,10923-11075,12441-12569,13663-16383", 
"NodeGroupMembers": [
  {
    "CacheClusterId": "mycluster-0003-001",
    "CacheNodeId": "0001",
    "PreferredAvailabilityZone": "us-west-2c"
  },
  {
    "CacheClusterId": "mycluster-0003-002",
    "CacheNodeId": "0001",
    "PreferredAvailabilityZone": "us-west-2b"
  },
  {
    "CacheClusterId": "mycluster-0003-003",
    "CacheNodeId": "0001",
    "PreferredAvailabilityZone": "us-west-2a"
  },
  {
    "CacheClusterId": "mycluster-0003-004",
    "CacheNodeId": "0001",
    "PreferredAvailabilityZone": "us-west-2c"
  }
],
{
"NodeGroupId": "0004",
"Status": "modifying",
"Slots": "325-336,4706-5148,7333-7697,9012-10922,11076-12440",
"NodeGroupMembers": [
  {
    "CacheClusterId": "mycluster-0004-001",
    "CacheNodeId": "0001",
    "PreferredAvailabilityZone": "us-west-2b"
  },
  {
    "CacheClusterId": "mycluster-0004-002",
    "CacheNodeId": "0001",
    "PreferredAvailabilityZone": "us-west-2a"
  },
  {
    "CacheClusterId": "mycluster-0004-003",
    "CacheNodeId": "0001",
    "PreferredAvailabilityZone": "us-west-2c"
  }
]
For more information, see Scaling ElastiCache for Redis Clusters in the Elasticache User Guide.
modify-user

The following code example shows how to use modify-user.

AWS CLI

To modify a user

The following modify-user example modifies a user's access string.

```bash
aws elasticache modify-user \
  --user-id user2 \
  --append-access-string "on ~* +@all"
```

Output:

```json
{
  "UserId": "user2",
  "UserName": "myUser",
  "Status": "modifying",
  "Engine": "redis",
  "AccessString": "on ~* +@all",
  "UserGroupIds": [],
  "Authentication": {
    "Type": "password",
    "PasswordCount": 1
  },
  "ARN": "arn:aws:elasticache:us-west-2:xxxxxxxxxx52:user:user2"
}
```

For more information, see Authenticating Users with Role-Based Access Control (RBAC) in the Elasticache User Guide.

- For API details, see ModifyUser in AWS CLI Command Reference.

modify-user-group

The following code example shows how to use modify-user-group.
AWS CLI

To modify a user group

The following modify-user-group example adds a user to the user group.

```
aws elasticache modify-user-group \\
   --user-group-id myusergroup \\
   --user-ids-to-add user1
```

Output:

```
{
   "UserGroupId": "myusergroup",
   "Status": "modifying",
   "Engine": "redis",
   "UserIds": [
      "default"
   ],
   "PendingChanges": {
      "UserIdsToAdd": [
         "user1"
      ]
   },
   "ReplicationGroups": [],
}
```

For more information, see [Authenticating Users with Role-Based Access Control (RBAC)](https://docs.aws.amazon.com/elasticache/latest/mdb/user-guide/rbac-authentication.html) in the [Elasticache User Guide](https://docs.aws.amazon.com/elasticache/latest/mdb/user-guide/).  


purchase-reserved-cache-nodes-offering

The following code example shows how to use purchase-reserved-cache-nodes-offering.

AWS CLI

To purchase a reserved-cache-node-offering

The following purchase-reserved-cache-nodes-offering example allows you to purchase a reserved cache node offering.
aws elasticache purchase-reserved-cache-nodes-offering \
   --reserved-cache-nodes-offering-id xxxxxxxx-4da5-4b90-b92d-929fbd7abed2

Output

```
{
   "ReservedCacheNode": {
      "ReservedCacheNodeId": "ri-2020-06-30-17-59-40-474",
      "ReservedCacheNodesOfferingId": "xxxxxxxxx-4da5-4b90-b92d-929fbd7abed2",
      "CacheNodeType": "cache.m3.2xlarge",
      "StartTime": "2020-06-30T17:59:40.474000+00:00",
      "Duration": 31536000,
      "FixedPrice": 1772.0,
      "UsagePrice": 0.0,
      "CacheNodeCount": 1,
      "ProductDescription": "redis",
      "OfferingType": "Heavy Utilization",
      "State": "payment-pending",
      "RecurringCharges": [
         {
            "RecurringChargeAmount": 0.25,
            "RecurringChargeFrequency": "Hourly"
         }
      ]
   }
}
```


**reboot-cache-cluster**

The following code example shows how to use `reboot-cache-cluster`.

**AWS CLI**

To reboot a cache cluster
The following `reboot-cache-cluster` example reboots some, or all, of the cache nodes within a provisioned cluster. This operation applies any modified cache parameter groups to the cluster. The reboot operation takes place as soon as possible, and results in a momentary outage to the cluster. During the reboot, the cluster status is set to REBOOTING.

```
aws elasticache reboot-cache-cluster \
   --cache-cluster-id "my-cluster-001" \
   --cache-node-ids-to-reboot "0001"
```

Output:

```
{
   "CacheCluster": {
      "CacheClusterId": "my-cluster-001",
      "ClientDownloadLandingPage": "https://console.aws.amazon.com/elasticache/home#client-download:",
      "CacheNodeType": "cache.r5.xlarge",
      "Engine": "redis",
      "EngineVersion": "5.0.5",
      "CacheClusterStatus": "rebooting cache cluster nodes",
      "NumCacheNodes": 1,
      "PreferredAvailabilityZone": "us-west-2a",
      "CacheClusterCreateTime": "2019-11-26T03:35:04.546Z",
      "PreferredMaintenanceWindow": "mon:04:05-mon:05:05",
      "PendingModifiedValues": {},
      "NotificationConfiguration": {
         "TopicStatus": "active"
      },
      "CacheSecurityGroups": [],
      "CacheParameterGroup": {
         "CacheParameterGroupName": "mygroup",
         "ParameterApplyStatus": "in-sync",
         "CacheNodeIdsToReboot": []
      },
      "CacheSubnetGroupName": "kxxk",
      "AutoMinorVersionUpgrade": true,
      "SecurityGroups": [
         {
            "SecurityGroupId": "sg-xxxxxxxxxxxxx836",
            "Status": "active"
         }
      ]
   }
}
```

- For API details, see RebootCacheCluster in AWS CLI Command Reference.

**reset-cache-parameter-group**

The following code example shows how to use reset-cache-parameter-group.

**AWS CLI**

**To reset a cache parameter group**

The following reset-cache-parameter-group example modifies the parameters of a cache parameter group to the engine or system default value. You can reset specific parameters by submitting a list of parameter names. To reset the entire cache parameter group, specify the --reset-all-parameters and --cache-parameter-group-name parameters.

```
aws elasticache reset-cache-parameter-group \
    --cache-parameter-group-name "mygroup" \
    --reset-all-parameters
```

Output:

```
{
    "CacheParameterGroupName": "mygroup"
}
```

- For API details, see ResetCacheParameterGroup in AWS CLI Command Reference.
**start-migration**

The following code example shows how to use **start-migration**.

**AWS CLI**

**To start a migration**

The following **start-migration** migrates your data from self-hosted Redis on Amazon EC2 to Amazon ElastiCache, using the Redis engine.

```bash
aws elasticache start-migration \
  --replication-group-id test \
  --customer-node-endpoint-list \
  "Address='test.g2xbih.ng.0001.usw2.cache.amazonaws.com',Port=6379"
```

**Output**

```
{
  "ReplicationGroup": {
    "ReplicationGroupId": "test",
    "Description": "test",
    "GlobalReplicationGroupId": {},
    "Status": "modifying",
    "PendingModifiedValues": {},
    "MemberClusters": [
      "test-001",
      "test-002",
      "test-003"
    ],
    "NodeGroups": [
      {
        "NodeGroupId": "0001",
        "Status": "available",
        "PrimaryEndpoint": {
          "Address": "test.g2xbih.ng.0001.usw2.cache.amazonaws.com",
          "Port": 6379
        },
        "ReaderEndpoint": {
          "Address": "test-ro.g2xbih.ng.0001.usw2.cache.amazonaws.com",
          "Port": 6379
        },
        "NodeGroupMembers": [
```
```json
{
    "CacheClusterId": "test-001",
    "CacheNodeId": "0001",
    "ReadEndpoint": {
        "Address": "test-001.g2xbih.0001.usw2.cache.amazonaws.com",
        "Port": 6379
    },
    "PreferredAvailabilityZone": "us-west-2a",
    "CurrentRole": "primary"
},
{
    "CacheClusterId": "test-002",
    "CacheNodeId": "0001",
    "ReadEndpoint": {
        "Address": "test-002.g2xbih.0001.usw2.cache.amazonaws.com",
        "Port": 6379
    },
    "PreferredAvailabilityZone": "us-west-2c",
    "CurrentRole": "replica"
},
{
    "CacheClusterId": "test-003",
    "CacheNodeId": "0001",
    "ReadEndpoint": {
        "Address": "test-003.g2xbih.0001.usw2.cache.amazonaws.com",
        "Port": 6379
    },
    "PreferredAvailabilityZone": "us-west-2b",
    "CurrentRole": "replica"
}
}```
"AtRestEncryptionEnabled": false
}
}

For more information, see Online Migration to ElastiCache in the Elasticache User Guide.

- For API details, see StartMigration in AWS CLI Command Reference.

test-failover

The following code example shows how to use test-failover.

AWS CLI

To test failover of a node group

The following test-failover example tests automatic failover on the specified node group (called a shard in the console) in a replication group (called a cluster in the console).

```
aws elasticache test-failover /
   --replication-group-id "mycluster" /
   --node-group-id "0001"
```

Output:

```
{
   "ReplicationGroup": {
      "ReplicationGroupId": "mycluster",
      "Description": "My Cluster",
      "Status": "available",
      "PendingModifiedValues": {},
      "MemberClusters": [
         "mycluster-0001-001",
         "mycluster-0001-002",
         "mycluster-0001-003",
         "mycluster-0002-001",
         "mycluster-0002-002",
         "mycluster-0002-003",
         "mycluster-0003-001",
         "mycluster-0003-002",
         "mycluster-0003-003"
      ],
      "NodeGroups": [
```
{
  "NodeGroupId": "0001",
  "Status": "available",
  "Slots": "0-5461",
  "NodeGroupMembers": [
    {
      "CacheClusterId": "mycluster-0001-001",
      "CacheNodeId": "0001",
      "PreferredAvailabilityZone": "us-west-2b"
    },
    {
      "CacheClusterId": "mycluster-0001-002",
      "CacheNodeId": "0001",
      "PreferredAvailabilityZone": "us-west-2a"
    },
    {
      "CacheClusterId": "mycluster-0001-003",
      "CacheNodeId": "0001",
      "PreferredAvailabilityZone": "us-west-2c"
    }
  ],
  {
    "NodeGroupId": "0002",
    "Status": "available",
    "Slots": "5462-10922",
    "NodeGroupMembers": [
      {
        "CacheClusterId": "mycluster-0002-001",
        "CacheNodeId": "0001",
        "PreferredAvailabilityZone": "us-west-2a"
      },
      {
        "CacheClusterId": "mycluster-0002-002",
        "CacheNodeId": "0001",
        "PreferredAvailabilityZone": "us-west-2b"
      },
      {
        "CacheClusterId": "mycluster-0002-003",
        "CacheNodeId": "0001",
        "PreferredAvailabilityZone": "us-west-2c"
      }
    ]
  }
}
For API details, see TestFailover in AWS CLI Command Reference.

MediaStore examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with MediaStore.
**Actions** are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

**Scenarios** are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**
- **Actions**

**Actions**

**create-container**

The following code example shows how to use create-container.

**AWS CLI**

**To create a container**

The following `create-container` example creates a new, empty container.

```bash
aws mediastore create-container --container-name ExampleContainer
```

Output:

```json
{
   "Container": {
       "AccessLoggingEnabled": false,
       "CreationTime": 1563557265,
       "Name": "ExampleContainer",
       "Status": "CREATING",
   }
}
```

For more information, see [Creating a Container](#) in the *AWS Elemental MediaStore User Guide*. 
For API details, see CreateContainer in AWS CLI Command Reference.

**delete-container**

The following code example shows how to use delete-container.

**AWS CLI**

**To delete a container**

The following delete-container example deletes the specified container. You can delete a container only if it has no objects.

```bash
aws mediastore delete-container \\   --container-name=ExampleLiveDemo
```

This command produces no output.

For more information, see Deleting a Container in the AWS Elemental MediaStore User Guide.

- For API details, see DeleteContainer in AWS CLI Command Reference.

**delete-container-policy**

The following code example shows how to use delete-container-policy.

**AWS CLI**

**To delete a container policy**

The following delete-container-policy example deletes the policy that is assigned to the specified container. When the policy is deleted, AWS Elemental MediaStore automatically assigns the default policy to the container.

```bash
aws mediastore delete-container-policy \\   --container-name LiveEvents
```

This command produces no output.

For more information, see DeleteContainerPolicy in the AWS Elemental MediaStore API reference.
delete-cors-policy

The following code example shows how to use delete-cors-policy.

AWS CLI

To delete a CORS policy

The following delete-cors-policy example deletes the cross-origin resource sharing (CORS) policy that is assigned to the specified container.

```
aws mediastore delete-cors-policy \
   --container-name ExampleContainer
```

This command produces no output.

For more information, see Deleting a CORS Policy in the AWS Elemental MediaStore User Guide.

• For API details, see DeleteCorsPolicy in AWS CLI Command Reference.

delete-lifecycle-policy

The following code example shows how to use delete-lifecycle-policy.

AWS CLI

To delete an object lifecycle policy

The following delete-lifecycle-policy example deletes the object lifecycle policy attached to the specified container. This change can take up to 20 minutes to take effect.

```
aws mediastore delete-lifecycle-policy \
   --container-name LiveEvents
```

This command produces no output.

For more information, see Deleting an Object Lifecycle Policy in the AWS Elemental MediaStore User Guide.

• For API details, see DeleteLifecyclePolicy in AWS CLI Command Reference.
describe-container

The following code example shows how to use describe-container.

AWS CLI

To view the details of a container

The following describe-container example displays the details of the specified container.

```
aws mediastore describe-container \
   --container-name ExampleContainer
```

Output:

```
{
   "Container": {
      "CreationTime": 1563558086,
      "Access Logging Enabled": false,
      "Status": "ACTIVE",
      "Name": "ExampleContainer",
      "Endpoint": "https://aaabbbccddddee.data.mediastore.us-west-2.amazonaws.com"
   }
}
```

For more information, see Viewing the Details for a Container in the AWS Elemental MediaStore User Guide.

- For API details, see DescribeContainer in AWS CLI Command Reference.

describe-object

The following code example shows how to use describe-object.

AWS CLI

To view a list of objects and folders in a specific container

The following describe-object example displays items (objects and folders) stored in a specific container.
aws mediastore-data describe-object \
   --endpoint https://aaabbbccdddee.data.mediastore.us-west-2.amazonaws.com \
   --path /folder_name/file1234.jpg

Output:

```json
{
   "ContentType": "image/jpeg",
   "LastModified": "Fri, 19 Jul 2019 21:32:20 GMT",
   "ContentLength": "2307346",
   "ETag": "2aa333bbcc8d8d22d777e999c88d4aa9eeeeee4dd89ff7f555555555555da6d3"
}
```

For more information, see Viewing the Details of an Object in the AWS Elemental MediaStore User Guide.

- For API details, see DescribeObject in AWS CLI Command Reference.

get-container-policy

The following code example shows how to use get-container-policy.

AWS CLI

To view a container policy

The following get-container-policy example displays the resource-based policy of the specified container.

```bash
aws mediastore get-container-policy \
   --container-name ExampleLiveDemo
```

Output:

```json
{
   "Policy": {
      "Version": "2012-10-17",
      "Statement": [
         {
            "Sid": "PublicReadOverHttps",
            "Effect": "Allow",
            "Principal": {
```
get-cors-policy

The following code example shows how to use `get-cors-policy`.

**AWS CLI**

**To view a CORS policy**

The following `get-cors-policy` example displays the cross-origin resource sharing (CORS) policy that is assigned to the specified container.

```
aws mediastore get-cors-policy \
  --container-name ExampleContainer \
  --region us-west-2
```

Output:

```
{
  "CorsPolicy": [
    
```
For more information, see [Viewing a CORS Policy](#) in the AWS Elemental MediaStore User Guide.

- For API details, see [GetCorsPolicy](#) in AWS CLI Command Reference.

get-lifecycle-policy

The following code example shows how to use get-lifecycle-policy.

AWS CLI

To view an object lifecycle policy

The following get-lifecycle-policy example displays the object lifecycle policy attached to the specified container.

```bash
aws mediastore get-lifecycle-policy \
   --container-name LiveEvents
```

Output:

```json
{
   "LifecyclePolicy": {
      "rules": [
         {
            "definition": {
               "path": [
                  { "prefix": "Football/" }]
            }
         }
      ]
   }
}
```
For more information, see Viewing an Object Lifecycle Policy in the AWS Elemental MediaStore User Guide.

- For API details, see GetLifecyclePolicy in AWS CLI Command Reference.

**get-object**

The following code example shows how to use get-object.

**AWS CLI**

**To download an object**

The following get-object example download an object to the specified endpoint.

```
aws mediastore-data get-object \
    --endpoint https://aaabbbccdddee.data.mediastore.us-west-2.amazonaws.com \
    --path=/folder_name/README.md README.md
```

**Output:**

```
{
    "ContentLength": "2307346",
```
To download part of an object

The following `get-object` example downloads a portion an object to the specified endpoint.

```bash
aws mediastore-data get-object \
   --endpoint https://aaabbbccdddee.data.mediastore.us-west-2.amazonaws.com \
   --path /folder_name/README.md \
   --range="bytes=0-100" README2.md
```

Output:

```json
{
   "StatusCode": 206,
   "ContentRange": "bytes 0-100/2307346",
   "ContentLength": "101",
   "LastModified": "Fri, 19 Jul 2019 21:32:20 GMT",
   "ContentType": "image/jpeg",
   "ETag": "2aa333bbcc8d8d22d777e999c88d4aa9eefee4dd89ff7f5555555555da6d3"
}
```

For more information, see [Downloading an Object](https://docs.aws.amazon.com/AWS Elemental MediaStore User Guide) in the *AWS Elemental MediaStore User Guide*.

- For API details, see [GetObject](https://docs.aws.amazon.com/AWS CLI Command Reference) in *AWS CLI Command Reference*.

list-containers

The following code example shows how to use `list-containers`.

AWS CLI

To view a list of containers

The following `list-containers` example displays a list of all containers that are associated with your account.

```bash
aws mediastore list-containers
```
Output:

```json
{
    "Containers": [
        {
            "CreationTime": 1505317931,
            "Endpoint": "https://aaabbbcccddee.data.mediastore.us-west-2.amazonaws.com",
            "Status": "ACTIVE",
            "AccessLoggingEnabled": false,
            "Name": "ExampleLiveDemo"
        },
        {
            "CreationTime": 1506528818,
            "Endpoint": "https://fffggghhhiiijj.data.mediastore.us-west-2.amazonaws.com",
            "Status": "ACTIVE",
            "AccessLoggingEnabled": false,
            "Name": "ExampleContainer"
        }
    ]
}
```

For more information, see Viewing a List of Containers in the AWS Elemental MediaStore User Guide.

- For API details, see ListContainers in AWS CLI Command Reference.

list-items

The following code example shows how to use list-items.

AWS CLI

Example 1: To view a list of objects and folders in a specific container

The following list-items example displays items (objects and folders) stored in the specified container.
aws mediastore-data list-items \
   --endpoint https://aaabbbccccdddee.data.mediastore.us-west-2.amazonaws.com

Output:

{
   "Items": [
      {
         "ContentType": "image/jpeg",
         "LastModified": 1563571859.379,
         "Name": "filename.jpg",
         "Type": "OBJECT",
         "ETag": "543ab21abcd1a234ab123456a1a2b12345ab12abc12a1234abc1a2bc12345a12",
         "ContentLength": 3784
      },
      {
         "Type": "FOLDER",
         "Name": "ExampleLiveDemo"
      }
   ]
}

Example 2: To view a list of objects and folders in a specific folder

The following list-items example displays items (objects and folders) stored in a specific folder.

aws mediastore-data list-items \
   --endpoint https://aaabbbccccdddee.data.mediastore.us-west-2.amazonaws.com

Output:

{
   "Items": [
      {
         "ContentType": "image/jpeg",
         "LastModified": 1563571859.379,
         "Name": "filename.jpg",
         "Type": "OBJECT",
         "ETag": "543ab21abcd1a234ab123456a1a2b12345ab12abc12a1234abc1a2bc12345a12",
         "ContentLength": 3784
      }
   ]
}
For more information, see [Viewing a List of Objects](#) in the [AWS Elemental MediaStore User Guide](#).

- For API details, see [ListItems](#) in [AWS CLI Command Reference](#).

**list-tags-for-resource**

The following code example shows how to use `list-tags-for-resource`.

**AWS CLI**

**To list tags for a container**

The following `list-tags-for-resource` example displays the tag keys and values assigned to the specified container.

```bash
aws mediastore list-tags-for-resource \
```

**Output:**

```json
{
  "Tags": [
    {
      "Value": "Test",
      "Key": "Environment"
    },
    {
      "Value": "West",
      "Key": "Region"
    }
  ]
}
```
For more information, see ListTagsForResource in the AWS Elemental MediaStore API Reference.

- For API details, see ListTagsForResource in AWS CLI Command Reference.

**put-container-policy**

The following code example shows how to use put-container-policy.

**AWS CLI**

**To edit a container policy**

The following put-container-policy example assigns a different policy to the specified container. In this example, the updated policy is defined in a file named LiveEventsContainerPolicy.json.

```bash
aws mediastore put-container-policy \
  --container-name LiveEvents \
  --policy file://LiveEventsContainerPolicy.json
```

This command produces no output.

For more information, see Editing a Container Policy in the AWS Elemental MediaStore User Guide.

- For API details, see PutContainerPolicy in AWS CLI Command Reference.

**put-cors-policy**

The following code example shows how to use put-cors-policy.

**AWS CLI**

**Example 1: To add a CORS policy**

The following put-cors-policy example adds a cross-origin resource sharing (CORS) policy to the specified container. The contents of the CORS policy are in the file named corsPolicy.json.

```bash
aws mediastore put-cors-policy \
  --container-name ExampleContainer \
```

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aws mediastore put-lifecycle-policy \
   --container-name ExampleContainer \
   --lifecycle-policy file://ExampleLifecyclePolicy.json

This command produces no output.

For more information, see Adding an Object Lifecycle Policy to a Container in the AWS Elemental MediaStore User Guide.

• For API details, see PutLifecyclePolicy in AWS CLI Command Reference.
put-object

The following code example shows how to use put-object.

AWS CLI

To upload an object

The following put-object example uploads an object to the specified container. You can specify a folder path where the object will be saved within the container. If the folder already exists, AWS Elemental MediaStore stores the object in the folder. If the folder doesn't exist, the service creates it, and then stores the object in the folder.

```bash
aws mediastore-data put-object \
   --endpoint https://aaabbccdddee.data.mediastore.us-west-2.amazonaws.com \
   --body README.md \
   --path /folder_name/README.md \
   --cache-control "max-age=6, public" \
   --content-type binary/octet-stream
```

Output:

```json
{
   "ContentSHA256": "74b5fdb517f423ed750ef214c44adfe2be36e37d861eafe9c842cbe1bf387a9d",
   "StorageClass": "TEMPORAL",
   "ETag": "af3e4731af032167a106015d1f2fe934e68b32ed1aa297a9e325f5c64979277b"
}
```

For more information, see [Uploading an Object](#) in the [AWS Elemental MediaStore User Guide](#).

- For API details, see [PutObject](#) in [AWS CLI Command Reference](#).

start-access-logging

The following code example shows how to use start-access-logging.

AWS CLI

To enable access logging on a container

The following start-access-logging example enable access logging on the specified container.
aws mediastore start-access-logging \
   --container-name LiveEvents

This command produces no output.

For more information, see Enabling Access Logging for a Container in the AWS Elemental MediaStore User Guide.

- For API details, see StartAccessLogging in AWS CLI Command Reference.

stop-access-logging

The following code example shows how to use stop-access-logging.

AWS CLI

To disable access logging on a container

The following stop-access-logging example disables access logging on the specified container.

aws mediastore stop-access-logging \
   --container-name LiveEvents

This command produces no output.

For more information, see Disabling Access Logging for a Container in the AWS Elemental MediaStore User Guide.

- For API details, see StopAccessLogging in AWS CLI Command Reference.

tag-resource

The following code example shows how to use tag-resource.

AWS CLI

To add tags to a container

The following tag-resource example adds tag keys and values to the specified container.

aws mediastore tag-resource \
This command produces no output.

For more information, see TagResource in the AWS Elemental MediaStore API Reference.

- For API details, see TagResource in AWS CLI Command Reference.

untag-resource

The following code example shows how to use untag-resource.

AWS CLI

To remove tags from a container

The following untag-resource example removes the specified tag key and its associated value from a container.

```
aws mediastore untag-resource \
   --resource arn:aws:mediastore:us-west-2:123456789012:container/ExampleContainer \
   --tag-keys Region
```

This command produces no output.

For more information, see UntagResource in the AWS Elemental MediaStore API Reference.

- For API details, see UntagResource in AWS CLI Command Reference.

Amazon EMR examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon EMR.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.
Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics

- Actions

Actions

Describe a cluster

The following code example shows how to describe an Amazon EMR cluster.

AWS CLI

Command:

```bash
aws emr describe-cluster --cluster-id j-XXXXXXXX
```

Output:

```
For release-label based uniform instance groups cluster:

{
  "Cluster": {
    "Status": {
      "Timeline": {
        "ReadyDateTime": 1436475075.199,
        "CreationDateTime": 1436474656.563,
      },
      "State": "WAITING",
      "StateChangeReason": {
        "Message": "Waiting for steps to run"
      }
    },
    "Ec2InstanceAttributes": {
      "ServiceAccessSecurityGroup": "sg-xxxxxxxx",
      "EmrManagedMasterSecurityGroup": "sg-xxxxxxxx",
      "IamInstanceProfile": "EMR_EC2_DefaultRole",
      "Ec2KeyName": "myKey",
    }
  }
}
```
"Ec2AvailabilityZone": "us-east-1c",
"EmrManagedSlaveSecurityGroup": "sg-yyyyyyyy"
},
"Name": "My Cluster",
"ServiceRole": "EMR_DefaultRole",
"Tags": [],
"TerminationProtected": true,
"ReleaseLabel": "emr-4.0.0",
"NormalizedInstanceHours": 96,
"InstanceGroups": [
{
  "RequestedInstanceCount": 2,
  "Status": {
    "Timeline": {
      "ReadyDateTime": 1436475074.245,
      "CreationDateTime": 1436474656.564,
      "EndDateTime": 1436638158.387
    },
    "State": "RUNNING",
    "StateChangeReason": {
      "Message": "",
    }
  },
  "Name": "CORE",
  "InstanceGroupType": "CORE",
  "Id": "ig-YYYYYYY",
  "Configurations": [],
  "InstanceType": "m3.large",
  "Market": "ON_DEMAND",
  "RunningInstanceCount": 2
},
{
  "RequestedInstanceCount": 1,
  "Status": {
    "Timeline": {
      "ReadyDateTime": 1436475074.245,
      "CreationDateTime": 1436474656.564,
      "EndDateTime": 1436638158.387
    },
    "State": "RUNNING",
    "StateChangeReason": {
      "Message": "",
    }
  }
}
For release-label based instance fleet cluster:
{
    "Cluster": {
        "Status": {
            "Timeline": {
                "ReadyDateTime": 1487897289.705,
                "CreationDateTime": 1487896933.942
            },
            "State": "WAITING",
            "StateChangeReason": {

            }
        }
    }
}
"Message": "Waiting for steps to run"
},

"Ec2InstanceAttributes": {
    "EmrManagedMasterSecurityGroup": "sg-xxxxx",
    "RequestedEc2AvailabilityZones": [],
    "RequestedEc2SubnetIds": [],
    "IamInstanceProfile": "EMR_EC2_DefaultRole",
    "Ec2AvailabilityZone": "us-east-1a",
    "EmrManagedSlaveSecurityGroup": "sg-xxxxx"
},

"Name": "My Cluster",
"ServiceRole": "EMR_DefaultRole",
"Tags": [],
"TerminationProtected": false,
"ReleaseLabel": "emr-5.2.0",
"NormalizedInstanceHours": 472,
"InstanceCollectionType": "INSTANCE_FLEET",
"InstanceFleets": [
    {
        "Status": {
            "Timeline": {
                "ReadyDateTime": 1487897212.74,
                "CreationDateTime": 1487896933.948
            },
            "State": "RUNNING",
            "StateChangeReason": {
                "Message": ""
            }
        },
        "ProvisionedSpotCapacity": 1,
        "Name": "MASTER",
        "InstanceFleetType": "MASTER",
        "LaunchSpecifications": {
            "SpotSpecification": {
                "TimeoutDurationMinutes": 60,
                "TimeoutAction": "TERMINATE_CLUSTERR"
            }
        }
    }
],
"TargetSpotCapacity": 1,
"ProvisionedOnDemandCapacity": 0,
"InstanceTypeSpecifications": [
    {
        "BidPrice": "0.5",
    }
]
For ami based uniform instance group cluster:

```json
{
  "Cluster": {
    "Status": {
      "Timeline": {
        "ReadyDateTime": 1399400564.432,
        "CreationDateTime": 1399400268.62
      },
      "State": "WAITING",
      "StateChangeReason": {
        "Message": "Waiting for steps to run"
      }
    },
    "Ec2InstanceAttributes": {
      "IamInstanceProfile": "EMR_EC2_DefaultRole",
      "Ec2AvailabilityZone": "us-east-1c"
    },
    "Name": "My Cluster",
    "Tags": []
  }
}
```
"TerminationProtected": true,
"RunningAmiVersion": "2.5.4",
"InstanceGroups": [
  {
    "RequestedInstanceCount": 1,
    "Status": {
      "Timeline": {
        "ReadyDateTime": 1399400558.848,
        "CreationDateTime": 1399400268.621
      },
      "State": "RUNNING",
      "StateChangeReason": {
        "Message": ""
      }
    },
    "Name": "Master instance group",
    "InstanceGroupType": "MASTER",
    "InstanceType": "m1.small",
    "Id": "ig-ABCD",
    "Market": "ON_DEMAND",
    "RunningInstanceCount": 1
  },
  {
    "RequestedInstanceCount": 2,
    "Status": {
      "Timeline": {
        "ReadyDateTime": 1399400564.439,
        "CreationDateTime": 1399400268.621
      },
      "State": "RUNNING",
      "StateChangeReason": {
        "Message": ""
      }
    },
    "Name": "Core instance group",
    "InstanceGroupType": "CORE",
    "InstanceType": "m1.small",
    "Id": "ig-DEF",
    "Market": "ON_DEMAND",
    "RunningInstanceCount": 2
  }
],
"Applications": [
  {
    "Applications": ["Actions and scenarios"]
  }
]
The following code example shows how to describe a step on an Amazon EMR cluster.

**AWS CLI**

The following command describes a step with the step ID `s-3LZC0QUT43AM` in a cluster with the cluster ID `j-3SD91U2E1L2QX`:

```bash
aws emr describe-step --cluster-id j-3SD91U2E1L2QX --step-id s-3LZC0QUT43AM
```

Output:

```json
{
  "Step": {
    "Status": {
      "Timeline": {
        "EndDateTime": 1433200470.481,
        "CreationDateTime": 1433199926.597,
        "StartDateTime": 1433200404.959
      },
      "State": "COMPLETED",
      "StateChangeReason": {}
    },
    "Config": {
      "Args": [
        "s3://us-west-2.elasticmapreduce/libs/hive/hive-script",
      ]
    }
  }
}
```
List steps for a cluster

The following code example shows how to list steps for an Amazon EMR cluster.

AWS CLI

The following command lists all of the steps in a cluster with the cluster ID `j-3SD91U2E1L2QX`:

```
aws emr list-steps --cluster-id j-3SD91U2E1L2QX
```

- For API details, see ListSteps in AWS CLI Command Reference.

add-instance-fleet

The following code example shows how to use add-instance-fleet.

AWS CLI

To add a task instance fleet to a cluster

This example adds a new task instance fleet to the cluster specified.

Command:
aws emr add-instance-fleet --cluster-id 'j-12ABCDEFGH34JK' --instance-fleet
InstanceFleetType=TASK,TargetSpotCapacity=1,LaunchSpecifications={SpotSpecification='{TimeoutDurationMinutes=20,TimeoutAction=TERMINATE_CLUSTER}'},InstanceTypeConfigs=['{InstanceType=m3.xlarge,BidPrice=0.5}']

Output:

```
{
   "ClusterId": "j-12ABCDEFGH34JK",
   "InstanceFleetId": "if-23ABCDEFGH45JJ"
}
```

- For API details, see AddInstanceFleet in AWS CLI Command Reference.

add-steps

The following code example shows how to use add-steps.

AWS CLI

1. To add Custom JAR steps to a cluster

Command:

```
aws emr add-steps --cluster-id j-XXXXXXXX --steps
   Type=CUSTOM_JAR,Name=CustomJAR,ActionOnFailure=CONTINUE,Jar=s3://mybucket/mytest.jar,Args=arg1,arg2,arg3
   Type=CUSTOM_JAR,Name=CustomJAR,ActionOnFailure=CONTINUE,Jar=s3://mybucket/mytest.jar,MainClass=mymainclass,Args=arg1,arg2,arg3
```

Required parameters:

- Jar

Optional parameters:

- Type, Name, ActionOnFailure, Args

Output:

```
{
   "StepIds": [
      "s-XXXXXXXX",
      "s-XXXXXXXXX"
   ]
```

Actions and scenarios
2. To add Streaming steps to a cluster

Command:

```
aws emr add-steps --cluster-id j-XXXXXXXX --steps Type=STREAMING,Name='Streaming Program',ActionOnFailure=CONTINUE,Args=[-files,s3://elasticmapreduce/samples/wordcount/wordSplitter.py,-mapper,wordSplitter.py,-reducer,aggregate,-input,s3://elasticmapreduce/samples/wordcount/input,-output,s3://mybucket/wordcount/output]
```

Required parameters:

- Type, Args

Optional parameters:

- Name, ActionOnFailure

JSON equivalent (contents of step.json):

```
[
  {
    "Name": "JSON Streaming Step",
    "Args": ['-files', 's3://elasticmapreduce/samples/wordcount/wordSplitter.py','-mapper','wordSplitter.py','-reducer','aggregate','-input','s3://elasticmapreduce/samples/wordcount/input','-output','s3://mybucket/wordcount/output'],
    "ActionOnFailure": "CONTINUE",
    "Type": "STREAMING"
  }
]
```

NOTE: JSON arguments must include options and values as their own items in the list.

Command (using step.json):

```
aws emr add-steps --cluster-id j-XXXXXXXX --steps file://./step.json
```

Output:
3. To add a Streaming step with multiple files to a cluster (JSON only)

JSON (multiplefiles.json):

```json
[
  {
    "Name": "JSON Streaming Step",
    "Type": "STREAMING",
    "ActionOnFailure": "CONTINUE",
    "Args": [
      "-files",
      "s3://mybucket/mapper.py,s3://mybucket/reducer.py",
      "-mapper",
      "mapper.py",
      "-reducer",
      "reducer.py",
      "-input",
      "s3://mybucket/input",
      "-output",
      "s3://mybucket/output"
    ]
  }
]
```

Command:

```bash
aws emr add-steps --cluster-id j-XXXXXXXX --steps file://./multiplefiles.json
```

Required parameters:

- Type, Args

Optional parameters:

- Name, ActionOnFailure
4. To add Hive steps to a cluster

Command:

```bash
aws emr add-steps --cluster-id j-XXXXXXXX --steps Type=HIVE,Name='Hive program',ActionOnFailure=CONTINUE,Args=[-f,s3://mybucket/myhivescript.q,-d,INPUT=s3://mybucket/myhiveinput,-d,OUTPUT=s3://mybucket/myhiveoutput,arg1,arg2]
aws emr add-steps --cluster-id j-XXXXXXXX --steps Type=HIVE,Name='Hive steps',ActionOnFailure=TERMINATE_CLUSTER,Args=[-f,s3://elasticmapreduce/samples/hive-ads/libs/model-build.q,-d,INPUT=s3://elasticmapreduce/samples/hive-ads/tables,-d,OUTPUT=s3://mybucket/hive-ads/output/2014-04-18/11-07-32,-d,LIBS=s3://elasticmapreduce/samples/hive-ads/libs]
```

Required parameters:

- Type
- Args

Optional parameters:

- Name
- ActionOnFailure

Output:

```json
{
   "StepIds": [
      "s-XXXXXXXX",
      "s-YYYYYYYY"
   ]
}
```

5. To add Pig steps to a cluster

Command:
aws emr add-steps --cluster-id j-XXXXXXXX --steps Type=PIG,Name='Pig program',ActionOnFailure=CONTINUE,Args=[-f,s3://mybucket/mypigscript.pig,-p,INPUT=s3://mybucket/mypiginput,-p,OUTPUT=s3://mybucket/mypigoutput,arg1,arg2]
Type=PIG,Name='Pig program',Args=[-f,s3://elasticmapreduce/samples/pig-apache/doreports2.pig,-p,INPUT=s3://elasticmapreduce/samples/pig-apache/input,-p,OUTPUT=s3://mybucket/pig-apache/output,arg1,arg2]

Required parameters:
Type, Args

Optional parameters:
Name, ActionOnFailure

Output:

```json
{
   "StepIds": [
      "s-XXXXXXXX",
      "s-YYYYYYYY"
   ]
}
```

**6. To add Impala steps to a cluster**

**Command:**

```
aws emr add-steps --cluster-id j-XXXXXXXX --steps Type=IMPALA,Name='Impala program',ActionOnFailure=CONTINUE,Args=--impala-script,s3://myimpala/input,--console-output-path,s3://myimpala/output
```

Required parameters:
Type, Args

Optional parameters:
Name, ActionOnFailure
Output:

```json
{
   "StepIds": [
      "s-XXXXXXXX",
      "s-YYYYYYYY"
   ]
}
```

- For API details, see [AddSteps](awscli) in *AWS CLI Command Reference*.

**add-tags**

The following code example shows how to use add-tags.

**AWS CLI**

1. To add tags to a cluster

   **Command:**

   ```bash
   aws emr add-tags --resource-id j-xxxxxxx --tags name="John Doe" age=29 sex=male address="123 East NW Seattle"
   ```

   **Output:**

   None

2. To list tags of a cluster

   **--Command:**

   ```bash
   aws emr describe-cluster --cluster-id j-XXXXXYYY --query Cluster.Tags
   ```

   **Output:**

   ```json
   [
      {
         "Value": "male",
         "Key": "sex"
      },
   ]
   ```
• For API details, see AddTags in AWS CLI Command Reference.

create-cluster-examples

The following code example shows how to use create-cluster-examples.

AWS CLI

Most of the following examples assume that you specified your Amazon EMR service role and Amazon EC2 instance profile. If you have not done this, you must specify each required IAM role or use the --use-default-roles parameter when creating your cluster. For more information about specifying IAM roles, see Configure IAM Roles for Amazon EMR Permissions to AWS Services in the Amazon EMR Management Guide.

Example 1: To create a cluster

The following create-cluster example creates a simple EMR cluster.

```
aws emr create-cluster \
   --release-label emr-5.14.0 \
   --instance-type m4.large \
   --instance-count 2
```

This command produces no output.

Example 2: To create an Amazon EMR cluster with default ServiceRole and InstanceProfile roles
The following `create-cluster` example creates an Amazon EMR cluster that uses the `--instance-groups` configuration.

```bash
aws emr create-cluster \
   --release-label emr-5.14.0 \
   --service-role EMR_DefaultRole \
   --ec2-attributes InstanceProfile=EMR_EC2_DefaultRole \
   --instance-groups InstanceGroupType=MASTER,InstanceCount=1,InstanceType=m4.large InstanceGroupType=CORE,InstanceCount=2,InstanceType=m4.large
```

**Example 3: To create an Amazon EMR cluster that uses an instance fleet**

The following `create-cluster` example creates an Amazon EMR cluster that uses the `--instance-fleets` configuration, specifying two instance types for each fleet and two EC2 Subnets.

```bash
aws emr create-cluster \
   --release-label emr-5.14.0 \
   --service-role EMR_DefaultRole \
   --ec2-attributes InstanceProfile=EMR_EC2_DefaultRole,SubnetIds=['subnet-ab12345c','subnet-de67890f'] \
   --instance-fleets
   InstanceFleetType=MASTER,TargetOnDemandCapacity=1,InstanceTypeConfigs=['{InstanceType=m4.large}'] InstanceFleetType=CORE,TargetSpotCapacity=11,InstanceTypeConfigs=['{InstanceType=m4.large,BidPrice=0.5,WeightedCapacity=3}'],LaunchSpecifications={SpotSpecification='{TimeoutDurationMinutes=120,TimeoutAction=SWITCH_TO_ON_DEMAND}'}
```

**Example 4: To create a cluster with default roles**

The following `create-cluster` example uses the `--use-default-roles` parameter to specify the default service role and instance profile.

```bash
aws emr create-cluster \
   --release-label emr-5.14.0 \
   --use-default-roles \
   --instance-groups InstanceGroupType=MASTER,InstanceCount=1,InstanceType=m4.large InstanceGroupType=CORE,InstanceCount=2,InstanceType=m4.large \
   --auto-terminate
```

**Example 5: To create a cluster and specify the applications to install**

The following `create-cluster` example uses the `--applications` parameter to specify the applications that Amazon EMR installs. This example installs Hadoop, Hive and Pig.
Example 6: To create a cluster that includes Spark

The following example installs Spark.

```
aws emr create-cluster \
   --release-label emr-5.9.0 \ 
   --applications Name=Spark \ 
   --ec2-attributes KeyName=myKey \ 
   --instance-groups InstanceGroupType=MASTER,InstanceCount=1,InstanceType=m4.large InstanceGroupType=CORE,InstanceCount=2,InstanceType=m4.large \ 
   --auto-terminate
```

Example 7: To specify a custom AMI to use for cluster instances

The following `create-cluster` example creates a cluster instance based on the Amazon Linux AMI with ID `ami-a518e6df`.

```
aws emr create-cluster \
   --name "Cluster with My Custom AMI" \ 
   --custom-ami-id ami-a518e6df \ 
   --ebs-root-volume-size 20 \ 
   --release-label emr-5.9.0 \ 
   --use-default-roles \ 
   --instance-count 2 \ 
   --instance-type m4.large
```

Example 8: To customize application configurations

The following examples use the `--configurations` parameter to specify a JSON configuration file that contains application customizations for Hadoop. For more information, see Configuring Applications in the Amazon EMR Release Guide.

Contents of `configurations.json`:

```
aws emr create-cluster \
   --applications Name=Hadoop Name=Hive Name=Pig \ 
   --release-label emr-5.9.0 \ 
   --instance-groups InstanceGroupType=MASTER,InstanceCount=1,InstanceType=m4.large InstanceGroupType=CORE,InstanceCount=2,InstanceType=m4.large \ 
   --auto-terminate
```
The following example references configurations.json as a local file.

```bash
aws emr create-cluster \
   --configurations file://configurations.json \
   --release-label emr-5.9.0 \
   --instance-groups InstanceGroupType=MASTER,InstanceCount=1,InstanceType=m4.large InstanceGroupType=CORE,InstanceCount=2,InstanceType=m4.large \n   --auto-terminate
```

The following example references configurations.json as a file in Amazon S3.

```bash
aws emr create-cluster \
   --configurations https://s3.amazonaws.com/myBucket/configurations.json \
   --release-label emr-5.9.0 \
   --instance-groups InstanceGroupType=MASTER,InstanceCount=1,InstanceType=m4.large InstanceGroupType=CORE,InstanceCount=2,InstanceType=m4.large \n   --auto-terminate
```

**Example 9: To create a cluster with master, core, and task instance groups**
The following `create-cluster` example uses `--instance-groups` to specify the type and number of EC2 instances to use for master, core, and task instance groups.

```
aws emr create-cluster \
   --release-label emr-5.9.0 \
   --instance-groups
   Name=Master,InstanceGroupType=MASTER,InstanceType=m4.large,InstanceCount=1
   Name=Core,InstanceGroupType=CORE,InstanceType=m4.large,InstanceCount=2
   Name=Task,InstanceGroupType=TASK,InstanceType=m4.large,InstanceCount=2
```

**Example 10: To specify that a cluster should terminate after completing all steps**

The following `create-cluster` example uses `--auto-terminate` to specify that the cluster should shut down automatically after completing all steps.

```
aws emr create-cluster \
   --release-label emr-5.9.0 \
   --instance-groups
   InstanceGroupType=MASTER,InstanceCount=1,InstanceType=m4.large \
   InstanceGroupType=CORE,InstanceCount=2,InstanceType=m4.large \
   --auto-terminate
```

**Example 11: To specify cluster configuration details such as the Amazon EC2 key pair, network configuration, and security groups**

The following `create-cluster` example creates a cluster with the Amazon EC2 key pair named `myKey` and a customized instance profile named `myProfile`. Key pairs are used to authorize SSH connections to cluster nodes, most often the master node. For more information, see [Use an Amazon EC2 Key Pair for SSH Credentials](#) in the [Amazon EMR Management Guide](#).

```
aws emr create-cluster \
   --ec2-attributes KeyName=myKey,InstanceProfile=myProfile \ 
   --release-label emr-5.9.0 \
   --instance-groups
   InstanceGroupType=MASTER,InstanceCount=1,InstanceType=m4.large \
   InstanceGroupType=CORE,InstanceCount=2,InstanceType=m4.large \ 
   --auto-terminate
```

The following example creates a cluster in an Amazon VPC subnet.

```
aws emr create-cluster \
   --ec2-attributes SubnetId=subnet-xxxxx \ 
   --release-label emr-5.9.0 \
```
--instance-groups InstanceGroupType=MASTER,InstanceCount=1,InstanceType=m4.large
InstanceGroupType=CORE,InstanceCount=2,InstanceType=m4.large
--auto-terminate

The following example creates a cluster in the us-east-1b availability zone.

```
aws emr create-cluster \\n  --ec2-attributes AvailabilityZone=us-east-1b \\n  --release-label emr-5.9.0 \\
  --instance-groups InstanceGroupType=MASTER,InstanceCount=1,InstanceType=m4.large
InstanceGroupType=CORE,InstanceCount=2,InstanceType=m4.large
```

The following example creates a cluster and specifies only the Amazon EMR-managed security groups.

```
aws emr create-cluster \\
  --release-label emr-5.9.0 \\
  --service-role myServiceRole \\
  --ec2-attributes InstanceProfile=myRole,EmrManagedMasterSecurityGroup=sg-master1,EmrManagedSlaveSecurityGroup=sg-slave1 \\
  --instance-groups InstanceGroupType=MASTER,InstanceCount=1,InstanceType=m4.large
InstanceGroupType=CORE,InstanceCount=2,InstanceType=m4.large
```

The following example creates a cluster and specifies only additional Amazon EC2 security groups.

```
aws emr create-cluster \\
  --release-label emr-5.9.0 \\
  --service-role myServiceRole \\
  --instance-groups InstanceGroupType=MASTER,InstanceCount=1,InstanceType=m4.large
InstanceGroupType=CORE,InstanceCount=2,InstanceType=m4.large
```

The following example creates a cluster and specifies the EMR-Managed security groups, as well as additional security groups.

```
aws emr create-cluster \\
  --release-label emr-5.9.0 \\
```
The following example creates a cluster in a VPC private subnet and uses a specific Amazon EC2 security group to enable Amazon EMR service access, which is required for clusters in private subnets.

```bash
aws emr create-cluster \
   --release-label emr-5.9.0 \
   --service-role myServiceRole \
   --ec2-attributes InstanceProfile=myRole,ServiceAccessSecurityGroup=sg-service-access,EmrManagedMasterSecurityGroup=sg-master,EmrManagedSlaveSecurityGroup=sg-slave \
   --instance-groups InstanceGroupType=MASTER,InstanceCount=1,InstanceType=m4.large InstanceGroupType=CORE,InstanceCount=2,InstanceType=m4.large
```

The following example specifies security group configuration parameters using a JSON file named `ec2_attributes.json` that is stored locally. NOTE: JSON arguments must include options and values as their own items in the list.

```bash
aws emr create-cluster \
   --release-label emr-5.9.0 \
   --service-role myServiceRole \
   --ec2-attributes file://ec2_attributes.json \
   --instance-groups InstanceGroupType=MASTER,InstanceCount=1,InstanceType=m4.large InstanceGroupType=CORE,InstanceCount=2,InstanceType=m4.large
```

Contents of `ec2_attributes.json`:

```json
[  {
    "SubnetId": "subnet-xxxxx",
    "KeyName": "myKey",
    "InstanceProfile": "myRole",
    "EmrManagedMasterSecurityGroup": "sg-master1",
    ...  }
]```
Example 12: To enable debugging and specify a log URI

The following `create-cluster` example uses the `--enable-debugging` parameter, which allows you to view log files more easily using the debugging tool in the Amazon EMR console. The `--log-uri` parameter is required with `--enable-debugging`.

```bash
aws emr create-cluster \
   --enable-debugging \
   --log-uri s3://myBucket/myLog \
   --release-label emr-5.9.0 \
   --instance-groups InstanceGroupType=MASTER,InstanceCount=1,InstanceType=m4.large InstanceGroupType=CORE,InstanceCount=2,InstanceType=m4.large \
   --auto-terminate
```

Example 13: To add tags when creating a cluster

Tags are key-value pairs that help you identify and manage clusters. The following `create-cluster` example uses the `--tags` parameter to create three tags for a cluster, one with the key name `name` and the value Shirley Rodriguez, a second with the key name `age` and the value 29, and a third tag with the key name `department` and the value Analytics.

```bash
aws emr create-cluster \
   --tags name="Shirley Rodriguez" age=29 department="Analytics" \
   --release-label emr-5.32.0 \
   --instance-type m5.xlarge \
   --instance-count 3 \
   --use-default-roles
```

The following example lists the tags applied to a cluster.

```bash
aws emr describe-cluster \
   --cluster-id j-XXXXXXYY \
```
Example 14: To use a security configuration that enables encryption and other security features

The following create-cluster example uses the --security-configuration parameter to specify a security configuration for an EMR cluster. You can use security configurations with Amazon EMR version 4.8.0 or later.

```bash
aws emr create-cluster \
   --instance-type m4.large \
   --release-label emr-5.9.0 \
   --security-configuration mySecurityConfiguration
```

Example 15: To create a cluster with additional EBS storage volumes configured for the instance groups

When specifying additional EBS volumes, the following arguments are required: VolumeType, SizeInGB if EbsBlockDeviceConfigs is specified.

The following create-cluster example creates a cluster with multiple EBS volumes attached to EC2 instances in the core instance group.

```bash
aws emr create-cluster \
   --release-label emr-5.9.0 \
   --use-default-roles \
   --instance-groups \
   'InstanceGroupType=MASTER,InstanceCount=1,InstanceType=d2.xlarge' \
   'InstanceGroupType=CORE,InstanceCount=2,InstanceType=d2.xlarge,EbsConfiguration={EbsOptimized=true,EbsBlockDeviceConfigs=[{VolumeSpecification={VolumeType=gp2,SizeInGB=100}},{VolumeSpecification={VolumeType=io1,SizeInGB=100,Iops=100},VolumesPerInstance=4}]}' \
   --auto-terminate
```

The following example creates a cluster with multiple EBS volumes attached to EC2 instances in the master instance group.

```bash
aws emr create-cluster \
   --release-label emr-5.9.0 \
   --use-default-roles \
   --instance-groups 'InstanceGroupType=MASTER, InstanceCount=1, InstanceType=d2.xlarge, EbsConfiguration={EbsOptimized=true,
```
Example 16: To create a cluster with an automatic scaling policy

You can attach automatic scaling policies to core and task instance groups using Amazon EMR version 4.0 and later. The automatic scaling policy dynamically adds and removes EC2 instances in response to an Amazon CloudWatch metric. For more information, see Using Automatic Scaling in Amazon EMR <https://docs.aws.amazon.com/emr/latest/ManagementGuide/emr-automatic-scaling.html> in the Amazon EMR Management Guide.

When attaching an automatic scaling policy, you must also specify the default role for automatic scaling using --auto-scaling-role EMR_AutoScaling_DefaultRole.

The following create-cluster example specifies the automatic scaling policy for the CORE instance group using the AutoScalingPolicy argument with an embedded JSON structure, which specifies the scaling policy configuration. Instance groups with an embedded JSON structure must have the entire collection of arguments enclosed in single quotes. Using single quotes is optional for instance groups without an embedded JSON structure.

```bash
aws emr create-cluster
   --release-label emr-5.9.0
   --use-default-roles --auto-scaling-role EMR_AutoScaling_DefaultRole
   --instance-groups
   InstanceGroupType=MASTER,InstanceType=d2.xlarge,InstanceCount=1
   'InstanceGroupType=CORE,InstanceType=d2.xlarge,InstanceCount=2,AutoScalingPolicy={Constraints={MinCapacity=1,MaxCapacity=5...N=EMR,Period=3,Statistic=MAXIMUM,Unit=NONE,Dimensions=[{Key=TestKey,Value=TestValue}]}}}
```

The following example uses a JSON file, instancegroupconfig.json, to specify the configuration of all instance groups in a cluster. The JSON file specifies the automatic scaling policy configuration for the core instance group.

```bash
aws emr create-cluster
   --release-label emr-5.9.0
   --service-role EMR_DefaultRole
   --ec2-attributes InstanceProfile=EMR_EC2_DefaultRole
   --instance-groups file://myfolder/instancegroupconfig.json
   --auto-scaling-role EMR_AutoScaling_DefaultRole
```
Contents of instancegroupconfig.json:

```
[
  {
    "InstanceCount": 1,
    "Name": "MyMasterIG",
    "InstanceGroupType": "MASTER",
    "InstanceType": "m4.large"
  },
  {
    "InstanceCount": 2,
    "Name": "MyCoreIG",
    "InstanceGroupType": "CORE",
    "InstanceType": "m4.large",
    "AutoScalingPolicy": {
      "Constraints": {
        "MinCapacity": 2,
        "MaxCapacity": 10
      },
      "Rules": [
        {
          "Name": "Default-scale-out",
          "Description": "Replicates the default scale-out rule in the console for YARN memory.",
          "Action": {
            "SimpleScalingPolicyConfiguration": {
              "AdjustmentType": "CHANGE_IN_CAPACITY",
              "ScalingAdjustment": 1,
              "CoolDown": 300
            }
          },
          "Trigger": {
            "CloudWatchAlarmDefinition": {
              "ComparisonOperator": "LESS_THAN",
              "EvaluationPeriods": 1,
              "MetricName": "YARNMemoryAvailablePercentage",
              "Namespace": "AWS/ElasticMapReduce",
              "Period": 300,
              "Threshold": 15,
              "Statistic": "AVERAGE",
              "Unit": "PERCENT",
              "Dimensions": [
                {
                  "Key": "JobFlowId",
                  "Value": "jobflow12345678"
                }]
            }
          }
        }
      ]
    }
  }
```

Actions and scenarios
Example 17: Add custom JAR steps when creating a cluster

The following `create-cluster` example adds steps by specifying a JAR file stored in Amazon S3. Steps submit work to a cluster. The main function defined in the JAR file executes after EC2 instances are provisioned, any bootstrap actions have executed, and applications are installed. The steps are specified using `Type=CUSTOM_JAR`.

Custom JAR steps require the `Jar=` parameter, which specifies the path and file name of the JAR. Optional parameters are `Type`, `Name`, `ActionOnFailure`, `Args`, and `MainClass`. If main class is not specified, the JAR file should specify `Main-Class` in its manifest file.

```
aws emr create-cluster \
--steps Type=CUSTOM_JAR,Name=CustomJAR,ActionOnFailure=CONTINUE,Jar=s3://myBucket/mytest.jar,Args=arg1,arg2,arg3 \
Type=CUSTOM_JAR,Name=CustomJAR,ActionOnFailure=CONTINUE,Jar=s3://myBucket/mytest.jar,MainClass=mymainclass,Args=arg1,arg2,arg3 \n--release-label emr-5.3.1 \n--instance-groups InstanceGroupType=MASTER,InstanceCount=1,InstanceType=m4.large InstanceGroupType=CORE,InstanceCount=2,InstanceType=m4.large \n--auto-terminate
```

Example 18: To add streaming steps when creating a cluster

The following `create-cluster` examples add a streaming step to a cluster that terminates after all steps run. Streaming steps require parameters `Type` and `Args`. Streaming steps optional parameters are `Name` and `ActionOnFailure`.

The following example specifies the step inline.

```
aws emr create-cluster \
```

The following example uses a locally stored JSON configuration file named `multiplefiles.json`. The JSON configuration specifies multiple files. To specify multiple files within a step, you must use a JSON configuration file to specify the step. JSON arguments must include options and values as their own items in the list.

```bash
aws emr create-cluster \
  --steps file://./multiplefiles.json \
  --release-label emr-5.9.0 \
  --instance-groups InstanceGroupType=MASTER,InstanceCount=1,InstanceType=m4.large \
  InstanceGroupType=CORE,InstanceCount=2,InstanceType=m4.large \
  --auto-terminate
```

**Contents of `multiplefiles.json`:**

```json
[
  {
    "Name": "JSON Streaming Step",
    "Args": [
      "-files",
      "s3://elasticmapreduce/samples/wordcount/wordSplitter.py",
      "-mapper",
      "wordSplitter.py",
      "-reducer",
      "aggregate",
      "-input",
      "s3://elasticmapreduce.samples/wordcount/input",
      "-output",
      "s3://mybucket/wordcount/output"
    ],
    "ActionOnFailure": "CONTINUE",
    "Type": "STREAMING"
  }
]
```
Example 19: To add Hive steps when creating a cluster

The following example add Hive steps when creating a cluster. Hive steps require parameters Type and Args. Hive steps optional parameters are Name and ActionOnFailure.

```bash
aws emr create-cluster \
   --steps Type=HIVE,Name='Hive program',ActionOnFailure=CONTINUE,ActionOnFailure=TERMINATE_CLUSTER,Args=[-f,s3://elasticmapreduce/samples/hive-ads/libs/model-build.q,-d,INPUT=s3://elasticmapreduce/samples/hive-ads/tables,-d,OUTPUT=s3://mybucket/hive-ads/output/2014-04-18/11-07-32,-d,LIBS=s3://elasticmapreduce/samples/hive-ads/libs] \
   --applications Name=Hive \
   --release-label emr-5.3.1 \
   --instance-groups InstanceGroupType=MASTER,InstanceCount=1,InstanceType=m4.large InstanceGroupType=CORE,InstanceCount=2,InstanceType=m4.large
```

Example 20: To add Pig steps when creating a cluster

The following example adds Pig steps when creating a cluster. Pig steps required parameters are Type and Args. Pig steps optional parameters are Name and ActionOnFailure.

```bash
aws emr create-cluster \
   --steps Type=PIG,Name='Pig program',ActionOnFailure=CONTINUE,Args=[-f,s3://elasticmapreduce/samples/pig-apache/do-reports2.pig,-p,INPUT=s3://elasticmapreduce/samples/pig-apache/input,-p,OUTPUT=s3://mybucket/pig-apache/output] \
   --applications Name=Pig \
   --release-label emr-5.3.1 \
   --instance-groups InstanceGroupType=MASTER,InstanceCount=1,InstanceType=m4.large InstanceGroupType=CORE,InstanceCount=2,InstanceType=m4.large
```

Example 21: To add bootstrap actions

The following create-cluster example runs two bootstrap actions defined as scripts that are stored in Amazon S3.

```bash
aws emr create-cluster \
   --bootstrap-actions Path=s3://mybucket/myscript1,Name=BootstrapAction1,Args=[arg1,arg2] Path=s3://mybucket/myscript2,Name=BootstrapAction2,Args=[arg1,arg2] \
   --release-label emr-5.3.1 \
   --instance-groups InstanceGroupType=MASTER,InstanceCount=1,InstanceType=m4.large InstanceGroupType=CORE,InstanceCount=2,InstanceType=m4.large
```
Example 22: To enable EMRFS consistent view and customize the RetryCount and RetryPeriod settings

The following create-cluster example specifies the retry count and retry period for EMRFS consistent view. The Consistent=true argument is required.

```bash
aws emr create-cluster \
  --instance-type m4.large \
  --release-label emr-5.9.0 \
  --emrfs Consistent=true,RetryCount=6,RetryPeriod=30
```

The following example specifies the same EMRFS configuration as the previous example, using a locally stored JSON configuration file named `emrfsconfig.json`.

```bash
aws emr create-cluster \
  --instance-type m4.large \
  --release-label emr-5.9.0 \
  --emrfs file://emrfsconfig.json
```

Contents of `emrfsconfig.json`:

```json
{
    "Consistent": true,
    "RetryCount": 6,
    "RetryPeriod": 30
}
```

Example 23: To create a cluster with Kerberos configured

The following create-cluster examples create a cluster using a security configuration with Kerberos enabled, and establishes Kerberos parameters for the cluster using --kerberos-attributes.

The following command specifies Kerberos attributes for the cluster inline.

```bash
aws emr create-cluster \
  --instance-type m3.xlarge \
  --release-label emr-5.10.0 \
```

```
The following command specifies the same attributes, but references a locally stored JSON file named `kerberos_attributes.json`. In this example, the file is saved in the same directory where you run the command. You can also reference a configuration file saved in Amazon S3.

```
aws emr create-cluster \
   --instance-type m3.xlarge \
   --release-label emr-5.10.0 \
   --service-role EMR_DefaultRole \
   --ec2-attributes InstanceProfile=EMR_EC2_DefaultRole \
   --security-configuration mySecurityConfiguration \
   --kerberos-attributes file://kerberos_attributes.json
```

Contents of `kerberos_attributes.json`:

```
{
   "Realm": "EC2.INTERNAL",
   "KdcAdminPassword": "123",
   "CrossRealmTrustPrincipalPassword": "123",
}
```

The following `create-cluster` example creates an Amazon EMR cluster that uses the `--instance-groups` configuration and has a managed scaling policy.

```
aws emr create-cluster \
   --release-label emr-5.30.0 \
   --service-role EMR_DefaultRole \
   --ec2-attributes InstanceProfile=EMR_EC2_DefaultRole \
   --instance-groups InstanceProfile=EMR_EC2_DefaultRole \
   --security-configuration mySecurityConfiguration \
   --managed-scaling-policy
   ComputeLimits='{MinimumCapacityUnits=2,MaximumCapacityUnits=4,UnitType=Instances}'
```

The following `create-cluster` example creates an Amazon EMR cluster that uses the `--log-encryption-kms-key-id` to define KMS key ID utilized for Log encryption.
aws emr create-cluster \
  --release-label emr-5.30.0 \
  --log-uri s3://myBucket/myLog \
  --log-encryption-kms-key-id arn:aws:kms:us-east-1:110302272565:key/dd559181-283e-45d7-99d1-66da348c4d33 \
  --instance-groups InstanceGroupType=MASTER,InstanceCount=1,InstanceType=m4.large \
  InstanceGroupType=CORE,InstanceCount=2,InstanceType=m4.large

The following `create-cluster` example creates an Amazon EMR cluster that uses the `--placement-group-configs` configuration to place master nodes in a high-availability (HA) cluster within an EC2 placement group using SPREAD placement strategy.

aws emr create-cluster \
  --release-label emr-5.30.0 \
  --service-role EMR_DefaultRole \
  --ec2-attributes InstanceProfile=EMR_EC2_DefaultRole \
  --instance-groups \
    InstanceGroupType=MASTER,InstanceCount=3,InstanceType=m4.large \
    InstanceGroupType=CORE,InstanceCount=1,InstanceType=m4.large \
  --placement-group-configs InstanceRole=MASTER

The following `create-cluster` example creates an Amazon EMR cluster that uses the `--auto-termination-policy` configuration to place an automatic idle termination threshold for the cluster.

aws emr create-cluster \
  --release-label emr-5.34.0 \
  --service-role EMR_DefaultRole \
  --ec2-attributes InstanceProfile=EMR_EC2_DefaultRole \
  --instance-groups \
    InstanceGroupType=MASTER,InstanceCount=1,InstanceType=m4.large \
    InstanceGroupType=CORE,InstanceCount=1,InstanceType=m4.large \
  --auto-termination-policy IdleTimeout=100

The following `create-cluster` example creates an Amazon EMR cluster that uses the `--os-release-label` to define an Amazon Linux release for cluster launch.

aws emr create-cluster \
  --release-label emr-6.6.0 \
  --os-release-label 2.0.20220406.1 \
  --service-role EMR_DefaultRole \
  --ec2-attributes InstanceProfile=EMR_EC2_DefaultRole \

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**Example 24: To specify an EBS root volume attributes: size, iops and throughput for cluster instances created with EMR releases 6.15.0 and later**

The following `create-cluster` example creates an Amazon EMR cluster that uses root volume attributes to configure root volumes specifications for the EC2 instances.

```bash
aws emr create-cluster \
   --name "Cluster with My Custom AMI" \
   --custom-ami-id ami-a518e6df \
   --ebs-root-volume-size 20 \
   --ebs-root-volume-iops 3000 \
   --ebs-root-volume-throughput 125 \
   --release-label emr-6.15.0 \
   --use-default-roles \
   --instance-count 2 \
   --instance-type m4.large
```

- For API details, see [CreateClusterExamples](#) in *AWS CLI Command Reference*.

**create-default-roles**

The following code example shows how to use `create-default-roles`.

**AWS CLI**

1. **To create the default IAM role for EC2**

   Command:

   ```bash
   aws emr create-default-roles
   ```

   Output:

   ```json
   If the role already exists then the command returns nothing.

   If the role does not exist then the output will be:
   ```
"RolePolicy": {  
  "Version": "2012-10-17",  
  "Statement": [  
    {  
      "Action": [  
        "cloudwatch:*",  
        "dynamodb:*",  
        "ec2:Describe*",  
        "elasticmapreduce:Describe*",  
        "elasticmapreduce:ListBootstrapActions",  
        "elasticmapreduce:ListClusters",  
        "elasticmapreduce:ListInstanceGroups",  
        "elasticmapreduce:ListInstances",  
        "elasticmapreduce:ListSteps",  
        "kinesis:CreateStream",  
        "kinesis:DeleteStream",  
        "kinesis:DescribeStream",  
        "kinesis:GetRecords",  
        "kinesis:GetShardIterator",  
        "kinesis:MergeShards",  
        "kinesis:PutRecord",  
        "kinesis:SplitShard",  
        "rds:Describe*",  
        "s3:*",  
        "sdb:*",  
        "sns:*",  
        "sqs:*"
      ],  
      "Resource": "*",  
      "Effect": "Allow"
    }
  ]
},
"Role": {  
  "AssumeRolePolicyDocument": {  
    "Version": "2008-10-17",  
    "Statement": [  
      {  
        "Action": "sts:AssumeRole",  
        "Sid": "",  
        "Effect": "Allow",  
        "Principal": {  
          "Service": "ec2.amazonaws.com"
        }
      }
    ]
  }
}
"RoleId": "AROAIQ5SIQUGLG5KMYBJX6",
"CreateDate": "2015-06-09T17:09:04.602Z",
"RoleName": "EMR_EC2_DefaultRole",
"Path": "/",
"Arn": "arn:aws:iam::176430881729:role/EMR_EC2_DefaultRole"
}
},
{
"RolePolicy": {
"Version": "2012-10-17",
"Statement": [
{
For API details, see CreateDefaultRoles in AWS CLI Command Reference.
create-security-configuration

The following code example shows how to use `create-security-configuration`.

AWS CLI

1. To create a security configuration with in-transit encryption enabled with PEM for certificate provider, and at-rest encryption enabled with SSE-S3 for S3 encryption and AWS-KMS for local disk key provider

Command:

```bash
aws emr create-security-configuration --name MySecurityConfig --security-configuration '{
   "EncryptionConfiguration": {
      "EnableInTransitEncryption": true,
      "EnableAtRestEncryption": true,
      "InTransitEncryptionConfiguration": {
         "TLSCertificateConfiguration": {
            "CertificateProviderType": "PEM",
            "S3Object": "s3://mycertstore/artifacts/MyCerts.zip"
         }
      },
      "AtRestEncryptionConfiguration": {
         "S3EncryptionConfiguration": {
            "EncryptionMode": "SSE-S3"
         },
         "LocalDiskEncryptionConfiguration": {
            "EncryptionKeyProviderType": "AwsKms",
            "AwsKmsKey": "arn:aws:kms:us-east-1:123456789012:key/12345678-1234-1234-1234-123456789012"
         }
      }
   }
}'
```

Output:

```json
{
   "CreationDateTime": 1474070889.129,
   "Name": "MySecurityConfig"
}
```
JSON equivalent (contents of security_configuration.json):

```json
{
    "EncryptionConfiguration": {
        "EnableInTransitEncryption": true,
        "EnableAtRestEncryption": true,
        "InTransitEncryptionConfiguration": {
            "TLSCertificateConfiguration": {
                "CertificateProviderType": "PEM",
                "S3object": "s3://mycertstore/artifacts/MyCerts.zip"
            }
        },
        "AtRestEncryptionConfiguration": {
            "S3EncryptionConfiguration": {
                "EncryptionMode": "SSE-S3"
            },
            "LocalDiskEncryptionConfiguration": {
                "EncryptionKeyProviderType": "AwsKms",
                "AwsKmsKey": "arn:aws:kms:us-east-1:123456789012:key/12345678-1234-1234-1234-123456789012"
            }
        }
    }
}
```

Command (using security_configuration.json):

```bash
aws emr create-security-configuration --name "MySecurityConfig" --security-configuration file://./security_configuration.json
```

Output:

```json
{
    "CreationDateTime": 1474070889.129,
    "Name": "MySecurityConfig"
}
```

2. To create a security configuration with Kerberos enabled using cluster-dedicated KDC and cross-realm trust
Command:

```bash
aws emr create-security-configuration --name MySecurityConfig --security-configuration ' {
    "AuthenticationConfiguration": {
        "KerberosConfiguration": {
            "Provider": "ClusterDedicatedKdc",
            "ClusterDedicatedKdcConfiguration": {
                "TicketLifetimeInHours": 24,
                "CrossRealmTrustConfiguration": {
                    "Realm": "AD.DOMAIN.COM",
                    "Domain": "ad.domain.com",
                    "AdminServer": "ad.domain.com",
                    "KdcServer": "ad.domain.com"
                }
            }
        }
    }
}
'
```

Output:

```json
{
    "CreationDateTime": 1490225558.982,
    "Name": "MySecurityConfig"
}
```

JSON equivalent (contents of security_configuration.json):

```json
{
    "AuthenticationConfiguration": {
        "KerberosConfiguration": {
            "Provider": "ClusterDedicatedKdc",
            "ClusterDedicatedKdcConfiguration": {
                "TicketLifetimeInHours": 24,
                "CrossRealmTrustConfiguration": {
                    "Realm": "AD.DOMAIN.COM",
                    "Domain": "ad.domain.com",
                    "AdminServer": "ad.domain.com",
                    "KdcServer": "ad.domain.com"
                }
            }
        }
    }
}
```
Command (using security_configuration.json):

```bash
aws emr create-security-configuration --name "MySecurityConfig" --security-configuration file://./security_configuration.json
```

Output:

```
{
  "CreationDateTime": 1490225558.982,
  "Name": "MySecurityConfig"
}
```

- For API details, see `CreateSecurityConfiguration` in *AWS CLI Command Reference*.

**delete-security-configuration**

The following code example shows how to use `delete-security-configuration`.

**AWS CLI**

**To delete a security configuration in the current region**

Command:

```bash
aws emr delete-security-configuration --name MySecurityConfig
```

Output:

`None`

- For API details, see `DeleteSecurityConfiguration` in *AWS CLI Command Reference*.

**get**

The following code example shows how to use get.
AWS CLI

The following downloads the hadoop-examples.jar archive from the master instance in a cluster with the cluster ID j-3SD91U2E1L2QX:

```bash
aws emr get --cluster-id j-3SD91U2E1L2QX --key-pair-file ~/.ssh/mykey.pem --src /home/hadoop-examples.jar --dest ~
```

• For API details, see Get in AWS CLI Command Reference.

list-clusters

The following code example shows how to use list-clusters.

AWS CLI

The following command lists all active EMR clusters in the current region:

```bash
aws emr list-clusters --active
```

Output:

```json
{
   "Clusters": [
      {
         "Status": {
            "Timeline": {
               "ReadyDateTime": 1433200405.353,
               "CreationDateTime": 1433199926.596
            },
            "State": "WAITING",
            "StateChangeReason": {
               "Message": "Waiting after step completed"
            }
         },
         "NormalizedInstanceHours": 6,
         "Id": "j-3SD91U2E1L2QX",
         "Name": "my-cluster"
      }
   ]
}
```
list-instance-fleets

The following code example shows how to use list-instance-fleets.

AWS CLI

To get configuration details of instance fleets in a cluster

This example lists the details of instance fleets in the cluster specified.

Command:

```
list-instance-fleets --cluster-id 'j-12ABCDEFGHI34JK'
```

Output:

```
{
   "InstanceFleets": [
      {
         "Status": {
            "Timeline": {
               "ReadyDateTime": 1488759094.637,
               "CreationDateTime": 1488758719.817
            },
            "State": "RUNNING",
            "StateChangeReason": {
               "Message": ""
            }
         },
         "ProvisionedSpotCapacity": 6,
         "Name": "CORE",
         "InstanceFleetType": "CORE",
         "LaunchSpecifications": {
            "SpotSpecification": {
               "TimeoutDurationMinutes": 60,
               "TimeoutAction": "TERMINATE_CLUSTER"
            }
         },
         "ProvisionedOnDemandCapacity": 2,
         "InstanceTypeSpecifications": [
```
For API details, see ListInstanceFleets in AWS CLI Command Reference.

list-instances

The following code example shows how to use list-instances.
AWS CLI

The following command lists all of the instances in a cluster with the cluster ID `j-3C6XNQ39VR9WL`:

```bash
aws emr list-instances --cluster-id j-3C6XNQ39VR9WL
```

Output:

```
For a uniform instance group based cluster
{
    "Instances": [
        {
            "Status": {
                "Timeline": {
                    "ReadyDateTime": 1433200400.03,
                    "CreationDateTime": 1433199960.152
                },
                "State": "RUNNING",
                "StateChangeReason": {}
            },
            "Ec2InstanceId": "i-f19ecfee",
            "PublicDnsName": "ec2-52-52-41-150.us-west-2.compute.amazonaws.com",
            "PrivateDnsName": "ip-172-21-11-216.us-west-2.compute.internal",
            "PublicIpAddress": "52.52.41.150",
            "Id": "ci-3NNHQUQ2TWB6Y",
            "PrivateIpAddress": "172.21.11.216"
        },
        {
            "Status": {
                "Timeline": {
                    "ReadyDateTime": 1433200400.031,
                    "CreationDateTime": 1433199949.102
                },
                "State": "RUNNING",
                "StateChangeReason": {}
            },
            "Ec2InstanceId": "i-1feee4c2",
            "PublicDnsName": "ec2-52-63-246-32.us-west-2.compute.amazonaws.com",
            "PrivateDnsName": "ip-172-31-24-130.us-west-2.compute.internal",
            "PublicIpAddress": "52.63.246.32",
            "Id": "ci-GAOCMKNKDCV7",
            "PrivateIpAddress": "172.21.11.215"
        }
    ]
}
```
For a fleet based cluster:
{
   "Instances": [  
   
   "Status": {  
   "Timeline": {  
   "ReadyDateTime": 1487810810.878,  
   "CreationDateTime": 1487810588.367,  
   "EndDateTime": 1488022990.924  
   },  
   "State": "TERMINATED",  
   "StateChangeReason": {  
   "Message": "Instance was terminated."  
   }  
   },  
   "Ec2InstanceId": "i-xxxxx",  
   "InstanceFleetId": "if-xxxxx",  
   "EbsVolumes": [],  
   "PublicDnsName": "ec2-xx-xxx-xxx-xxx.compute-1.amazonaws.com",  
   "InstanceType": "m3.xlarge",  
   "PrivateDnsName": "ip-xx-xx-xxx-xx.ec2.internal",  
   "Market": "SPOT",  
   "PublicIpAddress": "xx.xx.xxx.xxx",  
   "Id": "ci-2W3TDF8F47UAD",  
   "PrivateIpAddress": "172.21.11.214"  
   ]  
}
For API details, see ListInstances in AWS CLI Command Reference.

list-security-configurations

The following code example shows how to use list-security-configurations.

AWS CLI

To list security configurations in the current region

Command:

```
aws emr list-security-configurations
```

Output:

```
{
   "SecurityConfigurations": [
       {
           "CreationDateTime": 1473889697.417,
           "Name": "MySecurityConfig-1"
       },
       {
           "CreationDateTime": 1473889697.417,
           "Name": "MySecurityConfig-2"
       }
   ]
}
```

For API details, see ListSecurityConfigurations in AWS CLI Command Reference.

modify-cluster-attributes

The following code example shows how to use modify-cluster-attributes.
AWS CLI

The following command sets the visibility of an EMR cluster with the ID j-301CDNY0J5XM4 to all users:

```
aws emr modify-cluster-attributes --cluster-id j-301CDNY0J5XM4 --visible-to-all-users
```

- For API details, see [ModifyClusterAttributes](#) in AWS CLI Command Reference.

modify-instance-fleet

The following code example shows how to use modify-instance-fleet.

AWS CLI

**To change the target capacities of an instance fleet**

This example changes the On-Demand and Spot target capacities to 1 for the instance fleet specified.

Command:

```
aws emr modify-instance-fleet --cluster-id 'j-12ABCDEFGHI34JK' --instance-fleet-InstanceFleetId='if-2ABC4DEFGHIJ4',TargetOnDemandCapacity=1,TargetSpotCapacity=1
```

- For API details, see [ModifyInstanceFleet](#) in AWS CLI Command Reference.

put

The following code example shows how to use put.

AWS CLI

The following command uploads a file named healthcheck.sh to the master instance in a cluster with the cluster ID j-3SD91U2E1L2QX:

```
aws emr put --cluster-id j-3SD91U2E1L2QX --key-pair-file ~/.ssh/mykey.pem --src ~/scripts/healthcheck.sh --dest /home/hadoop/bin/healthcheck.sh
```

- For API details, see [Put](#) in AWS CLI Command Reference.
remove-tags

The following code example shows how to use remove-tags.

AWS CLI

The following command removes a tag with the key `prod` from a cluster with the cluster ID `j-3SD91U2E1L2QX`:

```
aws emr remove-tags --resource-id j-3SD91U2E1L2QX --tag-keys prod
```

- For API details, see RemoveTags in AWS CLI Command Reference.

schedule-hbase-backup

The following code example shows how to use schedule-hbase-backup.

AWS CLI

**Note: This command can only be used with HBase on AMI version 2.x and 3.x**

1. To schedule a full HBase backup

   Command:

   ```
   aws emr schedule-hbase-backup --cluster-id j-XXXXXXYY --type full --dir s3://myBucket/backup --interval 10 --unit hours --start-time 2014-04-21T05:26:10Z --consistent
   ```

   Output:

   None

2. To schedule an incremental HBase backup

   Command:

   ```
   aws emr schedule-hbase-backup --cluster-id j-XXXXXXYY --type incremental --dir s3://myBucket/backup --interval 30 --unit minutes --start-time 2014-04-21T05:26:10Z --consistent
   ```
Output:

None

- For API details, see ScheduleHbaseBackup in AWS CLI Command Reference.

socks

The following code example shows how to use socks.

AWS CLI

The following command opens a socks connection with the master instance in a cluster with the cluster ID j-3SD91U2E1L2QX:

```
aws emr socks --cluster-id j-3SD91U2E1L2QX --key-pair-file ~/.ssh/mykey.pem
```

The key pair file option takes a local path to a private key file.
- For API details, see Socks in AWS CLI Command Reference.

ssh

The following code example shows how to use ssh.

AWS CLI

The following command opens an ssh connection with the master instance in a cluster with the cluster ID j-3SD91U2E1L2QX:

```
aws emr ssh --cluster-id j-3SD91U2E1L2QX --key-pair-file ~/.ssh/mykey.pem
```

The key pair file option takes a local path to a private key file.

Output:

```
ssh -o StrictHostKeyChecking=no -o ServerAliveInterval=10 -i /home/local/user/.ssh/mykey.pem hadoop@ec2-52-52-41-150.us-west-2.compute.amazonaws.com
Warning: Permanently added 'ec2-52-52-41-150.us-west-2.compute.amazonaws.com,52.52.41.150' (ECDSA) to the list of known hosts.
```
Welcome to Amazon Elastic MapReduce running Hadoop and Amazon Linux.

Hadoop is installed in /home/hadoop. Log files are in /mnt/var/log/hadoop. Check /mnt/var/log/hadoop/steps for diagnosing step failures.

The Hadoop UI can be accessed via the following commands:

- NameNode: lynx http://ip-172-21-11-216:9101/

Amazon EMR on EKS examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon EMR on EKS.

**Actions** are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

**Scenarios** are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.
Topics

• **Actions**

Actions

**update-role-trust-policy**

The following code example shows how to use `update-role-trust-policy`.

**AWS CLI**

To update the trust policy of an IAM Role to be used with Amazon EMR on EKS

This example command updates the trust policy of a role named `example_iam_role` such that it can be used with Amazon EMR on EKS with `example_namespace` namespace from an EKS cluster named `example_cluster`.

Command:

```bash
aws emr-containers update-role-trust-policy --cluster example_cluster --namespace example_namespace --role-name example_iam_role
```

Output:

If the trust policy has already been updated, then the output will be:

```
Trust policy statement already exists for role example_iam_role. No changes were made!
```

If the trust policy has not been updated yet, then the output will be:

```
Successfully updated trust policy of role example_iam_role.
```

• For API details, see [UpdateRoleTrustPolicy](https://docs.aws.amazon.com/cli/latest/reference/emr-containers/update-role-trust-policy.html) in *AWS CLI Command Reference*.

**EventBridge examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with EventBridge.
Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics
- Actions

### Actions

#### Add a target

The following code example shows how to add a target to an Amazon EventBridge event.

**AWS CLI**

**To add targets for CloudWatch Events rules**

This example adds a Lambda function as the target of a rule:

```
aws events put-targets --rule DailyLambdaFunction --targets "Id"="1","Arn"="arn:aws:lambda:us-east-1:123456789012:function:MyFunctionName"
```

This example sets an Amazon Kinesis stream as the target, so that events caught by this rule are relayed to the stream:

```
aws events put-targets --rule EC2InstanceStateChanges --targets "Id"="1","Arn"="arn:aws:kinesis:us-east-1:123456789012:stream/MyStream","RoleArn"="arn:aws:iam::123456789012:role/MyRoleForThisRule"
```

This example sets two Amazon Kinesis streams as targets for one rule:

```
aws events put-targets --rule DailyLambdaFunction --targets "Id"="Target1","Arn"="arn:aws:kinesis:us-east-1:379642911888:stream/MyStream1","RoleArn"="arn:aws:iam::379642911888:role/ MyRoleToAccessLambda"
```
Create a rule

The following code example shows how to create an Amazon EventBridge rule.

AWS CLI

To create CloudWatch Events rules

This example creates a rule that triggers every day at 9:00am (UTC). If you use put-targets to add a Lambda function as a target of this rule, you could run the Lambda function every day at the specified time:

```
aws events put-rule --name "DailyLambdaFunction" --schedule-expression "cron(0 9 * * ? *)"
```

This example creates a rule that triggers when any EC2 instance in the region changes state:

```
aws events put-rule --name "EC2InstanceStateChanges" --event-pattern "{"source": ["aws.ec2"], "detail-type": ["EC2 Instance State-change Notification"]}" --role-arn "arn:aws:iam::123456789012:role/MyRoleForThisRule"
```

This example creates a rule that triggers when any EC2 instance in the region is stopped or terminated:

```
aws events put-rule --name "EC2InstanceStateChangeStopOrTerminate" --event-pattern "{"source": ["aws.ec2"], "detail-type": ["EC2 Instance State-change Notification"], "detail": {"state": ["stopped", "terminated"]}}" --role-arn "arn:aws:iam::123456789012:role/MyRoleForThisRule"
```

For API details, see PutRule in AWS CLI Command Reference.

Delete a rule

The following code example shows how to delete an Amazon EventBridge rule.
AWS CLI

To delete a CloudWatch Events rule

This example deletes the rule named EC2InstanceStateChanges:

```
aws events delete-rule --name "EC2InstanceStateChanges"
```

- For API details, see [DeleteRule](#) in *AWS CLI Command Reference*.

Describe a rule

The following code example shows how to describe an Amazon EventBridge rule.

AWS CLI

To display information about a CloudWatch Events rule

This example displays information about the rule named DailyLambdaFunction:

```
aws events describe-rule --name "DailyLambdaFunction"
```

- For API details, see [DescribeRule](#) in *AWS CLI Command Reference*.

Disable a rule

The following code example shows how to disable an Amazon EventBridge rule.

AWS CLI

To disable a CloudWatch Events rule

This example disables the rule named DailyLambdaFunction. The rule is not deleted:

```
aws events disable-rule --name "DailyLambdaFunction"
```

- For API details, see [DisableRule](#) in *AWS CLI Command Reference*.

Enable a rule

The following code example shows how to enable an Amazon EventBridge rule.
AWS CLI

To enable a CloudWatch Events rule

This example enables the rule named DailyLambdaFunction, which had been previously disabled:

```
aws events enable-rule --name "DailyLambdaFunction"
```

- For API details, see [EnableRule](https://docs.aws.amazon.com/cli/latest/reference/events/enable-rule.html) in *AWS CLI Command Reference*.

List rule names for a target

The following code example shows how to list Amazon EventBridge rule names for a target.

AWS CLI

To display all the rules that have a specified target

This example displays all rules that have the Lambda function named "MyFunctionName" as the target:

```
aws events list-rule-names-by-target --target-arn "arn:aws:lambda:us-east-1:123456789012:function:MyFunctionName"
```

- For API details, see [ListRuleNamesByTarget](https://docs.aws.amazon.com/cli/latest/reference/events/list-rule-names-by-target.html) in *AWS CLI Command Reference*.

List rules

The following code example shows how to list Amazon EventBridge rules.

AWS CLI

To display a list of all CloudWatch Events rules

This example displays all CloudWatch Events rules in the region:

```
aws events list-rules
```

To display a list of CloudWatch Events rules beginning with a certain string.
This example displays all CloudWatch Events rules in the region that have a name starting with "Daily":

```bash
aws events list-rules --name-prefix "Daily"
```

- For API details, see `ListRules` in *AWS CLI Command Reference*.

**List targets for a rule**

The following code example shows how to list Amazon EventBridge targets for a rule.

**AWS CLI**

**To display all the targets for a CloudWatch Events rule**

This example displays all the targets of the rule named DailyLambdaFunction:

```bash
aws events list-targets-by-rule --rule "DailyLambdaFunction"
```

- For API details, see `ListTargetsByRule` in *AWS CLI Command Reference*.

**Remove targets from a rule**

The following code example shows how to remove Amazon EventBridge targets from a rule.

**AWS CLI**

**To remove a target for an event**

This example removes the Amazon Kinesis stream named MyStream1 from being a target of the rule DailyLambdaFunction. When DailyLambdaFunction was created, this stream was set as a target with an ID of Target1:

```bash
aws events remove-targets --rule "DailyLambdaFunction" --ids "Target1"
```

- For API details, see `RemoveTargets` in *AWS CLI Command Reference*.

**Send events**

The following code example shows how to send Amazon EventBridge events.
AWS CLI

To send a custom event to CloudWatch Events

This example sends a custom event to CloudWatch Events. The event is contained within the putevents.json file:

```
aws events put-events --entries file://putevents.json
```

Here are the contents of the putevents.json file:

```
[
    {
        "Source": "com.mycompany.myapp",
        "Detail": "{ "key1": "value1", "key2": "value2" }",
        "Resources": [
            "resource1",
            "resource2"
        ],
        "DetailType": "myDetailType"
    },
    {
        "Source": "com.mycompany.myapp",
        "Detail": "{ "key1": "value3", "key2": "value4" }",
        "Resources": [
            "resource1",
            "resource2"
        ],
        "DetailType": "myDetailType"
    }
]
```

- For API details, see PutEvents in AWS CLI Command Reference.

**test-event-pattern**

The following code example shows how to use test-event-pattern.

AWS CLI

To check whether an event pattern matches a specified event
This example tests whether the pattern "source:com.mycompany.myapp" matches the specified event. In this example, the output would be "true":

```shell
aws events test-event-pattern --event-pattern "{"source":["com.mycompany.myapp "]}" --event "{"id":"1","source":"com.mycompany.myapp","detail-type": "myDetailType","account":123456789012,"region":"us-east-1","time":"2017-04-11T20:11:04Z"}"
```

- For API details, see [TestEventPattern](#) in [AWS CLI Command Reference](#).

**Firewall Manager examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Firewall Manager.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- **Actions**

**Actions**

**associate-admin-account**

The following code example shows how to use `associate-admin-account`.

**AWS CLI**

To set the Firewall Manager administrator account

The following `associate-admin-account` example sets the administrator account for Firewall Manager.
aws fms associate-admin-account \ 
  --admin-account 123456789012

This command produces no output.

For more information, see Set the AWS Firewall Manager Administrator Account in the AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide.

• For API details, see AssociateAdminAccount in AWS CLI Command Reference.

deleter-notificatio-channel

The following code example shows how to use delete-notification-channel.

AWS CLI

To remove the SNS topic information for Firewall Manager logs

The following delete-notification-channel example removes the SNS topic information.

aws fms delete-notification-channel

This command produces no output.

For more information, see Configure Amazon SNS Notifications and Amazon CloudWatch Alarms in the AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide.

• For API details, see DeleteNotificationChannel in AWS CLI Command Reference.

delete-policy

The following code example shows how to use delete-policy.

AWS CLI

To delete a Firewall Manager policy

The following delete-policy example removes the policy with the specified ID, along with all of its resources.

aws fms delete-policy \ 
  --policy-id a1b2c3d4-5678-90ab-cdef-EXAMPLE11111 \
--delete-all-policy-resources

This command produces no output.

For more information, see Working with AWS Firewall Manager Policies in the AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide.

- For API details, see DeletePolicy in AWS CLI Command Reference.

**disassociate-admin-account**

The following code example shows how to use disassociate-admin-account.

**AWS CLI**

To remove the Firewall Manager administrator account

The following disassociate-admin-account example removes the current administrator account association from Firewall Manager.

```bash
aws fms disassociate-admin-account
```

This command produces no output.

For more information, see Set the AWS Firewall Manager Administrator Account in the AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide.

- For API details, see DisassociateAdminAccount in AWS CLI Command Reference.

**get-admin-account**

The following code example shows how to use get-admin-account.

**AWS CLI**

To retrieve the Firewall Manager administrator account

The following get-admin-account example retrieves the administrator account.

```bash
aws fms get-admin-account
```

Output:

---

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For more information, see AWS Firewall Manager Prerequisites in the AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide.

- For API details, see GetAdminAccount in AWS CLI Command Reference.

**get-compliance-detail**

The following code example shows how to use get-compliance-detail.

**AWS CLI**

To retrieve the compliance information for an account

The following get-compliance-detail example retrieves compliance information for the specified policy and member account.

```
aws fms get-compliance-detail \
  --policy-id a1b2c3d4-5678-90ab-cdef-EXAMPLE11111 \
  --member-account 123456789012
```

Output:

```
{
    "PolicyComplianceDetail": {
        "EvaluationLimitExceeded": false,
        "IssueInfoMap": {},
        "MemberAccount": "123456789012",
        "PolicyId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
        "PolicyOwner": "123456789012",
        "Violators": []
    }
}
```

For more information, see Viewing Resource Compliance with a Policy in the AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide.

- For API details, see GetComplianceDetail in AWS CLI Command Reference.
get-notification-channel

The following code example shows how to use get-notification-channel.

**AWS CLI**

To retrieve the SNS topic information for Firewall Manager logs

The following `get-notification-channel` example retrieves the SNS topic information.

```bash
aws fms get-notification-channel
```

Output:

```
{
   "SnsRoleName": "arn:aws:iam::123456789012:role/aws-service-role/fms.amazonaws.com/AWSServiceRoleForFMS"
}
```

For more information, see [Configure Amazon SNS Notifications and Amazon CloudWatch Alarms](#) in the *AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide*.

- For API details, see [GetNotificationChannel](#) in *AWS CLI Command Reference*.

get-policy

The following code example shows how to use get-policy.

**AWS CLI**

To retrieve a Firewall Manager policy

The following `get-policy` example retrieves the policy with the specified ID.

```bash
aws fms get-policy 
   --policy-id a1b2c3d4-5678-90ab-cdef-EXAMPLE11111
```

Output:

```
{
   "Policy": {
```

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"PolicyId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
"PolicyName": "test",
"PolicyUpdateToken": "1:p+2RpKR4wPFx7mcrL1UQQ==",
"SecurityServicePolicyData": {
  "Type": "SECURITY_GROUPS_COMMON",
  "ResourceType": "AWS::EC2::Instance",
  "ResourceTags": [],
  "ExcludeResourceTags": false,
  "RemediationEnabled": false
},
"PolicyArn": "arn:aws:fms:us-west-2:123456789012:policy/d1ac59b8-938e-42b3-b2e0-7c620422ddc2"
}

For more information, see Working with AWS Firewall Manager Policies in the AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide.

- For API details, see GetPolicy in AWS CLI Command Reference.

**list-compliance-status**

The following code example shows how to use list-compliance-status.

**AWS CLI**

To retrieve the policy compliance information for member accounts

The following list-compliance-status example retrieves member account compliance information for the specified policy.

```
aws fms list-compliance-status \\
   --policy-id a1b2c3d4-5678-90ab-cdef-EXAMPLE11111
```

**Output:**

```
{
  "PolicyComplianceStatusList": [
  {
```
For more information, see Viewing Resource Compliance with a Policy in the AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide.

- For API details, see ListComplianceStatus in AWS CLI Command Reference.

list-member-accounts

The following code example shows how to use list-member-accounts.

AWS CLI

To retrieve the member accounts in the organization

The following list-member-accounts example lists all of the member accounts that are in the Firewall Manager administrator's organization.

```
aws fms list-member-accounts
```

Output:

```
{
```

For more information, see [AWS Firewall Manager](#) in the AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide.

- For API details, see [ListMemberAccounts](#) in AWS CLI Command Reference.

**list-policies**

The following code example shows how to use `list-policies`.

**AWS CLI**

**To retrieve all Firewall Manager policies**

The following `list-policies` example retrieves the list of policies for the account. In this example, the output is limited to two results per request. Each call returns a NextToken that can be used as the value for the `--starting-token` parameter in the next `list-policies` call to get the next set of results for the list.

```
aws fms list-policies \
   --max-items 2
```

**Output:**

```
{
   "PolicyList": [
   {
      "PolicyId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE111111",
      "PolicyName": "test",
      "ResourceType": "AWS::EC2::Instance",
      "SecurityServiceType": "SECURITY_GROUPS_COMMON",
      "RemediationEnabled": false
   },
   {
```
"PolicyId": "457c9b21-fc94-406c-ae63-21217395ba72",
"PolicyName": "test",
"ResourceType": "AWS::EC2::Instance",
"SecurityServiceType": "SECURITY_GROUPS_COMMON",
"RemediationEnabled": false
]

"NextToken": "eyJ0ZXh0VG9rZW4iOiBudWxsLCAiYm90b190cnVuY2F0ZV9hbW91bnQiOiAyfQ=="
]

For more information, see Working with AWS Firewall Manager Policies in the AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide.

- For API details, see ListPolicies in AWS CLI Command Reference.

**put-notification-channel**

The following code example shows how to use `put-notification-channel`.

**AWS CLI**

**To set the SNS topic information for Firewall Manager logs**

The following `put-notification-channel` example sets the SNS topic information.

```
aws fms put-notification-channel \ 
  --sns-role-name arn:aws:iam::123456789012:role/aws-service-role/fms.amazonaws.com/AWSServiceRoleForFMS
```

This command produces no output.

For more information, see Configure Amazon SNS Notifications and Amazon CloudWatch Alarms in the AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide.

- For API details, see PutNotificationChannel in AWS CLI Command Reference.

**put-policy**

The following code example shows how to use `put-policy`.
AWS CLI

To create a Firewall Manager policy

The following put-policy example creates a Firewall Manager security group policy.

```
aws fms put-policy \
   --cli-input-json file://policy.json
```

Contents of policy.json:

```
{
   "Policy": {
      "PolicyName": "test",
      "SecurityServicePolicyData": {
         "Type": "SECURITY_GROUPS_USAGE_AUDIT",
         "ManagedServiceData": "{\"type\":\"SECURITY_GROUPS_USAGE_AUDIT\",\
            "deleteUnusedSecurityGroups":false,"coalesceRedundantSecurityGroups":true}\",
         "ResourceType": "AWS::EC2::SecurityGroup",
         "ResourceTags": [],
         "ExcludeResourceTags": false,
         "RemediationEnabled": false
      },
      "TagList": [
         {
            "Key": "foo",
            "Value": "foo"
         }
      ]
   }
}
```

Output:

```
{
   "Policy": {
      "PolicyId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
      "PolicyName": "test",
      "PolicyUpdateToken": "1:X9QGexP7HASDlsFp+G31IW==",
      "SecurityServicePolicyData": {
         "Type": "SECURITY_GROUPS_USAGE_AUDIT",
      }
   }
```

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For more information, see [Working with AWS Firewall Manager Policies](#) in the *AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide*.

- For API details, see [PutPolicy](#) in *AWS CLI Command Reference*.

**AWS FIS examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS FIS.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- [Actions](#)

**Actions**

`create-experiment-template`

The following code example shows how to use `create-experiment-template`. 

```json
"ManagedServiceData": {"type": "SECURITY_GROUPS_USAGE_AUDIT","deleteUnusedSecurityGroups": false,"coalesceRedundantSecurityGroups": true,"optionalDelayForUnusedInMinutes": null" },
"ResourceType": "AWS::EC2::SecurityGroup",
"ResourceTags": [],
"ExcludeResourceTags": false,
"RemediationEnabled": false
},
"PolicyArn": "arn:aws:fms:us-west-2:123456789012:policy/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111"

For more information, see [Working with AWS Firewall Manager Policies](#) in the *AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide*.

- For API details, see [PutPolicy](#) in *AWS CLI Command Reference*.

**AWS FIS examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS FIS.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- [Actions](#)

**Actions**

`create-experiment-template`

The following code example shows how to use `create-experiment-template`.
AWS CLI

To create an experiment template

The following create-experiment-template example creates an experiment template in your AWS FIS account.

```bash
aws fis create-experiment-template \
   --cli-input-json file://myfile.json
```

Contents of `myfile.json`:

```json
{
   "description": "experimentTemplate",
   "stopConditions": [
      {
         "source": "aws:cloudwatch:alarm",
         "value": "arn:aws:cloudwatch:us-west-2:123456789012:alarm:alarmName"
      }
   ],
   "targets": {
      "Instances-Target-1": {
         "resourceType": "aws:ec2:instance",
         "resourceArns": [
            "arn:aws:ec2:us-west-2:123456789012:instance/i-12a3b4c56d78e9012"
         ],
         "selectionMode": "ALL"
      }
   },
   "actions": {
      "reboot": {
         "actionId": "aws:ec2:reboot-instances",
         "description": "reboot",
         "parameters": {},
         "targets": {
            "Instances": "Instances-Target-1"
         }
      }
   },
   "roleArn": "arn:aws:iam::123456789012:role/myRole"
}
```

Output:

Actions and scenarios
For more information, see Create an experiment template in the AWS Fault Injection Simulator User Guide.

- For API details, see CreateExperimentTemplate in AWS CLI Command Reference.
delete-experiment-template

The following code example shows how to use delete-experiment-template.

AWS CLI

To delete an experiment template

The following delete-experiment-template example deletes the specified experiment template.

```
aws fis delete-experiment-template \
--id ABCDE1fgHIJkLmNop
```

Output:

```
{
    "experimentTemplate": {
        "id": "ABCDE1fgHIJkLmNop",
        "description": "myExperimentTemplate",
        "targets": {
            "Instances-Target-1": {
                "resourceType": "aws:ec2:instance",
                "resourceArns": [
                    "arn:aws:ec2:us-west-2:123456789012:instance/i-12a3b4c56d78e9012"
                ],
                "selectionMode": "ALL"
            }
        },
        "actions": {
            "testaction": {
                "actionId": "aws:ec2:stop-instances",
                "parameters": {},
                "targets": {
                    "Instances": "Instances-Target-1"
                }
            }
        },
        "stopConditions": [
            {
                "source": "none"
            }
        ]
    }
}
```
For more information, see [Delete an experiment template](#) in the [AWS Fault Injection Simulator User Guide](#).

- For API details, see [DeleteExperimentTemplate](#) in [AWS CLI Command Reference](#).

get-action

The following code example shows how to use get-action.

**AWS CLI**

To get action details

The following get-action example gets the details of the specified action.

```bash
aws fis get-action \
   --id aws:ec2:stop-instances
```

Output:

```json
{
   "action": {
      "id": "aws:ec2:stop-instances",
      "description": "Stop the specified EC2 instances.",
      "parameters": {
         "startInstancesAfterDuration": {
            "description": "The time to wait before restarting the instances (ISO 8601 duration).",
            "required": false
         }
      },
      "targets": {
         "Instances": {
            "resourceType": "aws:ec2:instance"
         }
      }
   }
}
```
The following code example shows how to use `get-experiment`.

**AWS CLI**

To get experiment details

The following `get-experiment` example gets the details of the specified experiment.

```
aws fis get-experiment \
   --id ABC12DeFghI3jKLMNOP
```

Output:

```json
{
   "id": "ABC12DeFghI3jKLMNOP",
   "experimentTemplateId": "ABCDE1fgHIjKLMnop",
   "roleArn": "arn:aws:iam::123456789012:role/myRole",
   "state": {
      "status": "completed",
      "reason": "Experiment completed."
   },
   "targets": {
      "Instances-Target-1": {
         "resourceType": "aws:ec2:instance",
         "resourceArns": [
            "arn:aws:ec2:us-west-2:123456789012:instance/i-12a3b4c56d78e9012"
         ],
         "selectionMode": "ALL"
      }
   }
}
```
For more information, see [Experiments for AWS FIS](#) in the [AWS Fault Injection Simulator User Guide](#).

- For API details, see [GetExperiment](#) in [AWS CLI Command Reference](#).

get-experiment-template

The following code example shows how to use get-experiment-template.

**AWS CLI**

**To get experiment template details**

The following get-experiment-template example gets the details of the specified experiment template.

```
aws fis get-experiment-template \
```
Output:

```
{
    "experimentTemplate": {
        "id": "ABCDE1fgHIJkLmNop",
        "description": "myExperimentTemplate",
        "targets": {
            "Instances-Target-1": {
                "resourceType": "aws:ec2:instance",
                "resourceArns": [
                    "arn:aws:ec2:us-west-2:123456789012:instance/i-12a3b4c56d78e9012"
                ],
                "selectionMode": "ALL"
            }
        },
        "actions": {
            "testaction": {
                "actionId": "aws:ec2:stop-instances",
                "parameters": {},
                "targets": {
                    "Instances": "Instances-Target-1"
                }
            }
        },
        "stopConditions": [
            {
                "source": "none"
            }
        ],
        "creationTime": 1616017191.124,
        "lastUpdateTime": 1616017331.51,
        "roleArn": "arn:aws:iam::123456789012:role/FISRole",
        "tags": {
            "key": "value"
        }
    }
}
```

For more information, see [Experiment templates](#) in the *AWS Fault Injection Simulator User Guide*. 

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list-actions

The following code example shows how to use list-actions.

AWS CLI

To list actions

The following list-actions example lists the available actions.

```bash
aws fis list-actions
```

Output:

```json
{
  "actions": [
    {
      "id": "aws:ec2:reboot-instances",
      "description": "Reboot the specified EC2 instances.",
      "targets": {
        "Instances": {
          "resourceType": "aws:ec2:instance"
        }
      },
      "tags": {}
    },
    {
      "id": "aws:ec2:stop-instances",
      "description": "Stop the specified EC2 instances.",
      "targets": {
        "Instances": {
          "resourceType": "aws:ec2:instance"
        }
      },
      "tags": {}
    },
    {
      "id": "aws:ec2:terminate-instances",
      "description": "Terminate the specified EC2 instances.",
      "targets": {
        "Instances": {
          "resourceType": "aws:ec2:instance"
        }
      },
      "tags": {}
    }
  ]
}
```
"resourceType": "aws:ec2:instance"
}
,"tags": {}}
],
{
"id": "aws:ecs:drain-container-instances",
"description": "Drain percentage of underlying EC2 instances on an ECS cluster."
,"targets": {
 "Clusters": {
  "resourceType": "aws:ecs:cluster"
 }
 },
"tags": {}}
],
{
"id": "aws:eks:terminate-nodegroup-instances",
"description": "Terminates a percentage of the underlying EC2 instances in an EKS cluster."
,"targets": {
 "Nodegroups": {
  "resourceType": "aws:eks:nodegroup"
 }
 },
"tags": {}}
],
{
"id": "aws:fis:inject-api-internal-error",
"description": "Cause an AWS service to return internal error responses for specific callers and operations."
,"targets": {
 "Roles": {
  "resourceType": "aws:iam:role"
 }
 },
"tags": {}}
],
{
"id": "aws:fis:inject-api-throttle-error",
"description": "Cause an AWS service to return throttled responses for specific callers and operations."
,"targets": {
 "Roles": {


"resourceType": "aws:iam:role"
},
"tags": {}
},
{
"id": "aws:fis:inject-api-unavailable-error",
"description": "Cause an AWS service to return unavailable error responses for specific callers and operations.",
"targets": {
"Roles": {
"resourceType": "aws:iam:role"
}
},
"tags": {}
},
{
"id": "aws:fis:wait",
"description": "Wait for the specified duration. Stop condition monitoring will continue during this time.",
"tags": {}
},
{
"id": "aws:rds:failover-db-cluster",
"description": "Failover a DB Cluster to one of the replicas.",
"targets": {
"Clusters": {
"resourceType": "aws:rds:cluster"
}
},
"tags": {}
},
{
"id": "aws:rds:reboot-db-instances",
"description": "Reboot the specified DB instances.",
"targets": {
"DBInstances": {
"resourceType": "aws:rds:db"
}
},
"tags": {}
},
{
"id": "aws:ssm:send-command",
"description": "Send a command to a target.",
"targets": {
"Targets": {
"resourceType": "aws:ssm:target"
}
},
"tags": {}
}
"description": "Run the specified SSM document.",
"targets": {
   "Instances": {
      "resourceType": "aws:ec2:instance"
   },
   "tags": {}
}
}

For more information, see Actions in the AWS Fault Injection Simulator User Guide.

- For API details, see ListActions in AWS CLI Command Reference.

list-experiment-templates

The following code example shows how to use list-experiment-templates.

AWS CLI

To list experiment templates

The following list-experiment-templates example lists the experiment templates in your AWS account.

aws fis list-experiment-templates

Output:

```json
{
   "experimentTemplates": [
      {
         "id": "ABCDE1fgHIJkLmNop",
         "description": "myExperimentTemplate",
         "creationTime": 1616017191.124,
         "lastUpdateTime": 1616017191.124,
         "tags": {
            "key": "value"
         }
      }
   ]
}```
For more information, see Experiment templates in the AWS Fault Injection Simulator User Guide.

- For API details, see ListExperimentTemplates in AWS CLI Command Reference.

list-experiments

The following code example shows how to use list-experiments.

AWS CLI

To list experiments

The following list-experiments example lists the experiments in your AWS account.

```bash
aws fis list-experiments
```

Output:

```
{
  "experiments": [
    {
      "id": "ABCdeF1GHijKLM23NO",
      "experimentTemplateId": "ABCDE1fgHIjKLMnop",
      "state": {
        "status": "running",
        "reason": "Experiment is running."
      },
      "creationTime": 1616017341.197,
      "tags": {
        "key": "value"
      }
    }
  ]
}
```

For more information, see Experiments in the AWS Fault Injection Simulator User Guide.

- For API details, see ListExperiments in AWS CLI Command Reference.
list-tags-for-resource

The following code example shows how to use list-tags-for-resource.

AWS CLI

To list tags for a resource

The following list-tags-for-resource example lists the tags for the specified resource.

```
aws fis list-tags-for-resource \\
```

Output:

```
{
    "tags": {
        "key1": "value1",
        "key2": "value2"
    }
}
```

For more information, see Tag your AWS FIS resources in the AWS Fault Injection Simulator User Guide.

- For API details, see ListTagsForResource in AWS CLI Command Reference.

start-experiment

The following code example shows how to use start-experiment.

AWS CLI

To start an experiment

The following start-experiment example starts the specified experiment.

```
aws fis start-experiment \\
   --experiment-template-id ABCDE1fgHIJkLmNop
```

Output:

```
{
```

Actions and scenarios
"experiment": {
    "id": "ABC12DeFghI3jKLMNOP",
    "experimentTemplateId": "ABCDE1fgHIjkLmNop",
    "roleArn": "arn:aws:iam::123456789012:role/myRole",
    "state": {
        "status": "initiating",
        "reason": "Experiment is initiating."
    },
    "targets": {
        "Instances-Target-1": {
            "resourceType": "aws:ec2:instance",
            "resourceArns": [
                "arn:aws:ec2:us-west-2:123456789012:instance/i-12a3b4c56d78e9012"
            ],
            "selectionMode": "ALL"
        }
    },
    "actions": {
        "reboot": {
            "actionId": "aws:ec2:reboot-instances",
            "parameters": {},
            "targets": {
                "Instances": "Instances-Target-1"
            },
            "state": {
                "status": "pending",
                "reason": "Initial state"
            }
        }
    },
    "stopConditions": [
        { "source": "none" }
    ],
    "creationTime": 1616432464.025,
    "startTime": 1616432464.374,
    "tags": {}
}
For more information, see Experiments for AWS FIS in the AWS Fault Injection Simulator User Guide.

- For API details, see StartExperiment in AWS CLI Command Reference.

**stop-experiment**

The following code example shows how to use stop-experiment.

**AWS CLI**

**To stop an experiment**

The following stop-experiment example stops the specified experiment from running.

```bash
aws fis stop-experiment \
--id ABC12DeFGhI3jKLMNOP
```

**Output:**

```json
{
    "experiment": {
        "id": "ABC12DeFGhI3jKLMNOP",
        "experimentTemplateId": "ABCDE1fgHIJkLmNop",
        "roleArn": "arn:aws:iam::123456789012:role/myRole",
        "state": {
            "status": "stopping",
            "reason": "Stopping Experiment."
        },
        "targets": {
            "Instances-Target-1": {
                "resourceType": "aws:ec2:instance",
                "resourceArns": [
                    "arn:aws:ec2:us-west-2:123456789012:instance/i-12a3b4c56d78e9012"
                ],
                "selectionMode": "ALL"
            }
        },
        "actions": {
            "reboot": {
                "actionId": "aws:ec2:reboot-instances",
            }...
```
For more information, see [Experiments for AWS FIS](https://docs.aws.amazon.com/fis/latest/userguide) in the *AWS Fault Injection Simulator User Guide*.

- For API details, see [StopExperiment](https://docs.aws.amazon.com/cli/latest/reference/fis/stopexperiment.html) in *AWS CLI Command Reference*.

**tag-resource**

The following code example shows how to use `tag-resource`.
AWS CLI

To tag a resource

The following tag-resource example tags the specified resource.

```bash
aws fis tag-resource \
  --tags key1=value1,key2=value2
```

This command produces no output.

For more information, see Tag your AWS FIS resources in the AWS Fault Injection Simulator User Guide.

- For API details, see TagResource in AWS CLI Command Reference.

untag-resource

The following code example shows how to use untag-resource.

AWS CLI

To untag a resource

The following untag-resource example removes the tags from the specified resource.

```bash
aws fis untag-resource \
```

This command produces no output.

For more information, see Tag your AWS FIS resources in the AWS Fault Injection Simulator User Guide.

- For API details, see UntagResource in AWS CLI Command Reference.

update-experiment-template

The following code example shows how to use update-experiment-template.
AWS CLI

To update an experiment template

The following update-experiment-template example updates the description of the specified experiment template.

```bash
aws fis update-experiment-template \
   --id ABCDE1fgHIJkLmNop \
   --description myExperimentTemplate
```

Output:

```json
{
   "experimentTemplate": {
      "id": "ABCDE1fgHIJkLmNop",
      "description": "myExperimentTemplate",
      "targets": {
         "Instances-Target-1": {
            "resourceType": "aws:ec2:instance",
            "resourceArns": [
               "arn:aws:ec2:us-west-2:123456789012:instance/i-12a3b4c56d78e9012"
            ],
            "selectionMode": "ALL"
         }
      },
      "actions": {
         "testaction": {
            "actionId": "aws:ec2:stop-instances",
            "parameters": {},
            "targets": {
               "Instances": "Instances-Target-1"
            }
         }
      },
      "stopConditions": [
         {
            "source": "none"
         }
      ],
      "creationTime": 1616017191.124,
      "lastUpdateTime": 1616017859.607
   }
}
```
"roleArn": "arn:aws:iam::123456789012:role/FISRole",
"tags": {
  "key": "value"
}
}

For more information, see Update an experiment template in the AWS Fault Injection Simulator User Guide.

- For API details, see UpdateExperimentTemplate in AWS CLI Command Reference.

Amazon GameLift examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon GameLift.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics
- Actions

Actions

create-build

The following code example shows how to use create-build.

AWS CLI

Example1: To create a game build from files in an S3 bucket

The following create-build example creates a custom game build resource. It uses zipped files that are stored in an S3 location in an AWS account that you control. This example assumes
that you've already created an IAM role that gives Amazon GameLift permission to access the S3 location. Since the request does not specify an operating system, the new build resource defaults to WINDOWS_2012.

```bash
aws gamelift create-build \
  --storage-location file://storage-loc.json \ 
  --name MegaFrogRaceServer.NA \ 
  --build-version 12345.678
```

Contents of `storage-loc.json`:

```json
{
    "Bucket":"MegaFrogRaceServer_NA_build_files"
    "Key":"MegaFrogRaceServer_build_123.zip"
    "RoleArn":"arn:aws:iam::123456789012:role/gamelift"
}
```

Output:

```json
{
    "Build": {
        "BuildArn": "arn:aws:gamelift:us-west-2::build/build-a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
        "BuildId": "build-a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
        "CreationTime": 1496708916.18,
        "Name": "MegaFrogRaceServer.NA",
        "OperatingSystem": "WINDOWS_2012",
        "SizeOnDisk": 479303,
        "Status": "INITIALIZED",
        "Version": "12345.678"
    },
    "StorageLocation": {
        "Bucket": "MegaFrogRaceServer_NA_build_files",
        "Key": "MegaFrogRaceServer_build_123.zip"
    }
}
```

**Example2: To create a game build resource for manually uploading files to GameLift**

The following create-build example creates a new build resource. It also gets a storage location and temporary credentials that allow you to manually upload your game build to the
GameLift location in Amazon S3. Once you've successfully uploaded your build, the GameLift service validates the build and updates the new build's status.

```
aws gamelift create-build \
  --name MegaFrogRaceServer.NA \
  --build-version 12345.678 \
  --operating-system AMAZON_LINUX
```

Output:

```
{
  "Build": {
    "BuildArn": "arn:aws:gamelift:us-west-2::build/build-a1b2c3d4-5678-90ab-cdef-EXAMPLE111111",
    "BuildId": "build-a1b2c3d4-5678-90ab-cdef-EXAMPLE111111",
    "CreationTime": 1496708916.18,
    "Name": "MegaFrogRaceServer.NA",
    "OperatingSystem": "AMAZON_LINUX",
    "SizeOnDisk": 0,
    "Status": "INITIALIZED",
    "Version": "12345.678"
  },
  "StorageLocation": {
    "Bucket": "gamelift-builds-us-west-2",
    "Key": "123456789012/build-a1b2c3d4-5678-90ab-cdef-EXAMPLE11111"
  },
  "UploadCredentials": {
    "AccessKeyId": "AKIAIOSFODNN7EXAMPLE",
    "SecretAccessKey": "wJalrXUtnFEMI/K7MDENG/bPxrRfiCYEXAMPELKEY",
    "SessionToken": "AgoGb3JpZ2luENz...EXAMPLETOKEN=="
  }
}
```

For more information, see [Upload a Custom Server Build to GameLift](https://docs.aws.amazon.com/gamelift/latest/developerguide/upload-server-build.html) in the *Amazon GameLift Developer Guide*.

- For API details, see [CreateBuild](https://docs.aws.amazon.com/cli/latest/reference/gamelift/create-build.html) in *AWS CLI Command Reference*.

**create-fleet**

The following code example shows how to use `create-fleet`.
AWSCLI

Example 1: To create a basic Linux fleet

The following create-fleet example creates a minimally configured fleet of on-demand Linux instances to host a custom server build. You can complete the configuration by using update-fleet.

```bash
aws gamelift create-fleet
   --name MegaFrogRaceServer.NA.v2
   --description 'Hosts for v2 North America'
   --build-id build-1111aaaa-22bb-33cc-44dd-5555eeeee66ff
   --certificate-configuration 'CertificateType=GENERATED'
   --ec2-instance-type c4.large
   --fleet-type ON_DEMAND
   --runtime-configuration 'ServerProcesses=[[LaunchPath=/local/game/release-na/MegaFrogRace_Server.exe,ConcurrentExecutions=1]]'
```

Output:

```
{
   "FleetAttributes": {
      "BuildId": "build-1111aaaa-22bb-33cc-44dd-5555eeeee66ff",
      "CertificateConfiguration": {
         "CertificateType": "GENERATED"
      },
      "CreationTime": 1496365885.44,
      "Description": "Hosts for v2 North America",
      "FleetArn": "arn:aws:gamelift:us-west-2:444455556666:fleet/fleet-2222bbbb-33cc-44dd-55ee-6666ffff77aa",
      "FleetId": "fleet-2222bbbb-33cc-44dd-55ee-6666ffff77aa",
      "FleetType": "ON_DEMAND",
      "InstanceType": "c4.large",
      "MetricGroups": ["default"],
      "Name": "MegaFrogRace.NA.v2",
      "NewGameSessionProtectionPolicy": "NoProtection",
      "OperatingSystem": "AMAZON_LINUX",
      "ServerLaunchPath": "/local/game/release-na/MegaFrogRace_Server.exe",
      "Status": "NEW"
   }
}
```

Example 2: To create a basic Windows fleet
The following `create-fleet` example creates a minimally configured fleet of spot Windows instances to host a custom server build. You can complete the configuration by using `update-fleet`.

```bash
code
aws gamelift create-fleet \
   --name MegaFrogRace.NA.v2 \
   --description 'Hosts for v2 North America' \
   --build-id build-2222aaaa-33bb-44cc-55dd-6666eeee77ff \
   --certificate-configuration 'CertificateType=GENERATED' \
   --ec2-instance-type c4.large \
   --fleet-type SPOT \
   --runtime-configuration 'ServerProcesses=[[LaunchPath=C:\game\Bin64.Release.Dedicated\MegaFrogRace_Server.exe,ConcurrentExecutions=1]]'
```

Output:

```json
{
   "FleetAttributes": {
      "BuildId": "build-2222aaaa-33bb-44cc-55dd-6666eeee77ff",
      "CertificateConfiguration": {
         "CertificateType": "GENERATED"
      },
      "CreationTime": 1496365885.44,
      "Description": "Hosts for v2 North America",
      "FleetArn": "arn:aws:gamelift:us-west-2:444455556666:fleet/fleet-2222bbbb-33cc-44dd-55ee-6666ffff77aa",
      "FleetId": "fleet-2222bbbb-33cc-44dd-55ee-6666ffff77aa",
      "FleetType": "SPOT",
      "InstanceType": "c4.large",
      "MetricGroups": ["default"],
      "Name": "MegaFrogRace.NA.v2",
      "NewGameSessionProtectionPolicy": "NoProtection",
      "OperatingSystem": "WINDOWS_2012",
      "ServerLaunchPath": "C:\game\Bin64.Release.Dedicated\MegaFrogRace_Server.exe",
      "Status": "NEW"
   }
}
```

**Example 3: To create a fully configured fleet**
The following `create-fleet` example creates a fleet of Spot Windows instances for a custom server build, with most commonly used configuration settings provided.

```bash
aws gamelift create-fleet \
 --name MegaFrogRace.NA.v2 \
 --description 'Hosts for v2 North America' \
 --build-id build-2222aaaa-33bb-44cc-55dd-6666eeee77ff \
 --certificate-configuration 'CertificateType=GENERATED' \
 --ec2-instance-type c4.large \
 --ec2-inbound-permissions 'FromPort=33435,ToPort=33435,IpRange=10.24.34.0/23,Protocol=UDP' \
 --fleet-type SPOT \
 --new-game-session-protection-policy FullProtection \
 --runtime-configuration file://runtime-config.json \
 --metric-groups default \
 --instance-role-arn 'arn:aws:iam::444455556666:role/GameLiftS3Access'
```

Contents of `runtime-config.json`:

```json
GameSessionActivationTimeoutSeconds=300,
MaxConcurrentGameSessionActivations=2,
ServerProcesses=[
  {LaunchPath=C:\game\Bin64.Release.Dedicated\MegaFrogRace_Server.exe,Parameters=-debug,ConcurrentExecutions=1},
  {LaunchPath=C:\game\Bin64.Release.Dedicated \MegaFrogRace_Server.exe,ConcurrentExecutions=1}]
```

Output:

```json
{
  "FleetAttributes": {
    "InstanceRoleArn": "arn:aws:iam::444455556666:role/GameLiftS3Access",
    "Status": "NEW",
    "InstanceType": "c4.large",
    "FleetArn": "arn:aws:gamelift:us-west-2:444455556666:fleet/fleet-2222bbbb-33cc-44dd-55ee-6666ffff77aa",
    "FleetId": "fleet-2222bbbb-33cc-44dd-55ee-6666ffff77aa",
    "Description": "Hosts for v2 North America",
    "FleetType": "SPOT",
    "OperatingSystem": "WINDOWS_2012",
    "Name": "MegaFrogRace.NA.v2",
    "CreationTime": 1569309011.11,
```
Example 4: To create a Realtime Servers fleet

The following `create-fleet` example creates a fleet of Spot instances with a Realtime configuration script that has been uploaded to Amazon GameLift. All Realtime servers are deployed onto Linux machines. For the purposes of this example, assume that the uploaded Realtime script includes multiple script files, with the `Init()` function located in the script file called `MainScript.js`. As shown, this file is identified as the launch script in the runtime configuration.

```bash
aws gamelift create-fleet \
    --name MegaFrogRace.NA.realtime \
    --description 'Mega Frog Race Realtime fleet' \
    --script-id script-1111aaaa-22bb-33cc-44dd-5555eeee66ff \
    --ec2-instance-type c4.large \
    --fleet-type SPOT \
    --certificate-configuration 'CertificateType=GENERATED' --runtime-configuration 'ServerProcesses=[[LaunchPath=/local/game/MainScript.js,Parameters=+map Winter444,ConcurrentExecutions=5]]'
```

Output:

```json
{
   "FleetAttributes": {
      "FleetId": "fleet-2222bbbb-33cc-44dd-55ee-6666ffff77aa",
      "Status": "NEW",
      "CreationTime": 1569310745.212,
      "InstanceType": "c4.large",
      "NewGameSessionProtectionPolicy": "NoProtection",
```
```json
"CertificateConfiguration": {
    "CertificateType": "GENERATED"
},
"Name": "MegaFrogRace.NA.realtime",
"ScriptId": "script-1111aaaa-22bb-33cc-44dd-5555eeee66ff",
"FleetArn": "arn:aws:gamelift:us-west-2:444455556666:fleet/fleet-2222bbbb-33cc-44dd-55ee-6666ffff77aa",
"FleetType": "SPOT",
"MetricGroups": ["default"],
"Description": "Mega Frog Race Realtime fleet",
"OperatingSystem": "AMAZON_LINUX"
}
```

- For API details, see [CreateFleet](#) in *AWS CLI Command Reference*.

**create-game-session-queue**

The following code example shows how to use `create-game-session-queue`.

**AWS CLI**

**Example1: To set up an ordered game session queue**

The following create-game-session-queue example creates a new game session queue with destinations in two regions. It also configures the queue so that game session requests time out after waiting 10 minutes for placement. Since no latency policies are defined, GameLift attempts to place all game sessions with the first destination listed.

```
aws gamelift create-game-session-queue \
  --name MegaFrogRaceServer-NA \
  --destinations file://destinations.json \
  --timeout-in-seconds 600
```

**Contents of destinations.json:**

```json
{
    "Destinations": ["arn:aws:gamelift:us-west-2::fleet/fleet-a1b2c3d4-5678-90ab-cdef-EXAMPLE11111"
```
Example2: To set up a game session queue with player latency policies

The following create-game-session-queue example creates a new game session queue with two player latency policies. The first policy sets a 100ms latency cap that is enforced during the first minute of a game session placement attempt. The second policy raises the latency cap to 200ms until the placement request times out at 3 minutes.

```
aws gamelift create-game-session-queue \
    --name MegaFrogRaceServer-NA \
    --destinations file://destinations.json \
    --player-latency-policies file://latency-policies.json \
    --timeout-in-seconds 180
```

Contents of destinations.json:

```
{
    "Destinations": [
```
Contents of latency-policies.json:

```json
{
    "PlayerLatencyPolicies": [
        {
            "MaximumIndividualPlayerLatencyMilliseconds": 200,
            "PolicyDurationSeconds": 60
        },
        {
            "MaximumIndividualPlayerLatencyMilliseconds": 100,
            "PolicyDurationSeconds": 60
        }
    ]
}
```

Output:

```json
{
    "GameSessionQueue": {
        "Name": "MegaFrogRaceServer-NA",
        "TimeoutInSeconds": 600,
        "PlayerLatencyPolicies": [
            {
                "MaximumIndividualPlayerLatencyMilliseconds": 100,
                "PolicyDurationSeconds": 60
            },
            {
                "MaximumIndividualPlayerLatencyMilliseconds": 200
            }
        ],
        "Destinations": [
            {
                "DestinationArn": "arn:aws:gamelift:us-west-2::fleet/fleet-a1b2c3d4-5678-90ab-cdef-EXAMPLE11111"
            },
            {
                "DestinationArn": "arn:aws:gamelift:us-east-1::fleet/fleet-a1b2c3d4-5678-90ab-cdef-EXAMPLE22222"
            }
        ]
    }
}
```
For more information, see Create a Queue in the Amazon GameLift Developer Guide.

- For API details, see CreateGameSessionQueue in AWS CLI Command Reference.

**delete-build**

The following code example shows how to use delete-build.

**AWS CLI**

**To delete a custom game build**

The following delete-build example removes a build from your Amazon GameLift account. After the build is deleted, you cannot use it to create new fleets. This operation cannot be undone.

```bash
aws gamelift delete-build \\
--build-id build-a1b2c3d4-5678-90ab-cdef-EXAMPLE11111
```

This command produces no output.

- For API details, see DeleteBuild in AWS CLI Command Reference.

**delete-fleet**

The following code example shows how to use delete-fleet.

**AWS CLI**

**To delete a fleet that is no longer in use**

The following delete-fleet example removes a fleet that has been scaled down to zero instances. If the fleet capacity is greater than zero, the request fails with an HTTP 400 error.

```bash
aws gamelift delete-fleet \\
--fleet-id fleet-a1b2c3d4-5678-90ab-cdef-EXAMPLE11111
```

This command produces no output.

For more information, see Manage GameLift Fleets in the Amazon GameLift Developer Guide.

- For API details, see DeleteFleet in AWS CLI Command Reference.
**delete-game-session-queue**

The following code example shows how to use `delete-game-session-queue`.

**AWS CLI**

**To delete a game session queue**

The following `delete-game-session-queue` example deletes a specified game session queue.

```
aws gamelift delete-game-session-queue \
  --name MegaFrogRace-NA
```

This command produces no output.

- For API details, see [DeleteGameSessionQueue](https://awscli.amazonaws.com/v2/documentation/api/latest/reference/gamelift/delete-game-session-queue.html) in *AWS CLI Command Reference*.

**describe-build**

The following code example shows how to use `describe-build`.

**AWS CLI**

**To get information on a custom game build**

The following `describe-build` example retrieves properties for a game server build resource.

```
aws gamelift describe-build \
  --build-id build-a1b2c3d4-5678-90ab-cdef-EXAMPLE11111
```

**Output:**

```
{
  "Build": {
    "BuildArn": "arn:aws:gamelift:us-west-2::build/build-a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
    "BuildId": "build-a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
    "CreationTime": 1496708916.18,
    "Name": "My_Game_Server_Build_One",
    "OperatingSystem": "AMAZON_LINUX",
    "SizeOnDisk": 1304924,
    "Status": "ACTIVE",
    "StatusReason": "Build successfully created.
```
For more information, see Upload a Custom Server Build to GameLift in the Amazon GameLift Developer Guide.

- For API details, see DescribeBuild in AWS CLI Command Reference.

**describe-ec2-instance-limits**

The following code example shows how to use describe-ec2-instance-limits.

**AWS CLI**

To retrieve service limits for an EC2 instance type

The following describe-ec2-instance-limits example displays the maximum allowed instances and current instances in use for the specified EC2 instance type in the current Region. The result indicates that only five of the allowed twenty instances are being used.

```
aws gamelift describe-ec2-instance-limits \
  --ec2-instance-type m5.large
```

Output:

```json
{
   "EC2InstanceLimits": [
      {
         "EC2InstanceType": "m5.large",
         "CurrentInstances": 5,
         "InstanceLimit": 20
      }
   ]
}
```

For more information, see Choose Computing Resources in the Amazon GameLift Developer Guide.

- For API details, see DescribeEc2InstanceLimits in AWS CLI Command Reference.
describe-fleet-attributes

The following code example shows how to use describe-fleet-attributes.

AWS CLI

Example1: To view attributes for a list of fleets

The following describe-fleet-attributes example retrieves fleet attributes for two specified fleets. As shown, the requested fleets are deployed with the same build, one for On-Demand instances and one for Spot instances, with some minor configuration differences.

```bash
aws gamelift describe-fleet-attributes \
   --fleet-ids arn:aws:gamelift:us-west-2::fleet/fleet-a1b2c3d4-5678-90ab-cdef-EXAMPLE11111 fleet-a1b2c3d4-5678-90ab-cdef-EXAMPLE22222
```

Output:

```json
{
   "FleetAttributes": [
      {
         "FleetId": "fleet-a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
         "FleetArn": "arn:aws:gamelift:us-west-2::fleet/fleet-a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
         "FleetType": "ON_DEMAND",
         "InstanceType": "c4.large",
         "Description": "On-demand hosts for v2 North America",
         "Name": "MegaFrogRaceServer.NA.v2-od",
         "CreationTime": 1568836191.995,
         "Status": "ACTIVE",
         "BuildId": "build-a1b2c3d4-5678-90ab-cdef-EXAMPLE33333",
         "BuildArn": "arn:aws:gamelift:us-west-2::build/build-a1b2c3d4-5678-90ab-cdef-EXAMPLE33333",
         "ServerLaunchPath": "C:\game\MegaFrogRace_Server.exe",
         "ServerLaunchParameters": "+gamelift_start_server",
         "NewGameSessionProtectionPolicy": "NoProtection",
         "OperatingSystem": "WINDOWS_2012",
         "MetricGroups": [
            "default"
         ],
         "CertificateConfiguration": {
            "CertificateType": "DISABLED"
         }
      }
   ]
}
```
Example2: To request attributes for all fleets

The following describe-fleet-attributes returns fleet attributes for all fleets with any status. This example illustrates the use of pagination parameters to return one fleet at a time.

```
aws gamelift describe-fleet-attributes \\
  --limit 1
```

Output:

```
{
  "FleetAttributes": [
    {
      "FleetId": "fleet-a1b2c3d4-5678-90ab-cdef-EXAMPLE22222",
      "FleetArn": "arn:aws:gamelift:us-west-2::fleet/fleet-a1b2c3d4-5678-90ab-cdef-EXAMPLE22222",
      "FleetType": "SPOT",
      "InstanceType": "c4.large",
      "Description": "On-demand hosts for v2 North America",
      "Name": "MegaFrogRaceServer.NA.v2-spot",
      "CreationTime": 1568838275.379,
      "Status": "ACTIVATING",
      "BuildId": "build-a1b2c3d4-5678-90ab-cdef-EXAMPLE33333",
      "BuildArn": "arn:aws:gamelift:us-west-2::build/build-a1b2c3d4-5678-90ab-cdef-EXAMPLE33333",
      "ServerLaunchPath": "C:\game\MegaFrogRace_Server.exe",
      "NewGameSessionProtectionPolicy": "NoProtection",
      "OperatingSystem": "WINDOWS_2012",
      "MetricGroups": ["default"],
      "CertificateConfiguration": {
        "CertificateType": "GENERATED"
      }
    }
  ]
}
```
"FleetType": "SPOT",
"InstanceType": "c4.large",
"Description": "On-demand hosts for v2 North America",
"Name": "MegaFrogRaceServer.NA.v2-spot",
"CreationTime": 1568838275.379,
"Status": "ACTIVATING",
"BuildId": "build-a1b2c3d4-5678-90ab-cdef-EXAMPLE33333",
"BuildArn": "arn:aws:gamelift:us-west-2::build/build-a1b2c3d4-5678-90ab-cdef-EXAMPLE33333",
"ServerLaunchPath": "C:\game\MegaFrogRace_Server.exe",
"NewGameSessionProtectionPolicy": "NoProtection",
"OperatingSystem": "WINDOWS_2012",
"MetricGroups": [
   "default"
],
"CertificateConfiguration": {
   "CertificateType": "GENERATED"
}
],
"NextToken": "eyJhd3NBY2NvdW50SWQiOnsicyI6IjMwMjc3NjAxNjM5OCJ9LCJidWlsZElkIjp7InMiOiJidWlsZC01NWYxZTZmM51EXAMPLE2"}

The output includes a NextToken value that you can use when you call the command a second time. Pass the value to the --next-token parameter to specify where to pick up the output.

The following command returns the second result in the output.

```
aws gamelift describe-fleet-attributes \
   --limit 1 \
   --next-token
   eyJhd3NBY2NvdW50SWQiOnsicyI6IjMwMjc3NjAxNjM5OCJ9LCJidWlsZElkIjp7InMiOiJidWlsZC01NWYxZTZmM5
```

Repeat until the response doesn't include a NextToken value.

For more information, see Setting Up GameLift Fleets in the Amazon GameLift Developer Guide.

- For API details, see DescribeFleetAttributes in AWS CLI Command Reference.

### describe-fleet-capacity

The following code example shows how to use describe-fleet-capacity.
AWS CLI

To view capacity status for a list of fleets

The following describe-fleet-capacity example retrieves current capacity for two specified fleets.

```
aws gamelift describe-fleet-capacity \\
   --fleet-ids arn:aws:gamelift:us-west-2::fleet/fleet-a1b2c3d4-5678-90ab-cdef-EXAMPLE11111 fleet:a1b2c3d4-5678-90ab-cdef-EXAMPLE22222
```

Output:

```
{
   "FleetCapacity": [
      {
         "FleetId": "fleet-a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
         "InstanceType": "c5.large",
         "InstanceCounts": {
            "DESIRED": 10,
            "MINIMUM": 1,
            "MAXIMUM": 20,
            "PENDING": 0,
            "ACTIVE": 10,
            "IDLE": 3,
            "TERMINATING": 0
         }
      },
      {
         "FleetId": "fleet-a1b2c3d4-5678-90ab-cdef-EXAMPLE22222",
         "InstanceType": "c5.large",
         "InstanceCounts": {
            "DESIRED": 13,
            "MINIMUM": 1,
            "MAXIMUM": 20,
            "PENDING": 0,
            "ACTIVE": 15,
            "IDLE": 2,
            "TERMINATING": 2
         }
      }
   ]
}
```
describe-fleet-events

The following code example shows how to use describe-fleet-events.

AWS CLI

To request events for a specified time span

The following describe-fleet-events example displays details of all fleet-related events that occurred during the specified time span.

```
aws gamelift describe-fleet-events
   --fleet-id arn:aws:gamelift:us-west-2::fleet/fleet-a1b2c3d4-5678-90ab-cdef-EXAMPLE11111
   --start-time 1579647600
   --end-time 1579649400
   --limit 5
```

Output:

```
{
   "Events": [
      {
         "EventId": "a37b6892-5d07-4d3b-8b47-80244ecf66b9",
         "ResourceId": "fleet-a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
         "EventCode": "FLEET_STATE_ACTIVE",
         "Message": "Fleet fleet-a1b2c3d4-5678-90ab-cdef-EXAMPLE11111 changed state to ACTIVE",
         "EventTime": 1579649342.191
      },
      {
         "EventId": "67da4ec9-92a3-4d95-886a-5d6772c24063",
         "ResourceId": "fleet-a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
         "EventCode": "FLEET_STATE_ACTIVATING",
         "Message": "Fleet fleet-a1b2c3d4-5678-90ab-cdef-EXAMPLE11111 changed state to ACTIVATING",
         "EventTime": 1579649321.427
      }
   ]
}
```
For more information, see [Debug GameLift Fleet Issues](#) in the Amazon GameLift Developer Guide.

- For API details, see [DescribeFleetEvents](#) in AWS CLI Command Reference.

**describe-fleet-port-settings**

The following code example shows how to use describe-fleet-port-settings.

**AWS CLI**

**To view inbound connection permissions for a fleet**

The following describe-fleet-port-settings example retrieves connection settings for a specified fleet.

```
aws gamelift describe-fleet-port-settings 
   --fleet-id arn:aws:gamelift:us-west-2::fleet/fleet-a1b2c3d4-5678-90ab-cdef-EXAMPLE11111
```

**Output:**

```
{
   "InboundPermissions": [ 
   {
      "FromPort": 33400,
      "ToPort": 33500,
      "IpRange": "0.0.0.0/0",
      "Protocol": "UDP"
   },
   {
      "FromPort": 1900,
      "ToPort": 2000,
      "IpRange": "0.0.0.0/0",
```
"Protocol": "TCP"
]
]
}

For more information, see Setting Up GameLift Fleets in the Amazon GameLift Developer Guide.

- For API details, see DescribeFleetPortSettings in AWS CLI Command Reference.

describe-fleet-utilization

The following code example shows how to use describe-fleet-utilization.

AWS CLI

Example1: To view usage data for a list of fleets

The following describe-fleet-utilization example retrieves current usage information for one specified fleet.

```bash
aws gamelift describe-fleet-utilization \
  --fleet-ids arn:aws:gamelift:us-west-2::fleet/fleet-a1b2c3d4-5678-90ab-cdef-EXAMPLE11111
```

Output:

```
{
   "FleetUtilization": [
   {
      "FleetId": "fleet-a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
      "ActiveServerProcessCount": 100,
      "ActiveGameSessionCount": 62,
      "CurrentPlayerSessionCount": 329,
      "MaximumPlayerSessionCount": 1000
   }
   ]
}
```

Example2: To request usage data for all fleets

The following describe-fleet-utilization returns fleet usage data for all fleets with any status. This example uses pagination parameters to return data for two fleets at a time.
```bash
aws gamelift describe-fleet-utilization \
  --limit 2
```

Output:

```json
{
  "FleetUtilization": [
    {
      "FleetId": "fleet-111aaaa-22bb-33cc-44dd-5555eee66ff",
      "ActiveServerProcessCount": 100,
      "ActiveGameSessionCount": 13,
      "CurrentPlayerSessionCount": 98,
      "MaximumPlayerSessionCount": 1000
    },
    {
      "FleetId": "fleet-2222bbbb-33cc-44dd-55ee-6666ffff77aa",
      "ActiveServerProcessCount": 100,
      "ActiveGameSessionCount": 62,
      "CurrentPlayerSessionCount": 329,
      "MaximumPlayerSessionCount": 1000
    }
  ],
  "NextToken": "eyJhd3NBY2NvdW50SWQiOnsicyI6IjMwMjc3NjAxNjM5OCJ9LCJidWlsZElkIjp7InMiOiIjMwMjc3NjAxNjM5OC1hZGRhYmFkMzYwZmNkNzY2ZDA2IiwiaWQiOiIjMwMjc3NjAxNjM5OC0xMDAxMDMwNyI7fX0=
}
```

Call the command a second time, passing the NextToken value as the argument to the `--next-token` parameter to see the next two results.

```bash
aws gamelift describe-fleet-utilization \
  --limit 2 \
  --next-token eyJhd3NBY2NvdW50SWQiOnsicyI6IjMwMjc3NjAxNjM5OCJ9LCJidWlsZElkIjp7InMiOiIjMwMjc3NjAxNjM5OC1hZGRhYmFkMzYwZmNkNzY2ZDA2IiwiaWQiOiIjMwMjc3NjAxNjM5OC0xMDAxMDMwNyI7fX0=
```

Repeat until the response no longer includes a NextToken value in the output.

For more information, see [GameLift Metrics for Fleets](https://docs.aws.amazon.com/gamelift/latest/developerguide/metrics-fleets.html) in the *Amazon GameLift Developer Guide*.

- For API details, see [DescribeFleetUtilization](https://docs.aws.amazon.com/cli/latest/reference/gamelift/describe-fleet-utilization.html) in *AWS CLI Command Reference*. 

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describe-game-session-queues

The following code example shows how to use describe-game-session-queues.

AWS CLI

To view game session queues

The following describe-game-session-queues example retrieves properties for two specified queues.

```bash
aws gamelift describe-game-session-queues \\ --names MegaFrogRace-NA MegaFrogRace-EU
```

Output:

```json
{
   "GameSessionQueues": [
      {
         "Destinations": [
            {
               "DestinationArn": "arn:aws:gamelift:us-west-2::fleet/fleet-ab123d4-5678-90ab-cdef-EXAMPLE11111"
            },
            {
               "DestinationArn": "arn:aws:gamelift:us-west-2::fleet/fleet-ab123d4-5678-90ab-cdef-EXAMPLE22222"
            }
         ],
         "Name": "MegaFrogRace-NA",
         "TimeoutInSeconds": 600,
         "GameSessionQueueArn": "arn:aws:gamelift:us-west-2::gamesessionqueue/MegaFrogRace-NA",
         "PlayerLatencyPolicies": [
            {
               "MaximumIndividualPlayerLatencyMilliseconds": 200
            },
            {
               "MaximumIndividualPlayerLatencyMilliseconds": 100,
               "PolicyDurationSeconds": 60
            }
         ],
         "FilterConfiguration": {
            "AllowedLocations": ["us-west-2", "ap-south-1", "us-east-1"]
         },
         "PriorityConfiguration": {
```
"PriorityOrder": ["LOCATION", "FLEET_TYPE", "DESTINATION"],
    "LocationOrder": ["us-west-2", "ap-south-1", "us-east-1"]
  }
},
{
    "Destinations": [
      {
        "DestinationArn": "arn:aws:gamelift:eu-west-3::fleet/fleet-a1b2c3d4-5678-90ab-cdef-EXAMPLE22222"
      },
      "Name": "MegaFrogRace-EU",
      "TimeoutInSeconds": 600,
      "GameSessionQueueArn": "arn:aws:gamelift:us-west-2::gamesessionqueue/MegaFrogRace-EU"
    }
  ]
}

For more information, see Using Multi-Region Queues in the Amazon GameLift Developer Guide.

- For API details, see DescribeGameSessionQueues in AWS CLI Command Reference.

describe-runtime-configuration

The following code example shows how to use describe-runtime-configuration.

AWS CLI

To request the runtime configuration for a fleet

The following describe-runtime-configuration example retrieves details about the
current runtime configuration for a specified fleet.

```
aws gamelift describe-runtime-configuration \
  --fleet-id fleet-a1b2c3d4-5678-90ab-cdef-EXAMPLE11111
```

Output:

```json
{
    "RuntimeConfiguration": {
      "ServerProcesses": [
        {
          "LaunchPath": "C:\game\Bin64.Release.Dedicated\MegaFrogRace_Server.exe",
```
The following code example shows how to use `list-builds`.

**AWS CLI**

**Example1: To get a list of custom game builds**

The following `list-builds` example retrieves properties for all game server builds in the current Region. The sample request illustrates how to use the pagination parameters, `Limit` and `NextToken`, to retrieve the results in sequential sets. The first command retrieves the first two builds. Because there are more than two available, the response includes a `NextToken` to indicate that more results are available.

```bash
aws gamelift list-builds \
  --limit 2
```

**Output:**

```json
{
  "Builds": [
    {
```

For more information, see [Run Multiple Processes on a Fleet](https://docs.aws.amazon.com/gamelift/latest/developerguide/run-multiple-processes-on-a-fleet.html) in the *Amazon GameLift Developer Guide*.

- For API details, see [DescribeRuntimeConfiguration](https://docs.aws.amazon.com/cli/latest/reference/gamelift/describe-runtime-configuration.html) in *AWS CLI Command Reference*. 
You can then call the command again with the \--next-token parameter as follows to see the next two builds.

```
aws gamelift list-builds \
  --limit 2 \
  --next-token eyJhd3NBY2NvdW50SWQiOnsicyI6IjMjMzIyMTY2NjM5OCJ9LCJidWlsZElkIjp7InMiOiJidWlsZC0xMzIyMTY2NjM5OCJ9LCJlYWRvYmF0ZSI6XFx7fQ==
```

Repeat until the response doesn't include a NextToken value.

**Example2: To get a list of custom game builds in failure status**

The following list-builds example retrieves properties for all game server builds in the current region that currently have status FAILED.

```
aws gamelift list-builds \
  --filter "Status=FAILED"
```
Output:

```json
{
  "Builds": [
    {
      "BuildArn": "arn:aws:gamelift:us-west-2::build/build-a1b2c3d4-5678-90ab-cdef-EXAMPLE22222",
      "BuildId": "build-a1b2c3d4-5678-90ab-cdef-EXAMPLE22222",
      "CreationTime": 1495528748.555,
      "Name": "My_Game_Server_Build_Two",
      "OperatingSystem": "AMAZON_LINUX_2",
      "SizeOnDisk": 8567781,
      "Status": "FAILED",
      "Version": "23456.789"
    }
  ]
}
```

- For API details, see [ListBuilds](awscli://gamelift/list-builds) in [AWS CLI Command Reference](awscli://docs.aws.amazon.com/cli/latest/index.html).

**list-fleets**

The following code example shows how to use `list-fleets`.

**AWS CLI**

**Example 1: To get a list of all fleets in a Region**

The following `list-fleets` example displays the fleet IDs of all fleets in the current Region. This example uses pagination parameters to retrieve two fleet IDs at a time. The response includes a `next-token` attribute, which indicates that there are more results to retrieve.

```bash
aws gamelift list-fleets \
  --limit 2
```

Output:

```json
{
  "FleetIds": [
```
You can pass the `NextToken` value from the previous response in the next command, as shown here to get the next two results.

```bash
aws gamelift list-fleets \
  --limit 2 \
  --next-token eyJhd3NBY2NvdW50SWQiOnsicyI6IjMwMjc3NjAxNjM5OCJ9LCJidWlsZElkIjp7InMiOiJidWlsZC01NWYxZTZmMSJ9
```

**Example2: To get a list of all fleets in a Region with a specific build or script**

The following `list-builds` example retrieves the IDs of fleets that are deployed with the specified game build. If you're working with Realtime Servers, you can provide a script ID in place of a build ID. Because this example does not specify the limit parameter, the results can include up to 16 fleet IDs.

```bash
aws gamelift list-fleets \
  --build-id build-a1b2c3d4-5678-90ab-cdef-EXAMPLE11111
```

**Output:**

```
{
    "FleetIds": [
        "fleet-a1b2c3d4-5678-90ab-cdef-EXAMPLE22222",
        "fleet-a1b2c3d4-5678-90ab-cdef-EXAMPLE33333",
        "fleet-a1b2c3d4-5678-90ab-cdef-EXAMPLE44444"
    ]
}
```

- For API details, see [ListFleets](https://docs.aws.amazon.com/cli/latest/reference/gamelift/list-fleets.html) in *AWS CLI Command Reference*.

### request-upload-credentials

The following code example shows how to use `request-upload-credentials`.

---

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AWS CLI

**To refresh access credentials for uploading a build**

The following create-build example obtains new, valid access credentials for uploading a GameLift build file to an Amazon S3 location. Credentials have a limited life span. You get the build ID from the response to the original CreateBuild request.

```bash
aws gamelift request-upload-credentials \
   --build-id build-a1b2c3d4-5678-90ab-cdef-EXAMPLE11111
```

Output:

```json
{
   "StorageLocation": {
      "Bucket": "gamelift-builds-us-west-2",
      "Key": "123456789012/build-a1b2c3d4-5678-90ab-cdef-EXAMPLE11111"
   },
   "UploadCredentials": {
      "AccessKeyId": "AKIAIOSFODNN7EXAMPLE",
      "SecretAccessKey": "wJalrXUtncEMI/K7MDENG/bPxRfiCYEXAMPLEKEY",
      "SessionToken": "AgoGb3JpZ2luENz...EXAMPLETOKEN=="
   }
}
```

For more information, see [Upload a Custom Server Build to GameLift](https://docs.aws.amazon.com/gamelift/latest/developerguide/upload-custom-server-build.html) in the *Amazon GameLift Developer Guide*.

- For API details, see [RequestUploadCredentials](https://docs.aws.amazon.com/cli/latest/reference/gamelift/request-upload-credentials.html) in *AWS CLI Command Reference*.

**start-fleet-actions**

The following code example shows how to use start-fleet-actions.

AWS CLI

**To restart fleet automatic scaling activity**

The following start-fleet-actions example resumes the use of all scaling policies that are defined for the specified fleet but were stopped by calling `stop-fleet-actions`. After starting, the scaling policies immediately begin tracking their respective metrics.
aws gamelift start-fleet-actions \
   --fleet-id fleet-a1b2c3d4-5678-90ab-cdef-EXAMPLE11111 \
   --actions AUTO_SCALING

This command produces no output.

- For API details, see StartFleetActions in AWS CLI Command Reference.

**stop-fleet-actions**

The following code example shows how to use stop-fleet-actions.

AWS CLI

**To stop a fleet's automatic scaling activity**

The following stop-fleet-actions example stops the use of all scaling policies that are defined for the specified fleet. After the policies are suspended, fleet capacity remains at the same active instance count unless you adjust it manually.

aws gamelift start-fleet-actions \
   --fleet-id fleet-a1b2c3d4-5678-90ab-cdef-EXAMPLE11111 \
   --actions AUTO_SCALING

This command produces no output.

- For API details, see StopFleetActions in AWS CLI Command Reference.

**update-build**

The following code example shows how to use update-build.

AWS CLI

**To update a custom game build**

The following update-build example changes the name and version information that is associated with a specified build resource. The returned build object verifies that the changes were made successfully.

aws gamelift update-build \
   --build-id build-a1b2c3d4-5678-90ab-cdef-EXAMPLE11111
--name MegaFrogRaceServer.NA.east \\ --build-version 12345.east

Output:

```json
{
   "Build": {
      "BuildArn": "arn:aws:gamelift:us-west-2::build/build-a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
      "BuildId": "build-a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
      "CreationTime": 1496708916.18,
      "Name": "MegaFrogRaceServer.NA.east",
      "OperatingSystem": "AMAZON_LINUX_2",
      "SizeOnDisk": 1304924,
      "Status": "READY",
      "Version": "12345.east"
   }
}
```

For more information, see [Update Your Build Files](#) in the *Amazon GameLift Developer Guide*.

- For API details, see [UpdateBuild](#) in *AWS CLI Command Reference*.

**update-game-session-queue**

The following code example shows how to use `update-game-session-queue`.

**AWS CLI**

To update a game session queue configuration

The following `update-game-session-queue` example adds a new destination and updates the player latency policies for an existing game session queue.

```
aws gamelift update-game-session-queue \\
   --name MegaFrogRace-NA \\
   --destinations file://destinations.json \\
   --player-latency-policies file://latency-policies.json
```

Contents of `destinations.json`:

```json
{
}
```
"Destinations": [
  {
    "DestinationArn": "arn:aws:gamelift:us-west-2::fleet/fleet-1a2b3c4d-5e6f-7a8b-9c0d-1e2f3a4b5c6d"},
  {
    "DestinationArn": "arn:aws:gamelift:us-east-1::fleet/fleet-5c6d3c4d-5e6f-7a8b-9c0d-1e2f3a4b5a2b"},
  {
    "DestinationArn": "arn:aws:gamelift:us-east-1::alias/alias-11aa22bb-3c4d-5e6f-000a-1111aaaa22bb"}
]
}

Contents of latency-policies.json:

```
{
    "PlayerLatencyPolicies": [
        {
            "MaximumIndividualPlayerLatencyMilliseconds": 200,
            "MaximumIndividualPlayerLatencyMilliseconds": 150,
            "PolicyDurationSeconds": 120
        },
        {
            "MaximumIndividualPlayerLatencyMilliseconds": 100,
            "PolicyDurationSeconds": 120
        }
    ]
}
```

Output:

```
{
    "GameSessionQueue": {
        "Destinations": [
            {
                "DestinationArn": "arn:aws:gamelift:us-west-2::fleet/fleet-1a2b3c4d-5e6f-7a8b-9c0d-1e2f3a4b5c6d"},
            {
                "DestinationArn": "arn:aws:gamelift:us-east-1::fleet/fleet-5c6d3c4d-5e6f-7a8b-9c0d-1e2f3a4b5a2b"},
            {
                "DestinationArn": "arn:aws:gamelift:us-east-1::alias/alias-11aa22bb-3c4d-5e6f-000a-1111aaaa22bb"}
        ],
        "Name": "MegaFrogRace-NA",
        "TimeoutInSeconds": 600,
        "PlayerLatencyPolicies": [
            {
                "MaximumIndividualPlayerLatencyMilliseconds": 200,
                "MaximumIndividualPlayerLatencyMilliseconds": 150,
                "PolicyDurationSeconds": 120
            }
        ]
    }
}
```
For more information, see Using Multi-Region Queues in the Amazon GameLift Developer Guide.

- For API details, see UpdateGameSessionQueue in AWS CLI Command Reference.

upload-build

The following code example shows how to use upload-build.

AWS CLI

**Example1: To upload a Linux game server build**

The following upload-build example uploads Linux game server build files from a file directory to the GameLift service and creates a build resource.

```
aws gamelift upload-build \
   --name MegaFrogRaceServer.NA \
   --build-version 2.0.1 \
   --build-root ~/MegaFrogRace_Server/release-na \
   --operating-system AMAZON_LINUX_2 \
   --server-sdk-version 4.0.2
```

Output:

```
Uploading ~/MegaFrogRace_Server/release-na:  16.0 KiB / 74.6 KiB (21.45%)  
Uploading ~/MegaFrogRace_Server/release-na:  32.0 KiB / 74.6 KiB (42.89%)  
Uploading ~/MegaFrogRace_Server/release-na:  48.0 KiB / 74.6 KiB (64.34%)  
Uploading ~/MegaFrogRace_Server/release-na:  64.0 KiB / 74.6 KiB (85.79%)  
Successfully uploaded ~/MegaFrogRace_Server/release-na to AWS GameLift 
Build ID: build-a1b2c3d4-5678-90ab-cdef-EXAMPLE11111

**Example2: To upload a Windows game server build**

The following upload-build example uploads Windows game server build files from a directory to the GameLift service and creates a build record.
aws gamelift upload-build \ 
   --name MegaFrogRaceServer.NA \ 
   --build-version 2.0.1 \ 
   --build-root C:\MegaFrogRace_Server\release-na \ 
   --operating-system WINDOWS_2012 
   --server-sdk-version 4.0.2

Output:

Uploading C:\MegaFrogRace_Server\release-na:  16.0 KiB / 74.6 KiB (21.45%) 
Uploading C:\MegaFrogRace_Server\release-na:  32.0 KiB / 74.6 KiB (42.89%) 
Uploading C:\MegaFrogRace_Server\release-na:  48.0 KiB / 74.6 KiB (64.34%) 
Uploading C:\MegaFrogRace_Server\release-na:  64.0 KiB / 74.6 KiB (85.79%) 
Uploading C:\MegaFrogRace_Server\release-na:  74.6 KiB / 74.6 KiB (100.00%) 
Successfully uploaded C:\MegaFrogRace_Server\release-na to AWS GameLift
Build ID: build-a1b2c3d4-5678-90ab-cdef-EXAMPLE11111

For more information, see [Upload a Custom Server Build to GameLift](https://docs.aws.amazon.com/gamelift/latest/developerguide/upload-custom-server-build.html) in the Amazon GameLift Developer Guide.

- For API details, see [UploadBuild](https://docs.aws.amazon.com/cli/latest/reference/gamelift/upload-build.html) in AWS CLI Command Reference.

Global Accelerator examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Global Accelerator.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics

- Actions
Actions

add-custom-routing-endpoints

The following code example shows how to use add-custom-routing-endpoints.

AWS CLI

To add a VPC subnet endpoint to an endpoint group for a custom routing accelerator

The following add-custom-routing-endpoints example adds a VPC subnet endpoint to an endpoint group for a custom routing accelerator.

```bash
aws globalaccelerator add-custom-routing-endpoints \
    --endpoint-group-arn
    arn:aws:globalaccelerator::012345678901:accelerator/1234abcd-abcd-1234-abcd-1234abcdefgh/listener/0123vxyz/endpoint-group/4321abcd \
    --endpoint-configurations "EndpointId=subnet-1234567890abcdef0"
```

Output:

```json
{
    "EndpointDescriptions": [
        {
            "EndpointId": "subnet-1234567890abcdef0"
        }
    ],
    "EndpointGroupArn": "arn:aws:globalaccelerator::012345678901:accelerator/1234abcd-abcd-1234-abcd-1234abcdefgh/listener/0123vxyz/endpoint-group/4321abcd"
}
```

For more information, see VPC subnet endpoints for custom routing accelerators in AWS Global Accelerator in the AWS Global Accelerator Developer Guide.

- For API details, see AddCustomRoutingEndpoints in AWS CLI Command Reference.

advertise-byoip-cidr

The following code example shows how to use advertise-byoip-cidr.
AWS CLI

To advertise an address range

The following advertise-byoip-cidr example requests AWS to advertise an address range that you've provisioned for use with your AWS resources.

```bash
aws globalaccelerator advertise-byoip-cidr \
  --cidr 198.51.100.0/24
```

Output:

```json
{
  "ByoipCidr": {
    "Cidr": "198.51.100.0/24",
    "State": "PENDING_ADVERTISING"
  }
}
```

For more information, see [Bring Your Own IP Address in AWS Global Accelerator](https://docs.aws.amazon.com/globalaccelerator/latest/dg/bring-your-own-ip-address.html) in the AWS Global Accelerator Developer Guide.


allow-custom-routing-traffic

The following code example shows how to use allow-custom-routing-traffic.

AWS CLI

To allow traffic to specific Amazon EC2 instance destinations in a VPC subnet for a custom routing accelerator

The following allow-custom-routing-traffic example specifies that traffic is allowed to certain Amazon EC2 instance (destination) IP addresses and ports for a VPC subnet endpoint in a custom routing accelerator can receive traffic.

```bash
aws globalaccelerator allow-custom-routing-traffic \
  --endpoint-group-arn
  arn:aws:globalaccelerator::012345678901:accelerator/1234abcd-abcd-1234-abcd-1234abcdefgh/listener/0123vxyz/endpoint-group/ab88888example \
  --endpoint-id subnet-abcd123example \
```
create-accelerator

The following code example shows how to use create-accelerator.

AWS CLI

To create an accelerator

The following create-accelerator example creates an accelerator with two tags with two BYOIP static IP addresses. You must specify the US-West-2 (Oregon) Region to create or update an accelerator.

```bash
aws globalaccelerator create-accelerator \
  --name ExampleAccelerator \
  --tags Key="Name",Value="Example Name" Key="Project",Value="Example Project" \
  --ip-addresses 192.0.2.250 198.51.100.52
```

Output:

```json
{
  "Accelerator": {
    "AcceleratorArn": "arn:aws:globalaccelerator::012345678901:accelerator/1234abcd-abcd-1234-abcd-1234abcdefgh",
    "IpAddressType": "IPV4",
    "Name": "ExampleAccelerator",
    "Enabled": true,
    "Status": "IN_PROGRESS",
    "IpSets": [
      {
        "IpAddresses": [
          "192.0.2.250",
```
create-custom-routing-accelerator

The following code example shows how to use `create-custom-routing-accelerator`.

**AWS CLI**

**To create a custom routing accelerator**

The following `create-custom-routing-accelerator` example creates a custom routing accelerator with the tags Name and Project.

```bash
aws globalaccelerator create-custom-routing-accelerator \
  --name ExampleCustomRoutingAccelerator \
  --tags Key="Name",Value="Example Name" Key="Project",Value="Example Project" \
  --ip-addresses 192.0.2.250 198.51.100.52
```

**Output:**

```json
{
   "Accelerator": {
      "AcceleratorArn": "arn:aws:globalaccelerator::012345678901:accelerator/1234abcd-abcd-1234-abcd-1234abcdefgh",
      "IpAddressType": "IPV4",
      "Name": "ExampleCustomRoutingAccelerator",
      "Enabled": true,
```
For more information, see Custom routing accelerators in AWS Global Accelerator in the AWS Global Accelerator Developer Guide.

- For API details, see CreateCustomRoutingAccelerator in AWS CLI Command Reference.

create-custom-routing-endpoint-group

The following code example shows how to use create-custom-routing-endpoint-group.

AWS CLI

To create an endpoint group for a custom routing accelerator

The following create-custom-routing-endpoint-group example creates an endpoint group for a custom routing accelerator.

```bash
aws globalaccelerator create-custom-routing-endpoint-group \
  --listener-arn arn:aws:globalaccelerator::012345678901:accelerator/1234abcd-abcd-1234-abcd-1234abdefgh/listener/0123vxyz \
  --endpoint-group-region us-east-2 \
  --destination-configurations "FromPort=80,ToPort=81,Protocols=TCP,UDP"
```

Output:

```json
{
  "EndpointGroup": {
```
"EndpointGroupArn": "arn:aws:globalaccelerator::012345678901:accelerator/1234abcd-abcd-1234-abcd-1234abcdefg/endpoint-group/4321abcd",
  "EndpointGroupRegion": "us-east-2",
  "DestinationDescriptions": [
    {
      "FromPort": 80,
      "ToPort": 81,
      "Protocols": [
        "TCP",
        "UDP"
      ]
    }
  ],
  "EndpointDescriptions": []
}
"PortRange": [  
  "FromPort": 5000,  
  "ToPort": 10000  
],  
"ListenerArn":  
"arn:aws:globalaccelerator::012345678901:accelerator/1234abcd-abcd-1234-abcd-1234abcdefgh/listener/0123vxyz"
}
}

For more information, see Listeners for custom routing accelerators in AWS Global Accelerator in the AWS Global Accelerator Developer Guide.

- For API details, see CreateCustomRoutingListener in AWS CLI Command Reference.

create-endpoint-group

The following code example shows how to use create-endpoint-group.

AWS CLI

To create an endpoint group

The following create-endpoint-group example creates an endpoint group with one endpoint.

```bash
aws globalaccelerator create-endpoint-group \  --listener-arn arn:aws:globalaccelerator::012345678901:accelerator/1234abcd-abcd-1234-abcd-1234abcdefgh/listener/0123vxyz \  --endpoint-group-region us-east-1 \  --endpoint-configurations EndpointId=i-1234567890abcdef0,Weight=128
```

Output:

```json
{
  "EndpointGroup": {
    "TrafficDialPercentage": 100.0,
    "EndpointDescriptions": [
      {
        "Weight": 128,
        "EndpointId": "i-1234567890abcdef0"
      }
    ],
  }
}
```
"EndpointGroupArn":
  "EndpointGroupRegion": "us-east-1"
}
}

For more information, see [Endpoint groups in AWS Global Accelerator](https://docs.aws.amazon.com/AmazonGlobalAccelerator/latest/userguide/endpoint-groups.html) in the *AWS Global Accelerator Developer Guide*.

- For API details, see [CreateEndpointGroup](https://docs.aws.amazon.com/cli/latest/reference/globalaccelerator/create-endpoint-group.html) in *AWS CLI Command Reference*.

### create-listener

The following code example shows how to use `create-listener`.

**AWS CLI**

**To create a listener**

The following `create-listener` example creates a listener with two ports.

```bash
aws globalaccelerator create-listener
  --accelerator-arn arn:aws:globalaccelerator::123456789012:accelerator/1234abcd-abcd-1234-abcd-1234abcdefgh
  --port-ranges FromPort=80,ToPort=80 FromPort=81,ToPort=81
  --protocol TCP
```

**Output:**

```json
{
  "Listener": {
    "PortRanges": [
      {
        "ToPort": 80,
        "FromPort": 80
      },
      {
        "ToPort": 81,
        "FromPort": 81
      }
    ],
    "ClientAffinity": "NONE",
  }
}
```
"Protocol": "TCP",
"ListenerArn":
"arn:aws:globalaccelerator::012345678901:accelerator/1234abcd-abcd-1234-
abcd-1234abcdefgh/listener/0123vxyz"
}
}

For more information, see [Listeners in AWS Global Accelerator](https://aws.amazon.com/globalaccelerator/) in the *AWS Global Accelerator Developer Guide*.

- For API details, see [CreateListener](https://docs.aws.amazon.com/cli/latest/reference/globalaccelerator/create-listener.html) in *AWS CLI Command Reference*.

### deny-custom-routing-traffic

The following code example shows how to use `deny-custom-routing-traffic`.

#### AWS CLI

To specify a destination address that cannot receive traffic in a custom routing accelerator

The following deny-custom-routing-traffic example specifies destination address or addresses in a subnet endpoint that cannot receive traffic for a custom routing accelerator. To specify more than one destination address, separate the addresses with a space. There's no response for a successful deny-custom-routing-traffic call.

```bash
aws globalaccelerator deny-custom-routing-traffic \
  --endpoint-group-arn
  "arn:aws:globalaccelerator::012345678901:accelerator/1234abcd-abcd-1234-
  abcd-1234abcdefgh/listener/0123vxyz/endpoint-group/ab88888example" \
  --endpoint-id "subnet-abcd123example" \
  --destination-addresses "198.51.100.52"
```

This command produces no output.

For more information, see [VPC subnet endpoints for custom routing accelerators in AWS Global Accelerator](https://aws.amazon.com/globalaccelerator/) in the *AWS Global Accelerator Developer Guide*.

- For API details, see [DenyCustomRoutingTraffic](https://docs.aws.amazon.com/cli/latest/reference/globalaccelerator/deny-custom-routing-traffic.html) in *AWS CLI Command Reference*.

### deprovision-byoip-cidr

The following code example shows how to use `deprovision-byoip-cidr`.
**AWS CLI**

**To deprovision an address range**

The following `deprovision-byoip-cidr` example releases the specified address range that you provisioned to use with your AWS resources.

```bash
aws globalaccelerator deprovision-byoip-cidr
   --cidr "198.51.100.0/24"
```

Output:

```json
{
   "ByoipCidr": {
       "Cidr": "198.51.100.0/24",
       "State": "PENDING_DEPROVISIONING"
    }
}
```

For more information, see [Bring your own IP address in AWS Global Accelerator](https://docs.aws.amazon.com/glu/latest/userguide/global-accelerator-bring-your-own-ip-address.html) in the *AWS Global Accelerator Developer Guide*.

- For API details, see [DeprovisionByoipCidr](https://docs.aws.amazon.com/cli/latest/reference/globalaccelerator/deprovision-byoip-cidr.html) in *AWS CLI Command Reference*.

**describe-accelerator**

The following code example shows how to use `describe-accelerator`.

**AWS CLI**

**To describe an accelerator**

The following `describe-accelerator` example retrieves the details about the specified accelerator.

```bash
aws globalaccelerator describe-accelerator
   --accelerator-arn arn:aws:globalaccelerator::123456789012:accelerator/1234abcd-abcd-1234-abcd-1234abcdefgh
```

Output:

```json
{
}
```
"Accelerator": {
  "AcceleratorArn": "arn:aws:globalaccelerator::123456789012:accelerator/1234abcd-abcd-1234-abcd-1234abcdefgh",
  "IpAddressType": "IPV4",
  "Name": "ExampleAccelerator",
  "Enabled": true,
  "Status": "IN_PROGRESS",
  "IpSets": [
    {
      "IpAddresses": [
        "192.0.2.250",
        "198.51.100.52"
      ],
      "IpFamily": "IPv4"
    }
  ],
  "DnsName": "a1234567890abcdef.awsglobalaccelerator.com",
  "CreatedTime": 1542394847,
  "LastModifiedTime": 1542395013
}

For more information, see Accelerators in AWS Global Accelerator in the AWS Global Accelerator Developer Guide.

- For API details, see DescribeAccelerator in AWS CLI Command Reference.

describe-accelerator-attributes

The following code example shows how to use describe-accelerator-attributes.

AWS CLI

To describe an accelerator's attributes

The following describe-accelerator-attributes example retrieves the attribute details for an accelerator.

```
aws globalaccelerator describe-accelerator-attributes \
  --accelerator-arn arn:aws:globalaccelerator::012345678901:accelerator/1234abcd-abcd-1234-abcd-1234abcdefgh
```
Output:

```
{
   "AcceleratorAttributes": {
       "FlowLogsEnabled": true,
       "FlowLogsS3Bucket": "flowlogs-abc",
       "FlowLogsS3Prefix": "bucketprefix-abc"
   }
}
```

For more information, see Accelerators in AWS Global Accelerator in the AWS Global Accelerator Developer Guide.

- For API details, see DescribeAcceleratorAttributes in AWS CLI Command Reference.

**describe-custom-routing-accelerator**

The following code example shows how to use describe-custom-routing-accelerator.

**AWS CLI**

To describe a custom routing accelerator

The following describe-custom-routing-accelerator example retrieves the details about the specified custom routing accelerator.

```
aws globalaccelerator describe-custom-routing-accelerator \\
   --accelerator-arn arn:aws:globalaccelerator::123456789012:accelerator/1234abcd-abcd-1234-abcd-1234abcdefgh
```

Output:

```
{
   "Accelerator": {
       "AcceleratorArn": "arn:aws:globalaccelerator::123456789012:accelerator/1234abcd-abcd-1234-abcd-1234abcdefgh",
       "IpAddressType": "IPV4",
       "Name": "ExampleCustomRoutingAccelerator",
       "Enabled": true,
       "Status": "IN_PROGRESS",
       "IpSets": []
   }
}
```
The following code example shows how to use `describe-custom-routing-accelerator-attributes`.

```bash
aws globalaccelerator describe-custom-routing-accelerator-attributes
  --accelerator-arn arn:aws:globalaccelerator::012345678901:accelerator/1234abcd-abcd-1234-abcd-1234abcdefgh
```

Output:

```json
{
   "AcceleratorAttributes": {
      "FlowLogsEnabled": false
   }
}
```
For more information, see Custom routing accelerators in AWS Global Accelerator in the AWS Global Accelerator Developer Guide.

- For API details, see DescribeCustomRoutingAcceleratorAttributes in AWS CLI Command Reference.

describe-custom-routing-endpoint-group

The following code example shows how to use describe-custom-routing-endpoint-group.

AWS CLI

To describe an endpoint group for a custom routing accelerator

The following describe-custom-routing-endpoint-group example describes an endpoint group for a custom routing accelerator.

```
aws globalaccelerator describe-custom-routing-endpoint-group \
  --endpoint-group-arn
  arn:aws:globalaccelerator::012345678901:accelerator/1234abcd-abcd-1234-abcd-1234abcdefgh/listener/6789vxyz/endpoint-group/ab88888example
```

Output:

```json
{
  "EndpointGroup": {
    "EndpointGroupArn":
    "arn:aws:globalaccelerator::012345678901:accelerator/1234abcd-abcd-1234-abcd-1234abcdefgh/listener/6789vxyz/endpoint-group/ab88888example",
    "EndpointGroupRegion": "us-east-2",
    "DestinationDescriptions": [
      {
        "FromPort": 5000,
        "ToPort": 10000,
        "Protocols": [
          "UDP"
        ]
      }
    ],
    "EndpointDescriptions": [
      {
        "EndpointId": "subnet-1234567890abcdef0"
      }
    ]
  }
}
```
For more information, see [Endpoint groups for custom routing accelerators in AWS Global Accelerator](#) in the [AWS Global Accelerator Developer Guide](#).

- For API details, see [DescribeCustomRoutingEndpointGroup](#) in [AWS CLI Command Reference](#).

**describe-custom-routing-listener**

The following code example shows how to use `describe-custom-routing-listener`.

**AWS CLI**

To describe a listener for a custom routing accelerator

The following `describe-custom-routing-listener` example describes a listener for a custom routing accelerator.

```bash
aws globalaccelerator describe-custom-routing-listener \
   --listener-arn arn:aws:globalaccelerator::012345678901:accelerator/1234abcd-abcd-1234-abcd-1234abcdefgh/listener/abcdef1234
```

Output:

```json
{
   "Listener": {
      "PortRanges": [
         {
            "FromPort": 5000,
            "ToPort": 10000
         }
      ],
      "ListenerArn":
         "arn:aws:globalaccelerator::012345678901:accelerator/1234abcd-abcd-1234-abcd-1234abcdefgh/listener/abcdef1234"
   }
}
```

For more information, see [Listeners for custom routing accelerators in AWS Global Accelerator](#) in the [AWS Global Accelerator Developer Guide](#).
• For API details, see DescribeCustomRoutingListener in AWS CLI Command Reference.

describe-endpoint-group

The following code example shows how to use describe-endpoint-group.

AWS CLI

To describe an endpoint group

The following describe-endpoint-group example retrieves details about an endpoint group with the following endpoints: an Amazon EC2 instance, an ALB, and an NLB.

```bash
aws globalaccelerator describe-endpoint-group \
  --endpoint-group-arn
  arn:aws:globalaccelerator::012345678901:accelerator/1234abcd-abcd-1234-
  abcd-1234abcdefgh/listener/6789vxyz-vxyz-6789-vxyz-6789lmnopqrs/endpoint-group/
  ab88888example
```

Output:

```
{
  "EndpointGroup": {
    "TrafficDialPercentage": 100.0,
    "EndpointDescriptions": [
      {
        "Weight": 128,
        "EndpointId": "i-1234567890abcdef0"
      },
      {
        "Weight": 128,
        "EndpointId": "arn:aws:elasticloadbalancing:us-east-1:000123456789:loadbalancer/app/ALBTesting/alb01234567890xyz"
      },
      {
        "Weight": 128,
        "EndpointId": "arn:aws:elasticloadbalancing:us-east-1:000123456789:loadbalancer/net/NLBTesting/alb01234567890qrs"
      }
    ],
    "EndpointGroupArn":
      "arn:aws:globalaccelerator::012345678901:accelerator/1234abcd-abcd-1234-
```
describe-listener

The following code example shows how to use describe-listener.

AWS CLI

To describe a listener

The following describe-listener example describes a listener.

```shell
aws globalaccelerator describe-listener \
    --listener-arn arn:aws:globalaccelerator::012345678901:accelerator/1234abcd-abcd-1234-abcd-1234abcdefgh/listener/abcdef1234
```

Output:

```json
{
    "Listener": {
        "ListenerArn": 
        "arn:aws:globalaccelerator::012345678901:accelerator/1234abcd-abcd-1234-abcd-1234abcdefgh/listener/abcdef1234",
        "PortRanges": [
            {
                "FromPort": 80,
                "ToPort": 80
            }
        ],
        "Protocol": "TCP",
        "ClientAffinity": "NONE"
    }
}
```
For more information, see [Listeners in AWS Global Accelerator](https://docs.aws.amazon.com/global-accelerator/latest/dg/listeners.html) in the *AWS Global Accelerator Developer Guide*.

- For API details, see [DescribeListener](https://docs.aws.amazon.com/cli/latest/reference/globalaccelerator/describe-listener.html) in *AWS CLI Command Reference*.

### list-accelerators

The following code example shows how to use list-accelerators.

**AWS CLI**

To list your accelerators

The following `list-accelerators` example lists the accelerators in your AWS account. This account has two accelerators.

```bash
code example
aws globalaccelerator list-accelerators
```

Output:

```json

{
   "Accelerators": [
       {
           "AcceleratorArn": "arn:aws:globalaccelerator::012345678901:accelerator/5555abcd-abcd-5555-abcd-5555EXAMPLE1",
           "Name": "TestAccelerator",
           "IpAddressType": "IPV4",
           "Enabled": true,
           "IpSets": [
               {
                   "IpFamily": "IPv4",
                   "IpAddresses": [
                       "192.0.2.250",
                       "198.51.100.52"
                   ]
               }
           ],
           "DnsName": "5a5a5a5a5a5a5a5a.awsglobalaccelerator.com",
           "Status": "DEPLOYED",
           "CreatedTime": 1552424416.0,
           "LastModifiedTime": 1569375641.0
       }
   ]
}
```
"AcceleratorArn": "arn:aws:globalaccelerator::888888888888:accelerator/8888abcd-abcd-8888-abcd-8888EXAMPLE2",
"Name": "ExampleAccelerator",
"IpAddressType": "IPV4",
"Enabled": true,
"IpSets": [
{
   "IpFamily": "IPv4",
   "IpAddresses": [
   "192.0.2.100",
   "198.51.100.10"
   ]
}
],
"DnsName": "6a6a6a6a6a6a6a.awsglobalaccelerator.com",
"Status": "DEPLOYED",
"CreatedTime": 1575585564.0,
"LastModifiedTime": 1579809243.0
],
}

For more information, see Accelerators in AWS Global Accelerator in the AWS Global Accelerator Developer Guide.

- For API details, see ListAccelerators in AWS CLI Command Reference.

**list-byoip-cidr**

The following code example shows how to use list-byoip-cidr.

**AWS CLI**

**To list your address ranges**

The following list-byoip-cidr example list the bring your own IP address (BYOIP) address ranges that you've provisioned for use with Global Accelerator.

```bash
aws globalaccelerator list-byoip-cidrs
```
Output:

```
{
  "ByoipCidrs": [
    {
      "Cidr": "198.51.100.0/24",
      "State": "READY"
    },
    {
      "Cidr": "203.0.113.25/24",
      "State": "READY"
    }
  ]
}
```

For more information, see Bring your own IP address in AWS Global Accelerator in the AWS Global Accelerator Developer Guide.

- For API details, see ListByoipCidr in AWS CLI Command Reference.

**list-custom-routing-accelerators**

The following code example shows how to use list-custom-routing-accelerators.

**AWS CLI**

To list your custom routing accelerators

The following list-custom-routing-accelerators example lists the custom routing accelerators in an AWS account.

```
aws globalaccelerator list-custom-routing-accelerators
```

Output:

```
{
  "Accelerators": [
    {
      "AcceleratorArn":
      "arn:aws:globalaccelerator::012345678901:accelerator/5555abcd-abcd-5555-5555EXAMPLE1",
      "Name": "TestCustomRoutingAccelerator",
```
For more information, see [Custom routing accelerators in AWS Global Accelerator](https://docs.aws.amazon.com/goldenaccelerator/latest/userguide/custom-routing-accelerators.html) in the [AWS Global Accelerator Developer Guide](https://docs.aws.amazon.com/goldenaccelerator/latest/userguide/).

list-custom-routing-endpoint-groups

The following code example shows how to use list-custom-routing-endpoint-groups.

AWS CLI

To list endpoint groups for a listener in a custom routing accelerator

The following list-custom-routing-endpoint-groups example lists the endpoint groups for a listener in a custom routing accelerator.

```
aws globalaccelerator list-custom-routing-endpoint-groups \\
  --listener-arn arn:aws:globalaccelerator::012345678901:accelerator/1234abcd-abcd-1234-abcd-1234abcdefgh/listener/abcdef1234
```

Output:

```json
{
   "EndpointGroups": [
      {
         "EndpointGroupArn":
            "arn:aws:globalaccelerator::012345678901:accelerator/1234abcd-abcd-1234-abcd-1234abcdefgh/listener/abcdef1234/endpoint-group/ab88888example",
         "EndpointGroupRegion": "eu-central-1",
         "DestinationDescriptions": [
            {
               "FromPort": 80,
               "ToPort": 80,
               "Protocols": [
                  "TCP",
                  "UDP"
               ]
            }
         ],
         "EndpointDescriptions": ["subnet-abcd123example"
      ]
   }
}
```
For more information, see Endpoint groups for custom routing accelerators in AWS Global Accelerator in the AWS Global Accelerator Developer Guide.

- For API details, see ListCustomRoutingEndpointGroups in AWS CLI Command Reference.

list-custom-routing-listeners

The following code example shows how to use list-custom-routing-listeners.

**AWS CLI**

To list listeners for custom routing accelerators

The following list-custom-routing-listeners example lists the listeners for a custom routing accelerator.

```bash
aws globalaccelerator list-custom-routing-listeners \\
    --accelerator-arn arn:aws:globalaccelerator::012345678901:accelerator/1234abcd-abcd-1234-abcd-1234abcdefgh
```

Output:

```json
{
    "Listeners": [
        {
            "ListenerArn": 
            "arn:aws:globalaccelerator::012345678901:accelerator/1234abcd-abcd-1234-abcd-1234abcdefgh/listener/abcdef1234",
            "PortRanges": [
                {
                    "FromPort": 5000,
                    "ToPort": 10000
                }
            ],
            "Protocol": "TCP"
        }
    ]
}
```

For more information, see Listeners for custom routing accelerators in AWS Global Accelerator in the AWS Global Accelerator Developer Guide.

- For API details, see ListCustomRoutingListeners in AWS CLI Command Reference.
list-custom-routing-port-mappings

The following code example shows how to use `list-custom-routing-port-mappings`.

**AWS CLI**

**To list the port mappings in a custom routing accelerator**

The following `list-custom-routing-port-mappings` example provides a partial list of the port mappings in a custom routing accelerator.

```bash
aws globalaccelerator list-custom-routing-port-mappings \
    --accelerator-arn arn:aws:globalaccelerator::012345678901:accelerator/1234abcd-abcd-1234-abcd-1234abcdefgh
```

Output:

```json
{
    "PortMappings": [
    {
        "AcceleratorPort": 40480,
        "EndpointGroupArn":
        "EndpointId": "subnet-1234567890abcdef0",
        "DestinationSocketAddress": {
            "IpAddress": "192.0.2.250",
            "Port": 80
        },
        "Protocols": [
            "TCP",
            "UDP"
        ],
        "DestinationTrafficState": "ALLOW"
    }
    {
        "AcceleratorPort": 40481,
        "EndpointGroupArn":
        "EndpointId": "subnet-1234567890abcdef0",
        "DestinationSocketAddress": {
            "IpAddress": "192.0.2.251",
            "Port": 80
        },
        "Protocols": [
            "TCP",
            "UDP"
        ],
        "DestinationTrafficState": "ALLOW"
    }
}
```
For more information, see [How custom routing accelerators work in AWS Global Accelerator](https://docs.aws.amazon.com/glu/latest/userguide) in the *AWS Global Accelerator Developer Guide*.

- For API details, see [ListCustomRoutingPortMappings](https://docs.aws.amazon.com/cli/latest/reference/globalaccelerator/list-custom-routing-port-mappings-by-destination) in *AWS CLI Command Reference*.

### list-custom-routing-port-mappings-by-destination

The following code example shows how to use `list-custom-routing-port-mappings-by-destination`.

#### AWS CLI

**To list the port mappings for a specific custom routing accelerator destination**

The following `list-custom-routing-port-mappings-by-destination` example provides the port mappings for a specific destination EC2 server (at the destination address) for a custom routing accelerator.

```bash
aws globalaccelerator list-custom-routing-port-mappings-by-destination \
  --endpoint-id subnet-abcd123example \
  --destination-address 198.51.100.52
```

**Output:**

```
{
  "DestinationPortMappings": [
  {
    "AcceleratorArn":
    "arn:aws:globalaccelerator::402092451327:accelerator/24ea29b8-d750-4489-8919-3095f3c4b0a7",
```
"AcceleratorSocketAddresses": [
  {
    "IpAddress": "192.0.2.250",
    "Port": 65514
  },
  {
    "IpAddress": "192.10.100.99",
    "Port": 65514
  }
],
"EndpointGroupArn":
"arn:aws:globalaccelerator::012345678901:accelerator/1234abcd-abcd-1234-abcd-1234abdefgh/listener/0123vxyz/endpoint-group/ab88888example",
"EndpointId": "subnet-abcd123example",
"EndpointGroupRegion": "us-west-2",
"DestinationSocketAddress": {
  "IpAddress": "198.51.100.52",
  "Port": 80
},
"IpAddressType": "IPv4",
"DestinationTrafficState": "ALLOW"
]
}

For more information, see How custom routing accelerators work in AWS Global Accelerator in the AWS Global Accelerator Developer Guide.

- For API details, see ListCustomRoutingPortMappingsByDestination in AWS CLI Command Reference.

list-endpoint-groups

The following code example shows how to use list-endpoint-groups.

AWS CLI

To list endpoint groups

The following list-endpoint-groups example lists the endpoint groups for a listener. This listener has two endpoint groups.

```bash
aws globalaccelerator --region us-west-2 list-endpoint-groups \
```
--listener-arn arn:aws:globalaccelerator::012345678901:accelerator/1234abcd-abcd-1234-abcd-1234abcdefgh/listener/abcdef1234

Output:

```
{
   "EndpointGroups": [
      {
         "EndpointGroupArn":
            "arn:aws:globalaccelerator::012345678901:accelerator/1234abcd-abcd-1234-abcd-1234abcdefgh/listener/abcdef1234/endpoint-group/ab88888example",
         "EndpointGroupRegion": "eu-central-1",
         "EndpointDescriptions": [],
         "TrafficDialPercentage": 100.0,
         "HealthCheckPort": 80,
         "HealthCheckProtocol": "TCP",
         "HealthCheckIntervalSeconds": 30,
         "ThresholdCount": 3
      },
      {
         "EndpointGroupArn":
            "arn:aws:globalaccelerator::012345678901:accelerator/1234abcd-abcd-1234-abcd-1234abcdefgh/listener/abcdef1234/endpoint-group/ab99999example",
         "EndpointGroupRegion": "us-east-1",
         "EndpointDescriptions": [],
         "TrafficDialPercentage": 50.0,
         "HealthCheckPort": 80,
         "HealthCheckProtocol": "TCP",
         "HealthCheckIntervalSeconds": 30,
         "ThresholdCount": 3
      }
   ]
}
```

For more information, see [Endpoint Groups in AWS Global Accelerator](https://docs.aws.amazon.com/globalsignature/latest/userguide/listen-eg.html) in the *AWS Global Accelerator Developer Guide*.

- For API details, see [ListEndpointGroups](https://docs.aws.amazon.com/cli/latest/reference/globalsignature/list-endpoint-groups.html) in *AWS CLI Command Reference*.

**list-listeners**

The following code example shows how to use `list-listeners`.
AWS CLI

To list listeners

The following list-listeners example lists the listeners for an accelerator.

```bash
aws globalaccelerator list-listeners \
   --accelerator-arn arn:aws:globalaccelerator::012345678901:accelerator/1234abcd-abcd-1234-abcd-1234abcdefgh
```

Output:

```json
{
   "Listeners": [
      {
         "ListenerArn": "arn:aws:globalaccelerator::012345678901:accelerator/1234abcd-abcd-1234-abcd-1234abcdefgh/listener/abcdef1234",
         "PortRanges": [
            {
               "FromPort": 80,
               "ToPort": 80
            }
         ],
         "Protocol": "TCP",
         "ClientAffinity": "NONE"
      }
   ]
}
```

For more information, see Listeners in AWS Global Accelerator in the AWS Global Accelerator Developer Guide.

- For API details, see ListListeners in AWS CLI Command Reference.

list-tags-for-resource

The following code example shows how to use list-tags-for-resource.

AWS CLI

To list tags for an accelerator
The following list-tags-for-resource example lists the tags for a specific accelerator.

```bash
aws globalaccelerator list-tags-for-resource \
   --accelerator-arn arn:aws:globalaccelerator::012345678901:accelerator/1234abcd-abcd-1234-abcd-1234abcdefgh
```

Output:

```json
{
   "Tags": [
       {
           "Key": "Project",
           "Value": "A123456"
       }
   ]
}
```

For more information, see Tagging in AWS Global Accelerator in the AWS Global Accelerator Developer Guide.

- For API details, see ListTagsForResource in AWS CLI Command Reference.

**provision-byoip-cidr**

The following code example shows how to use provision-byoip-cidr.

**AWS CLI**

**To provision an address range**

The following provision-byoip-cidr example provisions the specified address range to use with your AWS resources.

```bash
aws globalaccelerator provision-byoip-cidr \
   --cidr 192.0.2.250/24 \
   --cidr-authorization-context Message="$text_message",Signature="$signed_message"
```

Output:

```json
{
}
```
"ByoipCidr": {
    "Cidr": "192.0.2.250/24",
    "State": "PENDING_PROVISIONING"
}
}

For more information, see Bring your own IP address in AWS Global Accelerator in the AWS Global Accelerator Developer Guide.

- For API details, see ProvisionByoipCidr in AWS CLI Command Reference.

tag-resource

The following code example shows how to use tag-resource.

AWS CLI

To tag an accelerator

The following tag-resource example adds tags Name and Project to an accelerator, along with corresponding values for each.

```bash
aws globalaccelerator tag-resource \
    --resource-arn arn:aws:globalaccelerator::012345678901:accelerator/1234abcd-abcd-1234-abcd-1234abcdefgh \
    --tags Key="Name",Value="Example Name" Key="Project",Value="Example Project"
```

This command produces no output.

For more information, see Tagging in AWS Global Accelerator in the AWS Global Accelerator Developer Guide.

- For API details, see TagResource in AWS CLI Command Reference.

untag-resource

The following code example shows how to use untag-resource.

AWS CLI

To remove a tag from an accelerator
The following untag-resource example removes the tags Name and Project from an accelerator.

```bash
aws globalaccelerator untag-resource \
   --resource-arn arn:aws:globalaccelerator::012345678901:accelerator/1234abcd-abcd-1234-abcd-1234abcdefgh \
   --tag-keys Key="Name" Key="Project"
```

This command produces no output.

For more information, see [Tagging in AWS Global Accelerator](https://docs.aws.amazon.com/glu/latest/userguide/using-aws-لل加速器的Tagging.html) in the *AWS Global Accelerator Developer Guide*.

- For API details, see [UntagResource](https://docs.aws.amazon.com/cli/latest/reference/globalaccelerator/untag-resource.html) in *AWS CLI Command Reference*.

**update-accelerator**

The following code example shows how to use update-accelerator.

**AWS CLI**

**To update an accelerator**

The following update-accelerator example modifies an accelerator to change the accelerator name to ExampleAcceleratorNew. You must specify the US-West-2 (Oregon) Region to create or update accelerators.

```bash
aws globalaccelerator update-accelerator \
   --accelerator-arn arn:aws:globalaccelerator::123456789012:accelerator/1234abcd-abcd-1234-abcd-1234abcdefgh \
   --name ExampleAcceleratorNew
```

**Output:**

```json
{
   "Accelerator": {
      "AcceleratorArn": "arn:aws:globalaccelerator::123456789012:accelerator/1234abcd-abcd-1234-abcd-1234abcdefgh",
      "IpAddressType": "IPV4",
      "Name": "ExampleAcceleratorNew",
```
For more information, see Accelerators in AWS Global Accelerator in the AWS Global Accelerator Developer Guide.

- For API details, see UpdateAccelerator in AWS CLI Command Reference.

update-accelerator-attributes

The following code example shows how to use update-accelerator-attributes.

AWS CLI

To update an accelerator's attributes

The following update-accelerator-attributes example updates an accelerator to enable flow logs. You must specify the US-West-2 (Oregon) Region to create or update accelerator attributes.

```bash
aws globalaccelerator update-accelerator-attributes \  --accelerator-arn arn:aws:globalaccelerator::012345678901:accelerator/1234abcd-abcd-1234-abcd-1234abcd-1234abcdefg \  --flow-logs-enabled \  --flow-logs-s3-bucket flowlogs-abc \  --flow-logs-s3-prefix bucketprefix-abc
```

Output:
For more information, see Accelerators in AWS Global Accelerator in the AWS Global Accelerator Developer Guide.

• For API details, see UpdateAcceleratorAttributes in AWS CLI Command Reference.

update-custom-routing-accelerator

The following code example shows how to use update-custom-routing-accelerator.

AWS CLI

To update a custom routing accelerator

The following update-custom-routing-accelerator example modifies a custom routing accelerator to change the accelerator name.

```
aws globalaccelerator --region us-west-2 update-custom-routing-accelerator \
  --accelerator-arn arn:aws:globalaccelerator::123456789012:accelerator/1234abcd-abcd-1234-abcd-1234abcdefgh \
  --name ExampleCustomRoutingAcceleratorNew
```

Output:

```
{
  "Accelerator": {
    "AcceleratorArn":
    "arn:aws:globalaccelerator::123456789012:accelerator/1234abcd-abcd-1234-abcd-1234abcdefgh",
    "IpAddressType": "IPV4",
    "Name": "ExampleCustomRoutingAcceleratorNew",
    "Enabled": true,
    "Status": "IN_PROGRESS",
    "IpSets": [          
```
For more information, see [Custom routing accelerators in AWS Global Accelerator](https://docs.aws.amazon.com/awsglobalaccelerator/latest/userguide/custom-routing-accelerators.html) in the [AWS Global Accelerator Developer Guide](https://docs.aws.amazon.com/awsglobalaccelerator/latest/userguide/).


**update-custom-routing-accelerator-attributes**

The following code example shows how to use `update-custom-routing-accelerator-attributes`.

**AWS CLI**

**To update a custom routing accelerator's attributes**

The following `update-custom-routing-accelerator-attributes` example updates a custom routing accelerator to enable flow logs.

```
aws globalaccelerator update-custom-routing-accelerator-attributes \
  --accelerator-arn arn:aws:globalaccelerator::012345678901:accelerator/1234abcd-abcd-1234-abcd-1234abcd-efgghh \
  --flow-logs-enabled \
  --flow-logs-s3-bucket flowlogs-abc \
  --flow-logs-s3-prefix bucketprefix-abc
```

Output:

```
{
  "AcceleratorAttributes": {
```
For more information, see [Custom routing accelerators in AWS Global Accelerator](https://docs.aws.amazon.com/glu/latest/userguide/custom-routing.html) in the [AWS Global Accelerator Developer Guide](https://docs.aws.amazon.com/glu/latest/userguide/).


**update-custom-routing-listener**

The following code example shows how to use update-custom-routing-listener.

**AWS CLI**

To update a listener for a custom routing accelerator

The following update-custom-routing-listener example updates a listener to change the port range.

```bash
aws globalaccelerator update-custom-routing-listener \
   --listener-arn arn:aws:globalaccelerator::012345678901:accelerator/1234abcd-abcd-1234-abcd-1234-abcd-1234abcdefgh/listener/0123vxyz \
   --port-ranges FromPort=10000,ToPort=20000
```

Output:

```json
{
   "Listener": {
      "ListenerArn": "arn:aws:globalaccelerator::012345678901:accelerator/1234abcd-abcd-1234-abcd-1234-abcd-1234abcdefgh/listener/0123vxyz",
      "PortRanges": [
         {
            "FromPort": 10000,
            "ToPort": 20000
         }
      ],
      "Protocol": "TCP"
   }
}
```
For more information, see Listeners for custom routing accelerators in AWS Global Accelerator in the AWS Global Accelerator Developer Guide.

- For API details, see UpdateCustomRoutingListener in AWS CLI Command Reference.

update-endpoint-group

The following code example shows how to use update-endpoint-group.

AWS CLI

To update an endpoint group

The following update-endpoint-group example adds three endpoints to an endpoint group: an Elastic IP address, an ALB, and an NLB.

```bash
aws globalaccelerator update-endpoint-group \
  --endpoint-group-arn \
  arn:aws:globalaccelerator::123456789012:accelerator/1234abcd-abcd-1234-
  abcd-1234abcdefgh/listener/6789vxyz-vxyz-6789-vxyz-67891mnopqrs/endpoint-group/
  ab88888example \
  --endpoint-configurations \
    EndpointId=eipALLOC-eip01234567890abc,Weight=128 \
    EndpointId=arn:aws:elasticloadbalancing:us-east-1:000123456789:loadbalancer/
    app/ALBTesting/alb01234567890xyz,Weight=128 \
    EndpointId=arn:aws:elasticloadbalancing:us-east-1:000123456789:loadbalancer/ 
    net/NLBTesting/alb01234567890qrs,Weight=128
```

Output:

```json
{
  "EndpointGroup": {
    "TrafficDialPercentage": 100,
    "EndpointDescriptions": [
      {
        "Weight": 128,
        "EndpointId": "eip01234567890abc"
      },
      {
      }
  }
}
```
For more information, see [Endpoint groups in AWS Global Accelerator](https://docs.aws.amazon.com/globalaccelerator/latest/dg/endpoint-groups.html) in the [AWS Global Accelerator Developer Guide](https://docs.aws.amazon.com/glu/latest/dg/endpoint-groups.html).


**update-listener**

The following code example shows how to use `update-listener`.

**AWS CLI**

**To update a listener**

The following `update-listener` example updates a listener to change the port to 100.

```
aws globalaccelerator update-listener
   --listener-arn arn:aws:globalaccelerator::012345678901:accelerator/1234abcd-abcd-1234-abcd-1234abcdefgh/listener/0123vxyz
   --port-ranges FromPort=100,ToPort=100
```

Output:

```
{
   "Listener": {
```
"ListenerArn":
"arn:aws:globalaccelerator::012345678901:accelerator/1234abcd-abcd-1234-abcd-1234abcdefgh/listener/0123vxyz
  "PortRanges": [
  {
   "FromPort": 100,
   "ToPort": 100
  }
],
"Protocol": "TCP",
"ClientAffinity": "NONE"
}
}

For more information, see Listeners in AWS Global Accelerator in the AWS Global Accelerator Developer Guide.

- For API details, see UpdateListener in AWS CLI Command Reference.

withdraw-byoip-cidr

The following code example shows how to use withdraw-byoip-cidr.

AWS CLI

To withdraw an address range

The following withdraw-byoip-cidr example withdraws an address range from AWS Global Accelerator that you previously advertised for use with your AWS resources.

aws globalaccelerator withdraw-byoip-cidr \
   --cidr 192.0.2.250/24

Output:

{
  "ByoipCidr": {
   "Cidr": "192.0.2.250/24",
   "State": "PENDING_WITHDRAWING"
  }
}
For more information, see Bring your own IP address in AWS Global Accelerator in the AWS Global Accelerator Developer Guide.

- For API details, see WithdrawByoipCidr in AWS CLI Command Reference.

AWS Glue examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS Glue.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics
- Actions

Actions

Create a job definition

The following code example shows how to create an AWS Glue job definition.

AWS CLI

To create a job to transform data

The following create-job example creates a streaming job that runs a script stored in S3.

```
aws glue create-job
  --name my-testing-job
  --role AWSGlueServiceRoleDefault
  --command '{
    "Name": "gluestreaming",
    "ScriptLocation": "s3://DOC-EXAMPLE-BUCKET/folder/"
  }
```
Contents of test_script.scala:

```scala
import com.amazonaws.services.glue.ChoiceOption
import com.amazonaws.services.glue.GlueContext
import com.amazonaws.services.glue.MappingSpec
import com.amazonaws.services.glue.ResolveSpec
import com.amazonaws.services.glue.errors.CallSite
import com.amazonaws.services.glue.util.GlueArgParser
import com.amazonaws.services.glue.util.Job
import org.apache.spark.SparkContext
import scala.collection.JavaConverters._

object GlueApp {
  def main(sysArgs: Array[String]) {
    val spark: SparkContext = new SparkContext()
    val glueContext: GlueContext = new GlueContext(spark)
    // @params: [JOB_NAME]
    val args = GlueArgParser.getResolvedOptions(sysArgs, Seq("JOB_NAME").toArray)
    Job.init(args("JOB_NAME"), glueContext, args.asJava)
    // @type: DataSource
    // @args: [database = "tempdb", table_name = "s3-source", transformation_ctx = "datasource0"]
    // @return: datasource0
    // @inputs: []
    val datasource0 = glueContext.getCatalogSource(database = "tempdb",
                                                    tableName = "s3-source",
                                                    redshiftTmpDir = ",",
                                                    transformationContext = "datasource0").getDynamicFrame()
    // @type: ApplyMapping
    // @args: [mapping = [["sensorid", "int", "sensorid", "int"),
                      ("currenttemperature", "int", "currenttemperature", "int"),
                      ("status", "string", "status", "string")],
                transformation_ctx = "applymapping1"]
  }
}
```
val applymapping1 = datasource0.applyMapping(mappings = Seq(("sensorid", "int", "sensorid", "int"), ("currenttemperature", "int", "currenttemperature", "int"), ("status", "string", "status", "string")), caseSensitive = false, transformationContext = "applymapping1")

val selectfields2 = applymapping1.selectFields(paths = Seq("sensorid", "currenttemperature", "status"), transformationContext = "selectfields2")

val resolvechoice3 = selectfields2.resolveChoice(choiceOption = Some(ChoiceOption("MATCH_CATALOG")), database = Some("tempdb"), tableName = Some("my-s3-sink"), transformationContext = "resolvechoice3")

val datasink4 = glueContext.getCatalogSink(database = "tempdb", tableName = "my-s3-sink", redshiftTmpDir = ", transformationContext = "datasink4").writeDynamicFrame(resolvechoice3)

Job.commit()
Delete a job definition

The following code example shows how to delete an AWS Glue job definition and all associated runs.

AWS CLI

   To delete a job

   The following delete-job example deletes a job that is no longer needed.

   ```
   aws glue delete-job \
   --job-name my-testing-job
   ```

   Output:

   ```
   {
     "JobName": "my-testing-job"
   }
   ```

   For more information, see [Working with Jobs on the AWS Glue Console](https://docs.aws.amazon.com/glue/latest/dg) in the [AWS Glue Developer Guide](https://docs.aws.amazon.com/glue/latest/dg/).  
   - For API details, see [DeleteJob](https://docs.aws.amazon.com/glue/latest/dg/API_DeleteJob.html) in [AWS CLI Command Reference](https://docs.aws.amazon.com/cli/latest/reference/glue/delete-job.html).

Get a job run

The following code example shows how to get an AWS Glue job run.

AWS CLI

   To get information about a job run

   The following get-job-run example retrieves information about a job run.

   ```
   aws glue get-job-run \
   --job-name "Combine legislators data" \
   --run-id jr_012e176506505074d94d761755e5c62538ee1aad6f17d39f527e9140cf0c9a5e
   ```

   Output:
For more information, see Job Runs in the AWS Glue Developer Guide.

- For API details, see GetJobRun in AWS CLI Command Reference.

Get databases from the Data Catalog

The following code example shows how to get a list of databases from the AWS Glue Data Catalog.

**AWS CLI**

**To list the definitions of some or all of the databases in the AWS Glue Data Catalog**

The following get-databases example returns information about the databases in the Data Catalog.
Output:

```json
{
    "DatabaseList": [
        {
            "Name": "default",
            "Description": "Default Hive database",
            "LocationUri": "file:/spark-warehouse",
            "CreateTime": 1602084052.0,
            "CreateTableDefaultPermissions": [
                {
                    "Principal": {
                        "DataLakePrincipalIdentifier": "IAM_ALLOWED_PRINCIPALS"
                    },
                    "Permissions": [
                        "ALL"
                    ]
                }
            ],
            "CatalogId": "111122223333"
        },
        {
            "Name": "flights-db",
            "CreateTime": 1587072847.0,
            "CreateTableDefaultPermissions": [
                {
                    "Principal": {
                        "DataLakePrincipalIdentifier": "IAM_ALLOWED_PRINCIPALS"
                    },
                    "Permissions": [
                        "ALL"
                    ]
                }
            ],
            "CatalogId": "111122223333"
        },
        {
            "Name": "legislators",
            "CreateTime": 1601415625.0,
            "CreateTableDefaultPermissions": [
                {
                    "Principal": {
                        "DataLakePrincipalIdentifier": "IAM_ALLOWED_PRINCIPALS"
                    },
                    "Permissions": [
                        "ALL"
                    ]
                }
            ],
            "CatalogId": "111122223333"
        }
    ]
}
For more information, see [Defining a Database in Your Data Catalog](https://docs.aws.amazon.com/glue/latest/dg) in the *AWS Glue Developer Guide*.

- For API details, see [GetDatabases](https://docs.aws.amazon.com/cli/latest/reference/glue/get-databases) in *AWS CLI Command Reference*.

**Get job from the Data Catalog**

The following code example shows how to get a job from the AWS Glue Data Catalog.

**AWS CLI**

**To retrieve information about a job**

The following `get-job` example retrieves information about a job.
aws glue get-job \
   --job-name my-testing-job

Output:

```
{
    "Job": {
        "Name": "my-testing-job",
        "Role": "Glue_DefaultRole",
        "CreatedOn": 1602805698.167,
        "LastModifiedOn": 1602805698.167,
        "ExecutionProperty": {
            "MaxConcurrentRuns": 1
        },
        "Command": {
            "Name": "gluestreaming",
            "ScriptLocation": "s3://janetst-bucket-01/Scripts/test_script.scala",
            "PythonVersion": "2"
        },
        "DefaultArguments": {
            "--class": "GlueApp",
            "--job-language": "scala"
        },
        "MaxRetries": 0,
        "AllocatedCapacity": 10,
        "MaxCapacity": 10.0,
        "GlueVersion": "1.0"
    }
}
```

For more information, see [Jobs](https://docs.aws.amazon.com/glue/latest/dg/jobs.html) in the AWS Glue Developer Guide.


Get runs of a job

The following code example shows how to get runs of an AWS Glue job.

**AWS CLI**

To get information about all job runs for a job

The following `get-job-runs` example retrieves information about job runs for a job.
aws glue get-job-runs \
   --job-name "my-testing-job"

Output:

```
{
   "JobRuns": [
   {
   "Id": "jr_012e176506505074d94d761755e5c62538ee1aad6f17d39f527e9140cf0c9a5e",
   "Attempt": 0,
   "JobName": "my-testing-job",
   "StartedOn": 1602873931.255,
   "LastModifiedOn": 1602874075.985,
   "CompletedOn": 1602874075.985,
   "JobRunState": "SUCCEEDED",
   "Arguments": {
      "--enable-continuous-cloudwatch-log": "true",
      "--enable-metrics": "",
      "--enable-spark-ui": "true",
      "--job-bookmark-option": "job-bookmark-enable",
      "--spark-event-logs-path": "s3://aws-glue-assets-11112223333-us-east-1/sparkHistoryLogs/"
   },
   "PredecessorRuns": [],
   "AllocatedCapacity": 10,
   "ExecutionTime": 117,
   "Timeout": 2880,
   "MaxCapacity": 10.0,
   "WorkerType": "G.1X",
   "NumberOfWorkers": 10,
   "LogGroupName": "/aws-glue/jobs",
   "GlueVersion": "2.0"
   },
   {
   "Id": "jr_03cc19dadab11c4e244d3f735567de74ff93b0b3ef468a713ffe73e53d1aec08f_attempt_2",
   "Attempt": 2,
   "PreviousRunId": "jr_03cc19dadab11c4e244d3f735567de74ff93b0b3ef468a713ffe73e53d1aec08f_attempt_1",
   "JobName": "my-testing-job",
   "StartedOn": 1602811168.496,
   "LastModifiedOn": 1602811282.39,
   ```
"CompletedOn": 1602811282.39,
"JobRunState": "FAILED",
"ErrorMessage": "An error occurred while calling o122.pyWriteDynamicFrame.
  Access Denied (Service: Amazon S3; Status Code: 403; Error Code: AccessDenied; Request ID: 021AAB703DB20A2D;
  S3 Extended Request ID: teZk24Y09TkXzBvMPG502L5VJBhe9DJuWA9/TXtuG0qfByajkfl/Tlqt5JBGdEGpigAqzdMDM/U=)",
"PredecessorRuns": [],
"AllocatedCapacity": 10,
"ExecutionTime": 110,
"Timeout": 2880,
"MaxCapacity": 10.0,
"WorkerType": "G.1X",
"NumberOfWorkers": 10,
"LogGroupName": "/aws-glue/jobs",
"GlueVersion": "2.0"
},
{
"Id": "jr_03cc19dab11c4e244d3f735567de74ff93b0b3ef468a713ffe73e53d1aec08f_attempt_1",
"Attempt": 1,
"PreviousRunId": "jr_03cc19dab11c4e244d3f735567de74ff93b0b3ef468a713ffe73e53d1aec08f",
"JobName": "my-testing-job",
"StartedOn": 1602811020.518,
"LastModifiedOn": 1602811138.364,
"CompletedOn": 1602811138.364,
"JobRunState": "FAILED",
"ErrorMessage": "An error occurred while calling o122.pyWriteDynamicFrame.
  Access Denied (Service: Amazon S3; Status Code: 403; Error Code: AccessDenied; Request ID: 2671D37856AE7ABB;
  S3 Extended Request ID: RLJCJw20brVP+PpC6GpORahyF2fp9f1B5S5b2bTGPnUSPVizLXR11PN3QZ1db+v1o9qRVktNYbW8=)",
"PredecessorRuns": [],
"AllocatedCapacity": 10,
"ExecutionTime": 113,
"Timeout": 2880,
"MaxCapacity": 10.0,
"WorkerType": "G.1X",
"NumberOfWorkers": 10,
Get tables from a database

The following code example shows how to get tables from a database in the AWS Glue Data Catalog.

**AWS CLI**

To list the definitions of some or all of the tables in the specified database

The following get-tables example returns information about the tables in the specified database.

```
aws glue get-tables --database-name 'tempdb'
```

Output:

```
{
   "TableList": [
   {
   "Name": "my-s3-sink",
   "DatabaseName": "tempdb",
   "CreateTime": 1602730539.0,
   "UpdateTime": 1602730539.0,
   "Retention": 0,
   "StorageDescriptor": {
   "Columns": [
   {"Name": "sensorid",
   "Type": "int"},
   {"Name": "currenttemperature",
   "Type": "int"
   ]
   }
   }
   ]
}
```

{
    "Name": "status",
    "Type": "string"
}
],
"Location": "s3://janetst-bucket-01/test-s3-output/",
"Compressed": false,
"NumberOfBuckets": 0,
"SerdeInfo": {
    "SerializationLibrary": "org.openx.data.jsonserde.JsonSerDe"
},
"SortColumns": [],
"StoredAsSubDirectories": false
},
"Parameters": {
    "classification": "json"
},
"CreatedBy": "arn:aws:iam::007436865787:user/JRSTERN",
"IsRegisteredWithLakeFormation": false,
"CatalogId": "007436865787"
},
{
    "Name": "s3-source",
    "DatabaseName": "tempdb",
    "CreateTime": 1602730658.0,
    "UpdateTime": 1602730658.0,
    "Retention": 0,
    "StorageDescriptor": {
        "Columns": [
            {
                "Name": "sensorid",
                "Type": "int"
            },
            {
                "Name": "currenttemperature",
                "Type": "int"
            },
            {
                "Name": "status",
                "Type": "string"
            }
        ],
        "Location": "s3://janetst-bucket-01/",

"Compressed": false,
"NumberOfBuckets": 0,
"SortColumns": [],
"StoredAsSubDirectories": false
},
"Parameters": {
  "classification": "json"
},
"CreatedBy": "arn:aws:iam::007436865787:user/JRSTERN",
"IsRegisteredWithLakeFormation": false,
"CatalogId": "007436865787"
},
{
  "Name": "test-kinesis-input",
  "DatabaseName": "tempdb",
  "CreateTime": 1601507001.0,
  "UpdateTime": 1601507001.0,
  "Retention": 0,
  "StorageDescriptor": {
    "Columns": [
      {
        "Name": "sensorid",
        "Type": "int"
      },
      {
        "Name": "currenttemperature",
        "Type": "int"
      },
      {
        "Name": "status",
        "Type": "string"
      }
    ],
    "Location": "my-testing-stream",
    "Compressed": false,
    "NumberOfBuckets": 0,
    "SerdeInfo": {
      "SerializationLibrary": "org.openx.data.jsonserde.JsonSerDe"
    },
    "SortColumns": [],
    "Parameters": {
      "kinesisUrl": "https://kinesis.us-east-1.amazonaws.com",
      "streamName": "my-testing-stream",
      "typeOfData": "kinesis"
    }
  }
}
Start a crawler

The following code example shows how to start an AWS Glue crawler.

**AWS CLI**

To start a crawler

The following start-crawler example starts a crawler.

```bash
aws glue start-crawler --name my-crawler
```

Output:

```
None
```

For more information, see [Defining Crawlers](#) in the `AWS Glue Developer Guide`.

- For API details, see [StartCrawler](#) in `AWS CLI Command Reference`.

Start a job run

The following code example shows how to start an AWS Glue job run.

```json
{
  "name": "my-crawler",
  "CreatedBy": "arn:aws:iam::007436865787:user/JRSTERN",
  "IsRegisteredWithLakeFormation": false,
  "CatalogId": "007436865787"
}
```

For more information, see [Defining Tables in the AWS Glue Data Catalog](#) in the `AWS Glue Developer Guide`.

- For API details, see [GetTables](#) in `AWS CLI Command Reference`.

Actions and scenarios
To start running a job

The following start-job-run example starts a job.

```bash
aws glue start-job-run \
   --job-name my-job
```

Output:

```json
{
   "JobRunId": "jr_22208b1f44eb5376a60569d4b21dd20fcb8621e1a366b4e7b2494af764b82ded"
}
```

For more information, see [Authoring Jobs](https://aws.amazon.com/glue/developer-guide/) in the *AWS Glue Developer Guide*.

- For API details, see [StartJobRun](https://docs.aws.amazon.com/cli/latest/reference/glue/start-job-run.html) in *AWS CLI Command Reference*.

**batch-stop-job-run**

The following code example shows how to use batch-stop-job-run.

AWS CLI

**To stop job runs**

The following batch-stop-job-run example stops a job runs.

```bash
aws glue batch-stop-job-run \
   --job-name "my-testing-job" \
   --job-run-id jr_852f1de1f29fb62e0ba4166c33970803935d87f14f96cfdee5089d5274a61d3f
```

Output:

```json
{
   "SuccessfulSubmissions": [
      {
         "JobName": "my-testing-job",
```

Actions and scenarios
For more information, see [Job Runs](https://aws.amazon.com/documentation/glue/reference/job-runs/) in the *AWS Glue Developer Guide*.

- For API details, see [BatchStopJobRun](https://docs.aws.amazon.com/cli/latest/reference/glue/batch-stop-job-run.html) in *AWS CLI Command Reference*.

### create-connection

The following code example shows how to use `create-connection`.

#### AWS CLI

**To create a connection for AWS Glue data stores**

The following `create-connection` example creates a connection in the AWS Glue Data Catalog that provides connection information for a Kafka data store.

```bash
aws glue create-connection \
  --connection-input '{ \
    "Name":"conn-kafka-custom", \
    "Description":"kafka connection with ssl to custom kafka", \
    "ConnectionType":"KAFKA", \
    "ConnectionProperties":{ \
      "KAFKA_BOOTSTRAP_SERVERS":"<Kafka-broker-server-url>:<SSL-Port>", \
      "KAFKA_SSL_ENABLED":"true", \
      "KAFKA_CUSTOM_CERT": "s3://bucket/prefix/cert-file.pem" \
    }
  }
```
create-database

The following code example shows how to use create-database.

AWS CLI

To create a database

The following create-database example creates a database in the AWS Glue Data Catalog.

```
aws glue create-database \
    --database-input "\"Name\":\"tempdb\"\" \n    --profile my_profile \n    --endpoint https://glue.us-east-1.amazonaws.com
```

This command produces no output.

For more information, see [Defining a Database in Your Data Catalog](https://docs.aws.amazon.com/glue/latest/dg/defining-a-database.html) in the *AWS Glue Developer Guide*.

- For API details, see [CreateDatabase](https://docs.aws.amazon.com/cli/latest/reference/glue/create-database.html) in *AWS CLI Command Reference*.

create-table

The following code example shows how to use create-table.

```
}, \
    "PhysicalConnectionRequirements":{ \
        "SubnetId":"subnet-1234", \
        "SecurityGroupIdList":["sg-1234"], \
        "AvailabilityZone":"us-east-1a"} \
}, \
--region us-east-1 
--endpoint https://glue.us-east-1.amazonaws.com
```

This command produces no output.

For more information, see [Defining Connections in the AWS Glue Data Catalog](https://docs.aws.amazon.com/glue/latest/dg/defining-connections.html) in the *AWS Glue Developer Guide*.

- For API details, see [CreateConnection](https://docs.aws.amazon.com/cli/latest/reference/glue/create-connection.html) in *AWS CLI Command Reference*.

---

For more information, see *Defining Connections in the AWS Glue Data Catalog* in the *AWS Glue Developer Guide*.

- For API details, see [CreateConnection](https://docs.aws.amazon.com/cli/latest/reference/glue/create-connection.html) in *AWS CLI Command Reference*.

For more information, see *Defining a Database in Your Data Catalog* in the *AWS Glue Developer Guide*.

- For API details, see [CreateDatabase](https://docs.aws.amazon.com/cli/latest/reference/glue/create-database.html) in *AWS CLI Command Reference*.
Example 1: To create a table for a Kinesis data stream

The following create-table example creates a table in the AWS Glue Data Catalog that describes a Kinesis data stream.

```
aws glue create-table \
  --database-name tempdb \
  --table-input  '{"Name":"test-kinesis-input", "StorageDescriptor":{ \
    "Columns":[ \
      {"Name":"sensorid", "Type":"int"}, \n      {"Name":"currenttemperature", "Type":"int"}, \n      {"Name":"status", "Type":"string"} \n    ], \n    "Location":"my-testing-stream", \n    "Parameters":{ \n      "typeOfData":"kinesis","streamName":"my-testing-stream", \n      "kinesisUrl":"https://kinesis.us-east-1.amazonaws.com" \n    }, \n    "SerdeInfo":{ \n      "SerializationLibrary":"org.openx.data.jsonserde.JsonSerDe"} \n    }, \n    "Parameters":{ \n      "classification":"json" \n    }\n  }' \
  --profile my-profile \
  --endpoint https://glue.us-east-1.amazonaws.com
```

This command produces no output.

For more information, see Defining Tables in the AWS Glue Data Catalog in the AWS Glue Developer Guide.

Example 2: To create a table for a Kafka data store

The following create-table example creates a table in the AWS Glue Data Catalog that describes a Kafka data store.

```
aws glue create-table \
  --database-name tempdb \
  --table-input  '{"Name":"test-kafka-input", "StorageDescriptor":{ \
    "Columns":[ \
      {"Name":"sensorid", "Type":"int"}, \n      {"Name":"currenttemperature", "Type":"int"}, \n      {"Name":"status", "Type":"string"} \n    ], \n    "Location":"my-testing-stream", \n    "Parameters":{ \n      "typeOfData":"kinesis","streamName":"my-testing-stream", \n      "kinesisUrl":"https://kinesis.us-east-1.amazonaws.com" \n    }, \n    "SerdeInfo":{ \n      "SerializationLibrary":"org.openx.data.jsonserde.JsonSerDe"} \n    }, \n    "Parameters":{ \n      "classification":"json" \n    }\n  }' \
  --profile my-profile \
  --endpoint https://glue.us-east-1.amazonaws.com
```
This command produces no output.

For more information, see Defining Tables in the AWS Glue Data Catalog in the AWS Glue Developer Guide.

Example 3: To create a table for a AWS S3 data store

The following create-table example creates a table in the AWS Glue Data Catalog that describes a AWS Simple Storage Service (AWS S3) data store.

```
aws glue create-table \
  --database-name tempdb \
  --table-input  '{"Name":"s3-output", "StorageDescriptor":{ \n    "Columns":[
      {"Name":"s1", "Type":"string"},
      {"Name":"s2", "Type":"int"},
      {"Name":"s3", "Type":"string"}
    ],
    "Location":"s3://bucket-path/", 
    "SerdeInfo":{ 
      "SerializationLibrary":"org.openx.data.jsonserde.JsonSerDe"}
  }, \n  "Parameters":{
      "separatorChar":"
  }' \
  --profile my-profile \
  --endpoint https://glue.us-east-1.amazonaws.com
```

This command produces no output.

For more information, see Defining Tables in the AWS Glue Data Catalog in the AWS Glue Developer Guide.

- For API details, see CreateTable in AWS CLI Command Reference.

get-plan

The following code example shows how to use get-plan.

**AWS CLI**

To get the generated code for mapping data from source tables to target tables

The following get-plan retrieves the generated code for mapping columns from the data source to the data target.

```
aws glue get-plan --mapping ' [
  { 
    "SourcePath":"sensorid", 
    "SourceTable":"anything", 
    "SourceType":"int", 
    "TargetPath":"sensorid", 
    "TargetTable":"anything", 
    "TargetType":"int" 
  }, 
  { 
    "SourcePath":"currenttemperature", 
    "SourceTable":"anything", 
    "SourceType":"int", 
    "TargetPath":"currenttemperature", 
    "TargetTable":"anything", 
    "TargetType":"int" 
  }, 
  { 
    "SourcePath":"status", 
    "SourceTable":"anything", 
```
import com.amazonaws.services.glue.ChoiceOption
import com.amazonaws.services.glue.GlueContext
import com.amazonaws.services.glue.MappingSpec
import com.amazonaws.services.glue.ResolveSpec
import com.amazonaws.services.glue.errors.CallSite
import com.amazonaws.services.glue.util.GlueArgParser
import com.amazonaws.services.glue.util.Job
import com.amazonaws.services.glue.util.JsonOptions
import org.apache.spark.SparkContext
import scala.collection.JavaConverters_

object GlueApp {
  def main(sysArgs: Array[String]) {
    val spark: SparkContext = new SparkContext()
    val glueContext: GlueContext = new GlueContext(spark)
    // @params: [JOB_NAME]
    val args = GlueArgParser.getResolvedOptions(sysArgs, Seq("JOB_NAME").toArray)
    Job.init(args("JOB_NAME"), glueContext, args.asJava)
    // @type: DataSource
    // @args: [database = "tempdb", table_name = "s3-source", transformation_ctx = "datasource0"]
    // @return: datasource0
    // @inputs: []
val datasource0 = glueContext.getCatalogSource(database = "tempdb", tableName = "s3-source", redshiftTmpDir = ",", transformationContext = "datasource0").getDynamicFrame()
  // @type: ApplyMapping
  // @args: [mapping = ["sensorid", "int", "sensorid", "int"],
  ("currenttemperature", "int", "currenttemperature", "int"), ("status", "string", "status", "string")], transformation_ctx = "applymapping1"
  // @return: applymapping1
  // @inputs: [frame = datasource0]
val applymapping1 = datasource0.applyMapping(mappings = Seq("sensorid", "int", "sensorid", "int"), ("currenttemperature", "int", "currenttemperature", "int"), ("status", "string", "status", "string")), caseSensitive = false, transformationContext = "applymapping1")
  // @type: SelectFields
  // @args: [paths = ["sensorid", "currenttemperature", "status"],
  transformation_ctx = "selectfields2"
  // @return: selectfields2
  // @inputs: [frame = applymapping1]
val selectfields2 = applymapping1.selectFields(paths = Seq("sensorid", "currenttemperature", "status"), transformationContext = "selectfields2")
  // @type: ResolveChoice
  // @args: [choice = "MATCH_CATALOG", database = "tempdb", table_name = "my-s3-sink",
  transformation_ctx = "resolvechoice3"
  // @return: resolvechoice3
  // @inputs: [frame = selectfields2]
val resolvechoice3 = selectfields2.resolveChoice(choiceOption = Some(ChoiceOption("MATCH_CATALOG")), database = Some("tempdb"), tableName = Some("my-s3-sink"), transformationContext = "resolvechoice3")
  // @type: DataSink
  // @args: [database = "tempdb", table_name = "my-s3-sink", transformation_ctx = "datasink4"
  // @return: datasink4
  // @inputs: [frame = resolvechoice3]
val datasink4 = glueContext.getCatalogSink(database = "tempdb", tableName = "my-s3-sink", redshiftTmpDir = ",", transformationContext = "datasink4").writeDynamicFrame(resolvechoice3)
Job.commit()
}

For more information, see Editing Scripts in AWS Glue in the AWS Glue Developer Guide.

• For API details, see GetPlan in AWS CLI Command Reference.
GuardDuty examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with GuardDuty.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics

• Actions

Actions

accept-invitation

The following code example shows how to use accept-invitation.

AWS CLI

To accept an invitation to become a GuardDuty member account in the current region

The following accept-invitation example shows how to accept an invitation to become a GuardDuty member account in the current region.

```
aws guardduty accept-invitation \
   --detector-id 12abc34d567e8fa901bc2d34eexample \
   --master-id 123456789111 \
   --invitation-id d6b94fb03a66ff665f7db8764example
```

This command produces no output.

For more information, see Managing GuardDuty Accounts by Invitation in the GuardDuty User Guide.

• For API details, see AcceptInvitation in AWS CLI Command Reference.
archive-findings

The following code example shows how to use archive-findings.

AWS CLI

To archive findings in the current region

This example shows how to archive findings in the current region.

```
aws guardduty archive-findings \
   --detector-id 12abc34d567e8fa901bc2d34eexample \
   --finding-ids d6b94fb03a66ff665f7db8764example 3eb970e0de00c16ec14e6910fexample
```

This command produces no output.

For more information, see Managing GuardDuty Accounts by Invitation in the GuardDuty User Guide.

- For API details, see ArchiveFindings in AWS CLI Command Reference.

create-detector

The following code example shows how to use create-detector.

AWS CLI

To enable GuardDuty in the current region

This example shows how to create a new detector, which enables GuardDuty, in the current region:

```
aws guardduty create-detector \
   --enable
```

Output:

```
{
   "DetectorId": "b6b992d6d2f48e64bc59180bfexample"
}
```

For more information, see Enable Amazon GuardDuty in the GuardDuty User Guide.
create-filter

The following code example shows how to use `create-filter`.

**AWS CLI**

To create a new filter for the current region

This example creates a filter that matches all portscan findings for instance created from a specific image:

```bash
aws guardduty create-filter \
  --detector-id b6b992d6d2f48e64bc59180bfexample \
  --action ARCHIVE \n  --name myFilter \n  --finding-criteria '{"Criterion": {"type": {"Eq": ["Recon:EC2/Portscan"]},"resource.instanceDetails.imageId": {"Eq": ["ami-0a7a207083example"]}}}'
```

Output:

```
{
   "Name": "myFilter"
}
```

For more information, see Filtering findings in the GuardDuty User Guide.

For API details, see CreateFilter in AWS CLI Command Reference.

create-ip-set

The following code example shows how to use `create-ip-set`.

**AWS CLI**

To create a trusted IP set

The following `create-ip-set` example creates and activates a trusted IP set in the current region.

```bash
aws guardduty create-ip-set \
```
create-members

The following code example shows how to use create-members.

AWS CLI

To associate a new member with your GuardDuty master account in the current region.

This example shows how to associate member accounts to be managed by the current account as the GuardDuty master.

```
aws guardduty create-members
   --detector-id b6b992d6d2f48e64bc59180bfexample \
   --account-details AccountId=111122223333,Email=first+member@example.com
   AccountId=111111111111 ,Email=another+member@example.com
```

Output:

```
{
   "UnprocessedAccounts": []
}
```

For more information, see Managing multiple accounts in the GuardDuty User Guide.

• For API details, see CreateMembers in AWS CLI Command Reference.
create-publishing-destination

The following code example shows how to use create-publishing-destination.

**AWS CLI**

To create a publishing destination to export GuardDuty findings in the current region to.

This example shows how to create a publishing destination for GuardDuty findings.

```
aws guardduty create-publishing-destination  
  --detector-id b6b992d6d2f48e64bc59180bfexample  
  --destination-type S3  
  --destination-properties
  DestinationArn=arn:aws:s3:::yourbucket,KmsKeyArn=arn:aws:kms:us-west-1:111122223333:key/84cee9c5-dea1-401a-ab6d-e1de7example
```

Output:

```
{
  "DestinationId": "46b99823849e1bbc242dfbe3cexample"
}
```

For more information, see [Exporting findings](https://docs.aws.amazon.com/gd/gd guardduty/latest/userguide/guardduty-finding-export.html) in the *GuardDuty User Guide*.

- For API details, see [CreatePublishingDestination](https://docs.aws.amazon.com/cli/latest/reference/guardduty/create-publishing-destination.html) in *AWS CLI Command Reference*.

create-sample-findings

The following code example shows how to use create-sample-findings.

**AWS CLI**

To create sample GuardDuty findings in the current region.

This example shows how to create a sample finding of the provided types.

```
aws guardduty create-sample-findings  
  --detector-id b6b992d6d2f48e64bc59180bfexample  
  --finding-types UnauthorizedAccess:EC2/TorClient UnauthorizedAccess:EC2/TorRelay
```

This command produces no output.
For more information, see Sample findings in the GuardDuty User Guide.

- For API details, see CreateSampleFindings in AWS CLI Command Reference.

create-threat-intel-set

The following code example shows how to use create-threat-intel-set.

AWS CLI

To create a new threat intel set in the current region.

This example shows how to upload a threat intel set to GuardDuty and activate it immediately.

```bash
aws guardduty create-threat-intel-set \
  --detector-id b6b992d6d2f48e64bc59180bfexample \
  --name myThreatSet \
  --format TXT \
  --location s3://EXAMPLEBUCKET/threatlist.csv \
  --activate
```

Output:

```
{
  "ThreatIntelSetId": "20b9a4691aeb33506b808878cexample"
}
```

For more information, see Trusted IP and threat lists in the GuardDuty User Guide.

- For API details, see CreateThreatIntelSet in AWS CLI Command Reference.

decline-invitations

The following code example shows how to use decline-invitations.

AWS CLI

To decline an invitation to have GuardDuty managed by another account in the current region.

This example shows how to decline a membership invitation.
aws guardduty decline-invitations \
   --account-ids 111122223333

Output:

{
   "UnprocessedAccounts": []
}

For more information, see Managing GuardDuty accounts by invitation in the GuardDuty User Guide.

- For API details, see DeclineInvitations in AWS CLI Command Reference.

delete-detector

The following code example shows how to use delete-detector.

AWS CLI

To delete a detector, and disable GuardDuty, in the current region.

This example shows how to delete a detector, if successful, this will disable GuardDuty in the region associated with that detector.

aws guardduty delete-detector \
   --detector-id b6b992d6d2f48e64bc59180bfexample

This command produces no output.

For more information, see Suspending or disabling GuardDuty in the GuardDuty User Guide.

- For API details, see DeleteDetector in AWS CLI Command Reference.

delete-filter

The following code example shows how to use delete-filter.

AWS CLI

To delete an existing filter in the current region
This example shows how to create a filter.

```bash
aws guardduty delete-filter \
   --detector-id b6b992d6d2f48e64bc59180bfexample \
   --filter-name byebyeFilter
```

This command produces no output.

For more information, see Filtering findings in the GuardDuty User Guide.

- For API details, see DeleteFilter in AWS CLI Command Reference.

disable-organization-admin-account

The following code example shows how to use disable-organization-admin-account.

AWS CLI

To remove an account as the delegated administrator for GuardDuty within your organization

This example shows how to remove an account as the delegated administrator for GuardDuty.

```bash
aws guardduty disable-organization-admin-account \
   --admin-account-id 111122223333
```

This command produces no output.

For more information, see Managing accounts with AWS organizations in the GuardDuty User Guide.

- For API details, see DisableOrganizationAdminAccount in AWS CLI Command Reference.

disassociate-from-master-account

The following code example shows how to use disassociate-from-master-account.

AWS CLI

To disassociate from your current master account in the current region
The following disassociate-from-master-account example disassociates your account from the current GuardDuty master account in the current AWS region.

```
aws guardduty disassociate-from-master-account \
    --detector-id d4b040365221be2b54a6264dceexample
```

This command produces no output.

For more information, see Understanding the Relationship between GuardDuty Master and Member Accounts in the GuardDuty User Guide.

- For API details, see DisassociateFromMasterAccount in AWS CLI Command Reference.

get-detector

The following code example shows how to use get-detector.

**AWS CLI**

**To retrieve details of a specific detector**

The following get-detector example displays the configurations details of the specified detector.

```
aws guardduty get-detector \
    --detector-id 12abc34d567e8fa901bc2d34eexample
```

Output:

```
{
    "Status": "ENABLED",
    "ServiceRole": "arn:aws:iam::111122223333:role/aws-service-role/guardduty.amazonaws.com/AWSServiceRoleForAmazonGuardDuty",
    "Tags": {},
    "FindingPublishingFrequency": "SIX_HOURS",
    "UpdatedAt": "2018-11-07T03:24:22.938Z",
    "CreatedAt": "2017-12-22T22:51:31.940Z"
}
```

For more information, see Concepts and Terminology in the GuardDuty User Guide.

- For API details, see GetDetector in AWS CLI Command Reference.
get-findings

The following code example shows how to use get-findings.

AWS CLI

Example 1: To retrieve the details of a specific finding

The following get-findings example retrieves the full JSON finding details of the specified finding.

```
aws guardduty get-findings \
    --detector-id 12abc34d567e8fa901bc2d34eexample \
    --finding-id 1ab92989eaf0e742df4a014d5example
```

Output:

```
{
    "Findings": [
        {
            "Resource": {
                "ResourceType": "AccessKey",
                "AccessKeyDetails": {
                    "UserName": "testuser",
                    "UserType": "IAMUser",
                    "PrincipalId": "AIDACKCEVSQ6C2EXAMPLE",
                    "AccessKeyId": "ASIASZ4SI7REEEXAMPLE"
                }
            },
            "Description": "APIs commonly used to discover the users, groups, policies and permissions in an account, was invoked by IAM principal testuser under unusual circumstances. Such activity is not typically seen from this principal.",
            "Service": {
                "Count": 5,
                " Archived": false,
                "ServiceName": "guardduty",
                "EventFirstSeen": "2020-05-26T22:02:24Z",
                "ResourceRole": "TARGET",
                "DetectorId": "d4b040365221be2b54a6264dcexample",
                "Action": {
                    "ActionType": "AWS_API_CALL",
                    "AwsApiCallAction": {
```

Actions and scenarios
"RemoteIpDetails": {
  "GeoLocation": {
    "Lat": 51.5164,
    "Lon": -0.093
  },
  "City": {
    "CityName": "London"
  },
  "IpAddressV4": "52.94.36.7",
  "Organization": {
    "Org": "Amazon.com",
    "Isp": "Amazon.com",
    "Asn": "16509",
    "AsnOrg": "AMAZON-02"
  },
  "Country": {
    "CountryName": "United Kingdom"
  }
},
"Api": "ListPolicyVersions",
"ServiceName": "iam.amazonaws.com",
"CallerType": "Remote IP"
},
"Title": "Unusual user permission reconnaissance activity by testuser.",
"Type": "Recon:IAMUser/UserPermissions",
"Region": "us-east-1",
"Partition": "aws",
"Arn": "arn:aws:guardduty:us-east-1:111122223333:detector/d4b040365221be2b54a6264dcexample/finding/1ab92989eaf0e742df4a014d5example",
"SchemaVersion": "2.0",
"Severity": 5,
"Id": "1ab92989eaf0e742df4a014d5example",
"AccountId": "111122223333"
}
]

For more information, see [Findings](#) in the GuardDuty User Guide.

- For API details, see [GetFindings](#) in [AWS CLI Command Reference](#).
get-ip-set

The following code example shows how to use get-ip-set.

**AWS CLI**

**To list get details on a specified trusted IP set**

The following get-ip-set example shows the status and details of the specified trusted IP set.

```
aws guardduty get-ip-set \
   --detector-id 12abc34d567e8fa901bc2d34eexample \
   --ip-set-id d4b94fc952d6912b8f3060768example
```

**Output:**

```
{
   "Status": "ACTIVE",
   "Location": "s3://AWSDOC-EXAMPLE-BUCKET.s3-us-west-2.amazonaws.com/customlist.csv",
   "Tags": {},
   "Format": "TXT",
   "Name": "test-ip-set"
}
```

For more information, see [Working with Trusted IP Lists and Threat Lists](#) in the GuardDuty User Guide.

- For API details, see [GetIpSet](#) in *AWS CLI Command Reference*.

get-master-account

The following code example shows how to use get-master-account.

**AWS CLI**

**To retrieve details about your master account in the current region**

The following get-master-account example displays the status and details of the master account associated with your detector in the current region.

```
aws guardduty get-master-account \
```

Actions and scenarios
--detector-id 12abc34d567e8fa901bc2d34eexample

Output:

```json
{
   "Master": {
      "InvitationId": "04b94d9704854a73f94e061e8example",
      "InvitedAt": "2020-06-09T22:23:04.970Z",
      "RelationshipStatus": "Enabled",
      "AccountId": "123456789111"
   }
}
```

For more information, see Understanding the Relationship between GuardDuty Master and Member Accounts in the GuardDuty User Guide.

- For API details, see GetMasterAccount in AWS CLI Command Reference.

### list-detectors

The following code example shows how to use list-detectors.

#### AWS CLI

**To list the available detectors in the current region**

The following list-detectors example lists the available detectors in your current AWS region.

```bash
aws guardduty list-detectors
```

Output:

```json
{
   "DetectorIds": [
      "12abc34d567e8fa901bc2d34eexample"
   ]
}
```

For more information, see Concepts and Terminology in the GuardDuty User Guide.

- For API details, see ListDetectors in AWS CLI Command Reference.
list-findings

The following code example shows how to use list-findings.

AWS CLI

Example 1: To list all findings for the current region

The following list-findings example displays a list of all findingIds for the current region sorted by severity from highest to lowest.

```bash
aws guardduty list-findings \
   --detector-id 12abc34d567e8fa901bc2d34eexample \
   --sort-criteria '{"AttributeName": "severity","OrderBy":"DESC"}'
```

Output:

```json
{
   "FindingIds": [ 
   "04b8ab50fd29c64fc771b232dexample",
   "5ab8ab50fd21373735c826d3aexample",
   "90b93de7aba69107f05bbe60bexample",
   ...
   ]
}
```

For more information, see [Findings](#) in the GuardDuty User Guide.

Example 2: To list findings for the current region matching a specific finding criteria

The following list-findings example displays a list of all findingIds that match a specified finding type.

```bash
aws guardduty list-findings \
   --detector-id 12abc34d567e8fa901bc2d34eexample \
   --finding-criteria '{"Criterion":{"type": ["UnauthorizedAccess:EC2/SSHBruteForce"]}}'
```

Output:

```json
{
   "FindingIds": [ 
   ...
   ]
}
```
For more information, see Findings in the GuardDuty User Guide.

**Example 3: To list findings for the current region matching a specific set of finding criteria defined within a JSON file**

The following list-findings example displays a list of all findingIds that are not archived, and involve the IAM user named "testuser", as specified in a JSON file.

```
aws guardduty list-findings \
--detector-id 12abc34d567e8fa901bc2d34eexample \
--finding-criteria file://myfile.json
```

**Contents of myfile.json:**

```json
{"Criterion": {
   "resource.accessKeyDetails.userName":{
       "Eq":[
           "testuser"
       ],
   },
   "service.archived": { 
       "Eq": [ 
           "false"
       ]
   }
}
}
```

**Output:**

```json
{
   "FindingIds": [
       "1ab92989eaf0e742df4a014d5example"
   ]
}
```
list-invitations

The following code example shows how to use list-invitations.

AWS CLI

To list details on your invitations to become a member account in the current region

The following list-invitations example lists details and statuses on your invitations to become a GuardDuty member account in the current region.

```
aws guardduty list-invitations
```

Output:

```
{
   "Invitations": [
      {
         "InvitationId": "d6b94fb03a66ff665f7db8764example",
         "InvitedAt": "2020-06-10T17:56:38.221Z",
         "RelationshipStatus": "Invited",
         "AccountId": "123456789111"
      }
   ]
}
```

For more information, see Managing GuardDuty Accounts by Invitation in the GuardDuty User Guide.

- For API details, see ListInvitations in AWS CLI Command Reference.

list-ip-sets

The following code example shows how to use list-ip-sets.
AWS CLI

To list trusted IP sets in the current region

The following `list-ip-sets` example lists the trusted IP sets in your current AWS region.

```
aws guardduty list-ip-sets \
   --detector-id 12abc34d567e8fa901bc2d34eexample
```

Output:

```json
{
   "IpSetIds": [
      "d4b94fc952d6912b8f3060768example"
   ]
}
```

For more information, see Working with Trusted IP Lists and Threat Lists in the GuardDuty User Guide.

- For API details, see ListIpSets in AWS CLI Command Reference.

list-members

The following code example shows how to use `list-members`.

AWS CLI

To list all members in the current region

The following `list-members` example lists all member accounts and their details for the current region.

```
aws guardduty list-members \
   --detector-id 12abc34d567e8fa901bc2d34eexample
```

Output:

```json
{
   "Members": [
      {
         "RelationshipStatus": "Enabled",
         ...
      }
   ]
}
```
For more information, see [Understanding the Relationship between GuardDuty Master and Member Accounts](https://docs.aws.amazon.com/guardduty/latest/ug/guardduty-metered-data-relationships.html) in the GuardDuty User Guide.

- For API details, see [ListMembers](https://docs.aws.amazon.com/cli/latest/reference/guardduty/list-members.html) in *AWS CLI Command Reference*.

### update-ip-set

The following code example shows how to use `update-ip-set`.

**AWS CLI**

**To update a trusted IP set**

The following `update-ip-set` example shows how to update the details of a trusted IP set.

```bash
aws guardduty update-ip-set \
   --detector-id 12abc34d567e8fa901bc2d34eexample \
   --ip-set-id d4b94fc952d6912b8f3060768example \
   --location https://AWSDOC-EXAMPLE-BUCKET.s3-us-west-2.amazonaws.com/customtrustlist2.csv
```

This command produces no output.


- For API details, see [UpdateIpSet](https://docs.aws.amazon.com/cli/latest/reference/guardduty/update-ip-set.html) in *AWS CLI Command Reference*.

### AWS Health examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS Health.
Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics

- Actions

Actions

describe-affected-entities

The following code example shows how to use describe-affected-entities.

AWS CLI

To list the entities that are affected by a specified AWS Health event

The following describe-affected-entities example lists the entities that are affected by the specified AWS Health event. This event is a billing notification for the AWS account.

```
aws health describe-affected-entities \
   --filter "eventArns=arn:aws:health:global::event/BILLING/ AWS_BILLING_NOTIFICATION/AWS_BILLING_NOTIFICATION_6ce1d874-e995-40e2-99cd-EXAMPLE11145" \
   --region us-east-1
```

Output:

```
{
   "entities": [
   {
      "entityArn": "arn:aws:health:global:123456789012:entity/EXAMPLEimSMoULmWHpb",
      "eventArn": "arn:aws:health:global::event/BILLING/ AWS_BILLING_NOTIFICATION/AWS_BILLING_NOTIFICATION_6ce1d874-e995-40e2-99cd-EXAMPLE11145",
```

For more information, see Event log in the AWS Health User Guide.

- For API details, see DescribeAffectedEntities in AWS CLI Command Reference.

**describe-event-details**

The following code example shows how to use describe-event-details.

**AWS CLI**

**To list information about an AWS Health event**

The following describe-event-details example lists information about the specified AWS Health event.

```
aws health describe-event-details \
   --event-arns "arn:aws:health:us-east-1::event/EC2/AWS_EC2_OPERATIONAL_ISSUE/\n    AWS_EC2_OPERATIONAL_ISSUE_VKTXI_EXAMPLE111" \
   --region us-east-1
```

Output:

```
{
   "successfulSet": [
    {
      "event": {
        "arn": "arn:aws:health:us-east-1::event/EC2/AWS_EC2_OPERATIONAL_ISSUE/\n         AWS_EC2_OPERATIONAL_ISSUE_VKTXI_EXAMPLE111",
        "service": "EC2",
        "eventTypeCode": "AWS_EC2_OPERATIONAL_ISSUE",
        "eventTypeCategory": "issue",
        "region": "us-east-1",
        "startTime": 1587462325.096,
        "endTime": 1587464204.774,
        "lastUpdatedTime": 1587464204.865,
        "statusCode": "closed"
    }
   ]
}
```
The following code example shows how to use `describe-events`.

**AWS CLI**

**Example 1: To list AWS Health events**

The following `describe-events` example lists recent AWS Health events.

```
aws health describe-events \
   --region us-east-1
```

Output:

```
{
   "events": [
   {
      "arn": "arn:aws:health:us-west-1::event/ECS/AWS_ECS_OPERATIONAL_ISSUE/AWS_ECS_OPERATIONAL_ISSUE_KWQPY_EXAMPLE111",
      "service": "ECS",
      "eventTypeCode": "AWS_ECS_OPERATIONAL_ISSUE",
      "eventTypeCategory": "issue",
      "region": "us-west-1",
      "startTime": 1589077890.53,
      "endTime": 1589086345.597,
```

For more information, see [Event details pane](#) in the *AWS Health User Guide*.

- For API details, see [DescribeEventDetails](#) in *AWS CLI Command Reference*.

---

**Actions and scenarios**

3163
"lastUpdatedTime": 1589086345.905,
  "statusCode": "closed",
  "eventScopeCode": "PUBLIC"
},
{
  "arn": "arn:aws:health:global::event/BILLING/AWS_BILLING_NOTIFICATION/AWS_BILLING_NOTIFICATION_6ce1d874-e995-40e2-99cd-EXAMPLE1118b",
  "service": "BILLING",
  "eventTypeCode": "AWS_BILLING_NOTIFICATION",
  "eventTypeCategory": "accountNotification",
  "region": "global",
  "startTime": 1588356000.0,
  "lastUpdatedTime": 1588356524.358,
  "statusCode": "open",
  "eventScopeCode": "ACCOUNT_SPECIFIC"
},
{
  "arn": "arn:aws:health:us-west-2::event/CLOUDFORMATION/AWS_CLOUDFORMATION_OPERATIONAL_ISSUE/AWS_CLOUDFORMATION_OPERATIONAL_ISSUE_OHTWY_EXAMPLE111",
  "service": "CLOUDFORMATION",
  "eventTypeCode": "AWS_CLOUDFORMATION_OPERATIONAL_ISSUE",
  "eventTypeCategory": "issue",
  "region": "us-west-2",
  "startTime": 1588279630.761,
  "endTime": 1588284650.0,
  "lastUpdatedTime": 1588284691.941,
  "statusCode": "closed",
  "eventScopeCode": "PUBLIC"
},
{
  "arn": "arn:aws:health:ap-northeast-1::event/LAMBDA/AWS_LAMBDA_OPERATIONAL_ISSUE/AWS_LAMBDA_OPERATIONAL_ISSUE_JZDND_EXAMPLE111",
  "service": "LAMBDA",
  "eventTypeCode": "AWS_LAMBDA_OPERATIONAL_ISSUE",
  "eventTypeCategory": "issue",
  "region": "ap-northeast-1",
  "startTime": 1587379534.08,
  "endTime": 1587391771.0,
  "lastUpdatedTime": 1587395689.316,
  "statusCode": "closed",
  "eventScopeCode": "PUBLIC"
}
"arn": "arn:aws:health:us-east-1::event/EC2/AWS_EC2_OPERATIONAL_ISSUE/AWS_EC2_OPERATIONAL_ISSUE_COBXJ_EXAMPLE111",
  "service": "EC2",
  "eventTypeCode": "AWS_EC2_OPERATIONAL_ISSUE",
  "eventTypeCategory": "issue",
  "region": "us-east-1",
  "startTime": 1586473044.284,
  "endTime": 1586479706.091,
  "lastUpdatedTime": 1586479706.153,
  "statusCode": "closed",
  "eventScopeCode": "PUBLIC"
},
{
  "service": "SECURITY",
  "eventTypeCode": "AWS_SECURITY_NOTIFICATION",
  "eventTypeCategory": "accountNotification",
  "region": "global",
  "startTime": 1585674000.0,
  "lastUpdatedTime": 1585674004.132,
  "statusCode": "open",
  "eventScopeCode": "PUBLIC"
},
{
  "arn": "arn:aws:health:global::event/CLOUDFRONT/AWS_CLOUDFRONT_OPERATIONAL_ISSUE/AWS_CLOUDFRONT_OPERATIONAL_ISSUE_FRQXG_EXAMPLE111",
  "service": "CLOUDFRONT",
  "eventTypeCode": "AWS_CLOUDFRONT_OPERATIONAL_ISSUE",
  "eventTypeCategory": "issue",
  "region": "global",
  "startTime": 1585610898.589,
  "endTime": 1585617671.0,
  "lastUpdatedTime": 1585620638.869,
  "statusCode": "closed",
  "eventScopeCode": "PUBLIC"
},
{
  "arn": "arn:aws:health:us-east-1::event/SES/AWS_SES_OPERATIONAL_ISSUE/AWS_SES_OPERATIONAL_ISSUE_URNDF_EXAMPLE111",
  "service": "SES",
  "eventTypeCode": "AWS_SES_OPERATIONAL_ISSUE",
  "eventTypeCategory": "issue",
  "region": "us-east-1",
}
For more information, see Getting started with the AWS Personal Health Dashboard in the AWS Health User Guide.

**Example 2: To list AWS Health events by service and event status code**

The following describe-events example lists AWS Health events for Amazon Elastic Compute Cloud (Amazon EC2) where the event status is closed.
aws health describe-events \
   --filter "services=EC2,eventStatusCodes=closed"

Output:

```json
{
   "events": [
   {
   "arn": "arn:aws:health:us-east-1::event/EC2/AWS_EC2_OPERATIONAL_ISSUE/AWS_EC2_OPERATIONAL_ISSUE_VKTXI_EXAMPLE111",
   "service": "EC2",
   "eventTypeCode": "AWS_EC2_OPERATIONAL_ISSUE",
   "eventTypeCategory": "issue",
   "region": "us-east-1",
   "startTime": 1587462325.096,
   "endTime": 1587464204.774,
   "lastUpdatedTime": 1587464204.865,
   "statusCode": "closed",
   "eventScopeCode": "PUBLIC"
   },
   {
   "arn": "arn:aws:health:us-east-1::event/EC2/AWS_EC2_OPERATIONAL_ISSUE/AWS_EC2_OPERATIONAL_ISSUE_COBXJ_EXAMPLE111",
   "service": "EC2",
   "eventTypeCode": "AWS_EC2_OPERATIONAL_ISSUE",
   "eventTypeCategory": "issue",
   "region": "us-east-1",
   "startTime": 1586473044.284,
   "endTime": 1586479706.091,
   "lastUpdatedTime": 1586479706.153,
   "statusCode": "closed",
   "eventScopeCode": "PUBLIC"
   },
   {
   "service": "EC2",
   "eventTypeCode": "AWS_EC2_OPERATIONAL_ISSUE",
   "eventTypeCategory": "issue",
   "region": "ap-southeast-2",
   "startTime": 1583881487.483,
   "endTime": 1583885056.785,
   "lastUpdatedTime": 1583885057.052,
```
For more information, see [Getting started with the AWS Personal Health Dashboard](https://aws.amazon.com) in the [AWS Health User Guide](https://aws.amazon.com).

- For API details, see [DescribeEvents](https://docs.aws.amazon.com/cli/latest/reference/medical-imaging/describe-events) in [AWS CLI Command Reference](https://docs.aws.amazon.com/cli/latest/reference/medical-imaging/describe-events).

**HealthImaging examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with HealthImaging.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- [Actions](#)

**Actions**

**Add a tag to a resource**

The following code example shows how to add a tag to a HealthImaging resource.

**AWS CLI**

**Example 1: To tag a data store**

The following tag-resource code examples tags a data store.

```bash
aws medical-imaging tag-resource
```
This command produces no output.

**Example 2: To tag an image set**

The following tag-resource code examples tags an image set.

```bash
aws medical-imaging tag-resource \
   --resource-arn "arn:aws:medical-imaging:us-east-1:123456789012:datastore/1234567890123456789012/\n   imageset/18f88ac7870584f58d56256646b4d92b" \n   --tags '{"Deployment":"Development"}'
```

This command produces no output.

For more information, see Tagging resources with AWS HealthImaging in the AWS HealthImaging Developer Guide.

- For API details, see TagResource in AWS CLI Command Reference.

**Copy an image set**

The following code example shows how to copy a HealthImaging image set.

**AWS CLI**

**Example 1: To copy an image set without a destination.**

The following copy-image-set code example makes a duplicate copy of an image set without a destination.

```bash
aws medical-imaging copy-image-set \
   --datastore-id 12345678901234567890123456789012 \n   --source-image-set-id ea92b0d8838c72a3f25d00d13616f87e \n   --copy-image-set-information '{"sourceImageSet": {"latestVersionId": "1" }}'
```

Output:

```json
{
```
Example 2: To copy an image set with a destination.

The following `copy-image-set` code example makes a duplicate copy of an image set with a destination.

```
aws medical-imaging copy-image-set \
   --datastore-id 12345678901234567890123456789012 \
   --source-image-set-id ea92b0d8838c72a3f25d00d13616f87e \
   --copy-image-set-information '{"sourceImageSet": {"latestVersionId": "5" }, 
   "destinationImageSet": { "imageSetId": "ea92b0d8838c72a3f25d00d13616f87e", 
   "latestVersionId": "1"} }'
```

Output:

```
{
   "destinationImageSetProperties": {
      "latestVersionId": "2",
      "imageSetWorkflowStatus": "COPYING",
      "updatedAt": 1680042505.135,
      "imageSetId": "b9a06fef182a5f992842f77f8e0868e5",
      "imageSetState": "LOCKED",
      "createdAt": 1680042357.432
   },
   "sourceImageSetProperties": {
      "latestVersionId": "5",
      "imageSetWorkflowStatus": "COPYING_WITH_READ_ONLY_ACCESS",
      "updatedAt": 1680042357.432,
      "imageSetState": "LOCKED",
      "createdAt": 1680027126.436
   },
   "datastoreId": "12345678901234567890123456789012"
}
```
For more information, see [Copying an image set](#) in the *AWS HealthImaging Developer Guide*.

- For API details, see [CopyImageSet](#) in *AWS CLI Command Reference*.

### Create a data store

The following code example shows how to create a HealthImaging data store.

**AWS CLI**

**To create a data store**

The following `create-datastore` code example creates a data store with the name `my-datastore`.

```bash
aws medical-imaging create-datastore \
    --datastore-name "my-datastore"
```

Output:

```json
{
    "datastoreId": "12345678901234567890123456789012",
    "datastoreStatus": "CREATING"
}
```

For more information, see [Creating a data store](#) in the *AWS HealthImaging Developer Guide*.

- For API details, see [CreateDatastore](#) in *AWS CLI Command Reference*.

### Delete a data store

The following code example shows how to delete a HealthImaging data store.

---

---
AWS CLI

To delete a data store

The following delete-datastore code example deletes a data store.

```
aws medical-imaging delete-datastore \
    --datastore-id "12345678901234567890123456789012"
```

Output:

```
{
    "datastoreId": "12345678901234567890123456789012",
    "datastoreStatus": "DELETING"
}
```

For more information, see Deleting a data store in the AWS HealthImaging Developer Guide.

- For API details, see DeleteDatastore in AWS CLI Command Reference.

Delete an image set

The following code example shows how to delete a HealthImaging image set.

AWS CLI

To delete an image set

The following delete-image-set code example deletes an image set.

```
aws medical-imaging delete-image-set \
    --datastore-id 12345678901234567890123456789012 \
    --image-set-id ea92b0d8838c72a3f25d00d13616f87e
```

Output:

```
{
    "imageSetWorkflowStatus": "DELETING",
    "imageSetId": "ea92b0d8838c72a3f25d00d13616f87e",
    "imageSetState": "LOCKED",
    "datastoreId": "12345678901234567890123456789012"
}
```
Get an image frame

The following code example shows how to get an image frame.

AWS CLI

To get image set pixel data

The following `get-image-frame` code example gets an image frame.

```bash
aws medical-imaging get-image-frame \
    --datastore-id "12345678901234567890123456789012" \
    --image-set-id "98765412345678907890789012" \
    --image-frame-information imageFrameId=3abf5d5d7ae72f80a0ec81b2c0de3ef4 \
    imageframe.jph
```

Note: This code example does not include output because the GetImageFrame action returns a stream of pixel data to the imageframe.jph file. For information about decoding and viewing image frames, see HTJ2K decoding libraries.

For more information, see Getting image set pixel data in the AWS HealthImaging Developer Guide.

- For API details, see GetImageFrame in AWS CLI Command Reference.

Get data store properties

The following code example shows how to get HealthImaging data store properties.

AWS CLI

To get a data store's properties

The following `get-datastore` code example gets a data store's properties.

```bash
aws medical-imaging get-datastore \
    --datastore-id 12345678901234567890123456789012
```
For more information, see Getting data store properties in the AWS HealthImaging Developer Guide.

For API details, see GetDatastore in AWS CLI Command Reference.

Get image set properties

The following code example shows how to get HealthImaging image set properties.

AWS CLI

To get image set properties

The following get-image-set code example gets the properties for an image set.

```bash
aws medical-imaging get-image-set \
  --datastore-id 12345678901234567890123456789012 \
  --image-set-id 18f88ac7870584f58d56256646b4d92b \
  --version-id 1
```

Output:

```json
{
  "versionId": "1",
  "imageSetWorkflowStatus": "COPIED",
  "updatedAt": 1680027253.471,
  "imageSetId": "18f88ac7870584f58d56256646b4d92b",
  "imageSetState": "ACTIVE",
}
```
For more information, see [Getting image set properties](#) in the *AWS HealthImaging Developer Guide*.

- For API details, see [GetImageSet](#) in *AWS CLI Command Reference*.

### Get import job properties

The following code example shows how to get the import job properties.

**AWS CLI**

To get a dicom import job's properties

The following `get-dicom-import-job` code example gets a dicom import job's properties.

```bash
aws medical-imaging get-dicom-import-job 
  --datastore-id "12345678901234567890123456789012" 
  --job-id "09876543210987654321098765432109"
```

Output:

```json
{
  "jobProperties": {
    "jobId": "09876543210987654321098765432109",
    "jobName": "my-job",
    "jobStatus": "COMPLETED",
    "datastoreId": "12345678901234567890123456789012",
    "dataAccessRoleArn": "arn:aws:iam::123456789012:role/ImportJobDataAccessRole",
    "endedAt": "2022-08-12T11:29:42.285000+00:00",
    "submittedAt": "2022-08-12T11:28:11.152000+00:00",
    "inputS3Uri": "s3://medical-imaging-dicom-input/dicom_input/",
    "outputS3Uri": "s3://medical-imaging-output/job_output/12345678901234567890123456789012-DicomImport-09876543210987654321098765432109/"
  }
}
```
Get metadata for an image set

The following code example shows how to get metadata for a HealthImaging image set.

**AWS CLI**

**Example 1: To get image set metadata without version**

The following `get-image-set-metadata` code example gets metadata for an image set without specifying a version.

Note: `outfile` is a required parameter

```bash
aws medical-imaging get-image-set-metadata \
   --datastore-id 12345678901234567890123456789012 \ 
   --image-set-id ea92b0d883c72a3f25d00d13616f87e \ 
   studymetadata.json.gz
```

The returned metadata is compressed with gzip and stored in the `studymetadata.json.gz` file. To view the contents of the returned JSON object, you must first decompress it.

**Output:**

```json
{
   "contentType": "application/json",
   "contentEncoding": "gzip"
}
```

**Example 2: To get image set metadata with version**

The following `get-image-set-metadata` code example gets metadata for an image set with a specified version.

Note: `outfile` is a required parameter

```bash
aws medical-imaging get-image-set-metadata \
   --datastore-id 12345678901234567890123456789012 \
```

For more information, see [Getting import job properties](#) in the *AWS HealthImaging Developer Guide*.

- For API details, see [GetDICOMImportJob](#) in *AWS CLI Command Reference*. 

**Actions and scenarios**
--image-set-id ea92b0d8838c72a3f25d00d13616f87e \  
--version-id 1 \  
studymetadata.json.gz

The returned metadata is compressed with gzip and stored in the studymetadata.json.gz file. To view the contents of the returned JSON object, you must first decompress it.

Output:

```json
{
    "contentType": "application/json",
    "contentEncoding": "gzip"
}
```

For more information, see [Getting image set metadata](#) in the *AWS HealthImaging Developer Guide*.

- For API details, see [GetImageSetMetadata](#) in [AWS CLI Command Reference](#).

### Import bulk data into a data store

The following code example shows how to import bulk data into a HealthImaging data store.

**AWS CLI**

**To start a dicom import job**

The following `start-dicom-import-job` code example starts a dicom import job.

```bash
aws medical-imaging start-dicom-import-job \
    --job-name "my-job" \
    --datastore-id "12345678901234567890123456789012" \
    --input-s3-uri "s3://medical-imaging-dicom-input/dicom_input/" \
    --output-s3-uri "s3://medical-imaging-output/job_output/" \
    --data-access-role-arn "arn:aws:iam::123456789012:role/ImportJobDataAccessRole"
```

Output:

```json
{
    "datastoreId": "12345678901234567890123456789012",
    "jobId": "09876543210987654321098765432109",
    "jobStatus": "SUBMITTED",
```
List data stores

The following code example shows how to list HealthImaging data stores.

AWS CLI

To list data stores

The following `list-datastores` code example lists available data stores.

```bash
aws medical-imaging list-datastores
```

Output:

```
{
   "datastoreSummaries": [
   {
      "datastoreId": "12345678901234567890123456789012",
      "datastoreName": "TestDatastore123",
      "datastoreStatus": "ACTIVE",
      "datastoreArn": "arn:aws:medical-imaging:us-east-1:123456789012:datastore/12345678901234567890123456789012",
      "createdAt": "2022-11-15T23:33:09.643000+00:00",
      "updatedAt": "2022-11-15T23:33:09.643000+00:00"
   }
   ]
}
```

For more information, see "Listing data stores" in the AWS HealthImaging Developer Guide.

- For API details, see `ListDatastores` in AWS CLI Command Reference.

List image set versions

The following code example shows how to list HealthImaging image set versions.

For more information, see "Listing image set versions" in the AWS HealthImaging Developer Guide.

- For API details, see `ListImageSetVersions` in AWS CLI Command Reference.
AWS CLI

To list image set versions

The following list-image-set-versions code example lists the version history for an image set.

```bash
aws medical-imaging list-image-set-versions \
    --datastore-id 12345678901234567890123456789012 \
    --image-set-id ea92b0d8838c72a3f25d00d13616f87e
```

Output:

```json
{
   "imageSetPropertiesList": [
      {
         "ImageSetWorkflowStatus": "UPDATED",
         "versionId": "4",
         "updatedAt": 1680029436.304,
         "imageSetId": "ea92b0d8838c72a3f25d00d13616f87e",
         "imageSetState": "ACTIVE",
         "createdAt": 1680027126.436
      },
      {
         "ImageSetWorkflowStatus": "UPDATED",
         "versionId": "3",
         "updatedAt": 1680029163.325,
         "imageSetId": "ea92b0d8838c72a3f25d00d13616f87e",
         "imageSetState": "ACTIVE",
         "createdAt": 1680027126.436
      },
      {
         "ImageSetWorkflowStatus": "COPY_FAILED",
         "versionId": "2",
         "updatedAt": 1680027455.944,
         "imageSetId": "ea92b0d8838c72a3f25d00d13616f87e",
         "imageSetState": "ACTIVE",
         "message": "INVALID_REQUEST: Series of SourceImageSet and DestinationImageSet don't match.",
         "createdAt": 1680027126.436
      }
   ],
   "imageSetId": "ea92b0d8838c72a3f25d00d13616f87e",
```
"imageSetState": "ACTIVE",
"versionId": "1",
"ImageSetWorkflowStatus": "COPIED",
"createdAt": 1680027126.436
]
]
}
}

For more information, see [Listing image set versions](#) in the AWS HealthImaging Developer Guide.

- For API details, see [ListImageSetVersions](#) in AWS CLI Command Reference.

### List import jobs for a data store

The following code example shows how to list import jobs for a HealthImaging data store.

**AWS CLI**

#### To list dicom import jobs

The following `list-dicom-import-jobs` code example lists dicom import jobs.

```bash
aws medical-imaging list-dicom-import-jobs \
--datastore-id "12345678901234567890123456789012"
```

**Output:**

```json
{
   "jobSummaries": [
   {
      "jobId": "09876543210987654321098765432109",
      "jobName": "my-job",
      "jobStatus": "COMPLETED",
      "datastoreId": "12345678901234567890123456789012",
      "dataAccessRoleArn": "arn:aws:iam::123456789012:role/ImportJobDataAccessRole",
      "endedAt": "2022-08-12T11:21:56.504000+00:00",
      "submittedAt": "2022-08-12T11:20:21.734000+00:00"
   }
   ]
}
```

For more information, see [Listing import jobs](#) in the AWS HealthImaging Developer Guide.
List tags for a resource

The following code example shows how to list tags for a HealthImaging resource.

**AWS CLI**

**Example 1: To list resource tags for a data store**

The following `list-tags-for-resource` code example lists tags for a data store.

```
aws medical-imaging list-tags-for-resource \
    --resource-arn "arn:aws:medical-imaging:us-east-1:123456789012:datastore/12345678901234567890123456789012"
```

Output:

```
{
   "tags":{
      "Deployment":"Development"
   }
}
```

**Example 2: To list resource tags for an image set**

The following `list-tags-for-resource` code example lists tags for an image set.

```
aws medical-imaging list-tags-for-resource \
    --resource-arn "arn:aws:medical-imaging:us-east-1:123456789012:datastore/12345678901234567890123456789012/imageset/18f88ac7870584f58d56256646b4d92b"
```

Output:

```
{
   "tags":{
      "Deployment":"Development"
   }
}
```
For more information, see [Tagging resources with AWS HealthImaging](https://docs.aws.amazon.com/healthimaging/latest/developerguide/tagging-resources.html) in the AWS HealthImaging Developer Guide.


### Remove a tag from a resource

The following code example shows how to remove a tag from a HealthImaging resource.

**AWS CLI**

**Example 1: To untag a data store**

The following untag-resource code example untags a data store.

```
aws medical-imaging untag-resource \
   --resource-arn "arn:aws:medical-imaging:us-east-1:123456789012:datastore/12345678901234567890123456789012" \
   --tag-keys '"Deployment"'
```

This command produces no output.

**Example 2: To untag an image set**

The following untag-resource code example untags an image set.

```
aws medical-imaging untag-resource \
   --resource-arn "arn:aws:medical-imaging:us-east-1:123456789012:datastore/12345678901234567890123456789012/\n   imageset/18f88ac7870584f58d56256646b4d92b" \
   --tag-keys '"Deployment"'
```

This command produces no output.

For more information, see [Tagging resources with AWS HealthImaging](https://docs.aws.amazon.com/healthimaging/latest/developerguide/tagging-resources.html) in the AWS HealthImaging Developer Guide.


### Search image sets

The following code example shows how to search HealthImaging image sets.
Example 1: To search image sets with an EQUAL operator

The following `search-image-sets` code example uses the EQUAL operator to search image sets based on a specific value.

```
aws medical-imaging search-image-sets \
   --datastore-id 12345678901234567890123456789012 \
   --search-criteria file://search-criteria.json
```

Contents of `search-criteria.json`

```
{
    "filters": [
        {
            "values": [{"DICOMPatientId" : "SUBJECT08701"}],
            "operator": "EQUAL"
        }
    ]
}
```

Output:

```
{
    "imageSetsMetadataSummaries": [{
        "imageSetId": "09876543210987654321098765432109",
        "createdAt": "2022-12-06T21:40:59.429000+00:00",
        "version": 1,
        "DICOMTags": {
            "DICOMStudyId": "2011201407",
            "DICOMStudyDate": "19991122",
            "DICOMPatientSex": "F",
            "DICOMStudyInstanceUID": "1.2.840.99999999.84710745.943275268089",
            "DICOMPatientBirthDate": "19201120",
            "DICOMStudyDescription": "UNKNOWN",
            "DICOMPatientId": "SUBJECT08701",
            "DICOMPatientName": "Melissa844 Huel628",
            "DICOMNumberOfStudyRelatedInstances": 1,
            "DICOMStudyTime": "140728",
            "DICOMNumberOfStudyRelatedSeries": 1
        },
        "updatedAt": "2022-12-06T21:40:59.429000+00:00"
    }
]}
```
Example 2: To search image sets with a BETWEEN operator using DICOMStudyDate and DICOMStudyTime

The following `search-image-sets` code example searches for image sets with DICOM Studies generated between January 1, 1990 (12:00 AM) and January 1, 2023 (12:00 AM).

Note: DICOMStudyTime is optional. If it is not present, 12:00 AM (start of the day) is the time value for the dates provided for filtering.

```
aws medical-imaging search-image-sets \
  --datastore-id 12345678901234567890123456789012 \
  --search-criteria file://search-criteria.json
```

Contents of `search-criteria.json`

```json
{
    "filters": [
        {
            "values": [
                {
                    "DICOMStudyDateAndTime": {
                        "DICOMStudyDate": "19900101",
                        "DICOMStudyTime": "000000"
                    }
                },
                {
                    "DICOMStudyDateAndTime": {
                        "DICOMStudyDate": "20230101",
                        "DICOMStudyTime": "000000"
                    }
                }
            ],
            "operator": "BETWEEN"
        }
    ]
}
```

Output:

```json
{
    "imageSetsMetadataSummaries": [
        {
            "imageSetId": "09876543210987654321098765432109",
            "createdAt": "2022-12-06T21:40:59.429000+00:00",
            "createdBy": "admin",
            "modifiedAt": "2022-12-06T21:40:59.429000+00:00",
            "modifiedBy": "admin",
            "isPublished": true,
            "isPublic": true,
            "isProtected": false,
            "isRetired": false,
            "isHidden": false,
            "isDeleted": false,
            "description": "Example image set description",
            "tags": [
                "example"
            ],
            "createdByInternalId": "admin",
            "modifiedByInternalId": "admin",
            "datastoreId": "12345678901234567890123456789012",
            "datastoreName": "Example Datastore",
            "datastoreId": "12345678901234567890123456789012",
            "datastoreType": "aws:medical-imaging:datastore"
        }
    ]
}
```
Example 3: To search image sets with a BETWEEN operator using createdAt (time studies were previously persisted)

The following search-image-sets code example searches for image sets with DICOM Studies persisted in HealthImaging between the time ranges in UTC time zone.

Note: Provide createdAt in example format ("1985-04-12T23:20:50.52Z").

```bash
aws medical-imaging search-image-sets \
  --datastore-id 12345678901234567890123456789012 \
  --search-criteria file://search-criteria.json
```

Contents of search-criteria.json

```json
{
  "filters": [
    {
      "values": [
        {
          "createdAt": "1985-04-12T23:20:50.52Z"
        },
        {
          "createdAt": "2022-04-12T23:20:50.52Z"
        }
      ],
      "operator": "BETWEEN"
    }
  ]
}
```
Output:

```json
{
    "imageSetsMetadataSummaries": [
        {
            "imageSetId": "09876543210987654321098765432109",
            "createdAt": "2022-12-06T21:40:59.429000+00:00",
            "version": 1,
            "DICOMTags": {
                "DICOMStudyId": "2011201407",
                "DICOMStudyDate": "19991122",
                "DICOMPatientSex": "F",
                "DICOMStudyInstanceUID": "1.2.840.99999999.84710745.943275268089",
                "DICOMPatientBirthDate": "19201120",
                "DICOMStudyDescription": "UNKNOWN",
                "DICOMPatientId": "SUBJECT08701",
                "DICOMPatientName": "Melissa844 Huel628",
                "DICOMNumberOfStudyRelatedInstances": 1,
                "DICOMStudyTime": "140728",
                "DICOMNumberOfStudyRelatedSeries": 1
            },
            "lastUpdatedAt": "2022-12-06T21:40:59.429000+00:00"
        }
    ]
}
```

For more information, see Searching image sets in the AWS HealthImaging Developer Guide.

- For API details, see SearchImageSets in AWS CLI Command Reference.

**Update image set metadata**

The following code example shows how to update HealthImaging image set metadata.

**AWS CLI**

**To update image set metadata**

The following `update-image-set-metadata` code example updates image set metadata.

```
aws medical-imaging update-image-set-metadata \
    --datastore-id 12345678901234567890123456789012 \
    --image-set-id ea92b0d8838c72a3f25d00d13616f87e
```
Contents of metadata-updates.json

```json
{
   "DICOMUpdates": {
      "updatableAttributes":
      "eyJTY2hlbWFZJzaW9uIjoxLjEsIlBhdGllbnQiOnsiRElDT00iOnsiUGF0aWNvbnQuYWJsZS10YWJsZS0iZmFsc2VcIlwiLCJfRkI6IyJ9fX0=
   }
}
```

Note: updatableAttributes is a Base64 encoded JSON string. Here is the unencoded JSON string.

```json
{"SchemaVersion":1.1,"Patient":{"DICOM":{"PatientName":"MX^MX"}}}
```

Output:

```json
{
   "latestVersionId": "5",
   "imageSetWorkflowStatus": "UPDATING",
   "updatedAt": 1680042257.908,
   "imageSetId": "ea92b0d8838c72a3f25d00d13616f87e",
   "imageSetState": "LOCKED",
   "createdAt": 1680027126.436,
   "datastoreId": "12345678901234567890123456789012"
}
```

For more information, see Updating image set metadata in the AWS HealthImaging Developer Guide.

- For API details, see UpdateImageSetMetadata in AWS CLI Command Reference.

HealthLake examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with HealthLake.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.
Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics

- Actions

Actions

create-fhir-datastore

The following code example shows how to use create-fhir-datastore.

AWS CLI

To create a FHIR Data Store.

The following create-fhir-datastore example demonstrates how to create a new Data Store in Amazon HealthLake.

```
aws healthlake create-fhir-datastore  
   --region us-east-1 
   --datastore-type-version R4 
   --datastore-type-version R4 
   --datastore-name "FhirTestDatastore"
```

Output:

```
{
   "DatastoreEndpoint": "https://healthlake.us-east-1.amazonaws.com/datastore/(Datastore ID)/r4/",
   "DatastoreArn": "arn:aws:healthlake:us-east-1:(AWS Account ID):datastore/(Datastore ID)",
   "DatastoreStatus": "CREATING",
   "DatastoreId": "(Datastore ID)"
}
```

For more information, see Creating and monitoring a FHIR Data Store in the Amazon HealthLake Developer Guide.
• For API details, see CreateFhirDatastore in AWS CLI Command Reference.

delete-fhir-datastore

The following code example shows how to use delete-fhir-datastore.

AWS CLI

To delete a FHIR Data Store

The following delete-fhir-datastore example demonstrates how to delete a Data Store and all of its contents in Amazon HealthLake.

```bash
aws healthlake delete-fhir-datastore \
   --datastore-id (Data Store ID) \
   --region us-east-1
```

Output:

```
{
   "DatastoreEndpoint": "https://healthlake.us-east-1.amazonaws.com/datastore/(Datastore ID)/r4/",
   "DatastoreArn": "arn:aws:healthlake:us-east-1:(AWS Account ID):datastore/(Datastore ID)",
   "DatastoreStatus": "DELETING",
   "DatastoreId": "(Datastore ID)"
}
```

For more information, see Creating and monitoring a FHIR Data Store <https://docs.aws.amazon.com/healthlake/latest/devguide/working-with-FHIR-healthlake.html> in the Amazon HealthLake Developer Guide.

• For API details, see DeleteFhirDatastore in AWS CLI Command Reference.

describe-fhir-datastore

The following code example shows how to use describe-fhir-datastore.

AWS CLI

To describe a FHIR Data Store
The following `describe-fhir-datastore` example demonstrates how to find the properties of a Data Store in Amazon HealthLake.

```bash
code
aws healthlake describe-fhir-datastore \
   --datastore-id "1f2f459836ac6c513ce899f9e4f66a59" \
   --region us-east-1
```

Output:

```json
{
   "DatastoreProperties": {
       "PreloadDataConfig": {
           "PreloadDataType": "SYNTHEA"
       },
       "DatastoreName": "FhirTestDatastore",
       "DatastoreArn": "arn:aws:healthlake:us-east-1:(AWS Account ID):datastore/(Datastore ID)",
       "DatastoreEndpoint": "https://healthlake.us-east-1.amazonaws.com/datastore/(Datastore ID)/r4/",
       "DatastoreStatus": "CREATING",
       "DatastoreTypeVersion": "R4",
       "DatastoreId": "(Datastore ID)"
   }
}
```

For more information, see [Creating and monitoring a FHIR Data Stores](amazon.Healthlake.Developer.Guide) in the *Amazon HealthLake Developer Guide*.

- For API details, see [DescribeFhirDatastore](aws_cli/command_reference) in *AWS CLI Command Reference*.

### describe-fhir-export-job

The following code example shows how to use `describe-fhir-export-job`.

**AWS CLI**

**To describe a FHIR export job**

The following `describe-fhir-export-job` example shows how to find the properties of a FHIR export job in Amazon HealthLake.

```bash
code
aws healthlake describe-fhir-export-job \
   --export-job-id "7234123456789"
```
--datastore-id (Datastore ID) \ 
--job-id 9b9a51943afaedd0a8c0c26c49135a31

Output:

```
{
   "ExportJobProperties": {
      "DataAccessRoleArn": "arn:aws:iam::(AWS Account ID):role/(Role Name)",
      "JobStatus": "IN_PROGRESS",
      "JobId": "9009813e9d69ba7cf79bcb3468780f16",
      "SubmitTime": 1609175692.715,
      "OutputDataConfig": {
         "S3Uri": "s3://(Bucket Name)/(Prefix Name)/59593b2d0367ce252b5e66bf5fd6b574-FHIR_EXPORT-9009813e9d69ba7cf79bcb3468780f16/"
      },
      "DatastoreId": "(Datastore ID)"
   }
}
```

For more information, see Exporting files from a FHIR Data Store in the Amazon HealthLake Developer Guide.

- For API details, see DescribeFhirExportJob in AWS CLI Command Reference.

**describe-fhir-import-job**

The following code example shows how to use describe-fhir-import-job.

**AWS CLI**

*To describe a FHIR import job*

The following describe-fhir-import-job example shows how to learn the properties of a FHIR import job using Amazon HealthLake.

```
aws healthlake describe-fhir-import-job \ 
   --datastore-id (Datastore ID) \ 
   --job-id c145fbb27b192af392f8ce6e7838e34f \ 
   --region us-east-1
```

Output:
For more information, see [Importing files to a FHIR Data Store](https://docs.aws.amazon.com/AmazonHealthLake/latest/DeveloperGuide/import-data.html) in the *Amazon HealthLake Developer Guide*.

- For API details, see [DescribeFhirImportJob](https://docs.aws.amazon.com/AmazonHealthLake/latest/APIReference/API_DescribeFhirImportJob.html) in *AWS CLI Command Reference*.

### list-fhir-datastores

The following code example shows how to use `list-fhir-datastores`.

**AWS CLI**

**To list FHIR Data Stores**

The following `list-fhir-datastores` example shows to how to use the command and how users can filter results based on Data Store status in Amazon HealthLake.

```
aws healthlake list-fhir-datastores \
   --region us-east-1 \
   --filter DatastoreStatus=ACTIVE
```

**Output:**

```json
{
   "DatastorePropertiesList": [
   {
      "PreloadDataConfig": {
         "PreloadDataType": "SYNTHEA"
      }
   }
]```
For more information, see Creating and monitoring a FHIR Data Store in the Amazon HealthLake Developer Guide.

- For API details, see ListFhirDatastores in AWS CLI Command Reference.

**list-fhir-export-jobs**

The following code example shows how to use list-fhir-export-jobs.

**AWS CLI**

**To list all FHIR export jobs**

The following list-fhir-export-jobs example shows how to use the command to view a list of export jobs associated with an account.

```
aws healthlake list-fhir-export-jobs
    --datastore-id (Datastore ID)
```
--submitted-before (DATE like 2024-10-13T19:00:00Z)\n--submitted-after (DATE like 2020-10-13T19:00:00Z)\n--job-name "FHIR-EXPORT"\n--job-status SUBMITTED\n--max-results (Integer between 1 and 500)

Output:

```json
{
  "ExportJobProperties": {
    "OutputDataConfig": {
      "S3Uri": "s3://(Bucket Name)/(Prefix Name)/",
      "S3Configuration": {
        "S3Uri": "s3://(Bucket Name)/(Prefix Name)/",
        "KmsKeyId": "(KmsKey Id)"
      }
    },
    "DataAccessRoleArn": "arn:aws:iam::(AWS Account ID):role/(Role Name)",
    "JobStatus": "COMPLETED",
    "JobId": "c145fbb27b192af392f8ce6e7838e34f",
    "JobName": "FHIR-EXPORT",
    "SubmitTime": 1606272542.161,
    "EndTime": 1606272609.497,
    "DatastoreId": "(Datastore ID)"
  }
}
```

"NextToken": String

For more information, see [Exporting files from a FHIR Data Store](https://docs.aws.amazon.com/AmazonHealthLake/latest/DeveloperGuide/Exporting-fhiri-data.html) in the Amazon HealthLake Developer Guide.


### list-fhir-import-jobs

The following code example shows how to use `list-fhir-import-jobs`.

#### AWS CLI

**To list all FHIR import jobs**

The following `list-fhir-import-jobs` example shows how to use the command to view a list of all import jobs associated with an account.
aws healthlake list-fhir-import-jobs
   --datastore-id (Datastore ID) \
   --submitted-before (DATE like 2024-10-13T19:00:00Z) \
   --submitted-after (DATE like 2020-10-13T19:00:00Z ) \
   --job-name "FHIR-IMPORT" \
   --job-status SUBMITTED \n   -max-results (Integer between 1 and 500)

Output:

```json
{
   "ImportJobProperties": {
      "OutputDataConfig": {
         "S3Uri": "s3://(Bucket Name)/(Prefix Name)/",
         "S3Configuration": {
            "S3Uri": "s3://(Bucket Name)/(Prefix Name)/",
            "KmsKeyId": "(KmsKey Id)"
         },
   },
   "DataAccessRoleArn": "arn:aws:iam::(AWS Account ID):role/(Role Name)",
   "JobStatus": "COMPLETED",
   "JobId": "c145fbb27b192af392f8ce6e7838e34f",
   "JobName": "FHIR-IMPORT",
   "SubmitTime": 1606272542.161,
   "EndTime": 1606272609.497,
   "DatastoreId": "(Datastore ID)"
}
}"
```

"NextToken": String

For more information, see Importing files to FHIR Data Store in the Amazon HealthLake Developer Guide.

- For API details, see ListFhirImportJobs in AWS CLI Command Reference.

list-tags-for-resource

The following code example shows how to use list-tags-for-resource.

AWS CLI

To list tags for a Data Store
The following `list-tags-for-resource` example lists the tags associated with the specified Data Store:

```bash
aws healthlake list-tags-for-resource \
--resource-arn "arn:aws:healthlake:us-east-1:674914422125:datastore/fhir/0725c83f4307f263e16fd56b6d8ebdb" \
--region us-east-1
```

Output:

```json
{
   "tags": {
      "key": "value",
      "key1": "value1"
   }
}
```

For more information, see Tagging resources in Amazon HealthLake in the Amazon HealthLake Developer Guide.

- For API details, see ListTagsForResource in AWS CLI Command Reference.

### start-fhir-export-job

The following code example shows how to use `start-fhir-export-job`.

**AWS CLI**

**To start a FHIR export job**

The following `start-fhir-export-job` example shows how to start a FHIR export job using Amazon HealthLake.

```bash
aws healthlake start-fhir-export-job \
   --output-data-config S3Uri="s3://(Bucket Name)/(Prefix Name)/" \
   --datastore-id (Datastore ID) \
   --data-access-role-arn arn:aws:iam::(AWS Account ID):role/(Role Name)
```

Output:

```json
{
   "DatastoreId": "(Datastore ID)",
}
```
For more information, see Exporting files from a FHIR Data Store in the Amazon HealthLake Developer Guide.

- For API details, see StartFhirExportJob in AWS CLI Command Reference.

**start-fhir-import-job**

The following code example shows how to use start-fhir-import-job.

**AWS CLI**

To start a FHIR import job

The following start-fhir-import-job example shows how to start a FHIR import job using Amazon HealthLake.

```bash
aws healthlake start-fhir-import-job \
   --input-data-config S3Uri="s3://(Bucket Name)/(Prefix Name)" \
   --datastore-id (Datastore ID) \
   --data-access-role-arn "arn:aws:iam::(AWS Account ID):role/(Role Name)" \
   --region us-east-1
```

Output:

```json
{
   "DatastoreId": "(Datastore ID)",
   "JobStatus": "SUBMITTED",
   "JobId": "c145fbb27b192af392f8ce6e7838e34f"
}
```

For more information, see Importing files to a FHIR Data Store 'https://docs.aws.amazon.com/healthlake/latest/devguide/import-datastore.html in the Amazon HealthLake Developer Guide.

- For API details, see StartFhirImportJob in AWS CLI Command Reference.

**tag-resource**

The following code example shows how to use tag-resource.

---

Actions and scenarios
AWS CLI

To add a tag to Data Store

The following tag-resource example shows how to add a tag to a Data Store.

```sh
aws healthlake tag-resource \
  --resource-arn "arn:aws:healthlake:us-east-1:691207106566:datastore/fhir/0725c83f4307f263e16fd56b6d8ebd8be" \
  --tags '[{"Key": "key1", "Value": "value1"}]' \
  --region us-east-1
```

This command produces no output.

For more information, see 'Adding a tag to a Data Store <https://docs.aws.amazon.com/healthlake/latest/devguide/add-a-tag.html>' in the Amazon HealthLake Developer Guide.

- For API details, see TagResource in AWS CLI Command Reference.

untag-resource

The following code example shows how to use untag-resource.

AWS CLI

To remove tags from a Data Store.

The following untag-resource example shows how to remove tags from a Data Store.

```sh
aws healthlake untag-resource \
  --resource-arn "arn:aws:healthlake:us-east-1:674914422125:datastore/fhir/b91723d65c6fdeb1d26543a49d2ed1fa" \
  --tag-keys '"key1"' \
  --region us-east-1
```

This command produces no output.

For more information, see Removing tags from a Data Store in the Amazon HealthLake Developer Guide.

- For API details, see UntagResource in AWS CLI Command Reference.
HealthOmics examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with HealthOmics.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics

- **Actions**

Actions

**abort-multipart-read-set-upload**

The following code example shows how to use `abort-multipart-read-set-upload`.

**AWS CLI**

*To stop a multipart read set upload*

The following `abort-multipart-read-set-upload` example stops a multipart read set upload into your HealthOmics sequence store.

```bash
aws omics abort-multipart-read-set-upload \
   --sequence-store-id 0123456789 \
   --upload-id 1122334455
```

This command produces no output.

For more information, see [Direct upload to a sequence store](#) in the *AWS HealthOmics User Guide*.

- For API details, see [AbortMultipartReadSetUpload](#) in *AWS CLI Command Reference*. 
accept-share

The following code example shows how to use accept-share.

AWS CLI

To accept a share of analytics store data

The following accept-share example accepts a share of HealthOmics analytics store data.

```bash
aws omics accept-share \\
    ----share-id "495c21bedc889d07d0ab69d710a6841e-dd75ab7a1a9c384fa848b5bd8e5a7e0a"
```

Output:

```json
{
    "status": "ACTIVATING"
}
```

For more information, see Cross-account sharing in the AWS HealthOmics User Guide.

• For API details, see AcceptShare in AWS CLI Command Reference.

batch-delete-read-set

The following code example shows how to use batch-delete-read-set.

AWS CLI

To delete multiple read sets

The following batch-delete-read-set example deletes two read sets.

```bash
aws omics batch-delete-read-set \\
    --sequence-store-id 1234567890 \\
    --ids 1234567890 0123456789
```

If there is an error deleting any of the specified read sets, the service returns an error list.

```json
{
    "errors": [
```
The following code example shows how to use `cancel-annotation-import-job`.

**AWS CLI**

To cancel an annotation import job

The following cancel-annotation-import-job example cancels an annotation import job with ID 04f57618-xmpl-4fd0-9349-e5a85ae9b997.

```
aws omics cancel-annotation-import-job \
   --job-id 04f57618-xmpl-4fd0-9349-e5a85ae9b997
```

For more information, see Omics Analytics in the Amazon Omics Developer Guide.

- For API details, see CancelAnnotationImportJob in AWS CLI Command Reference.

The following code example shows how to use `cancel-run`.

**AWS CLI**

To cancel a run

The following cancel-run example cancels a run with ID 1234567.

```
aws omics cancel-run \
   --id 1234567
```

For more information, see Omics Storage in the Amazon Omics Developer Guide.

- For API details, see BatchDeleteReadSet in AWS CLI Command Reference.
For more information, see Omics Workflows in the Amazon Omics Developer Guide.

- For API details, see CancelRun in AWS CLI Command Reference.

**cancel-variant-import-job**

The following code example shows how to use cancel-variant-import-job.

**AWS CLI**

**To cancel a variant import job**

The following cancel-variant-import-job example cancels a variant import job with ID 69cb65d6-xmpl-4a4a-9025-4565794b684e.

```
aws omics cancel-variant-import-job \
   --job-id 69cb65d6-xmpl-4a4a-9025-4565794b684e
```

For more information, see Omics Analytics in the Amazon Omics Developer Guide.

- For API details, see CancelVariantImportJob in AWS CLI Command Reference.

**complete-multipart-read-set-upload**

The following code example shows how to use complete-multipart-read-set-upload.

**AWS CLI**

**To conclude a multipart upload once you have uploaded all of the components.**

The following complete-multipart-read-set-upload example concludes a multipart upload into a sequence store once all of the components have been uploaded.

```
aws omics complete-multipart-read-set-upload \
   --sequence-store-id 0123456789 \
   --upload-id 1122334455 \
   --parts '[["checksum":"gaCBQMe+rpCFzLpoP6gydBoXaKKDA/Vobh5zBDb4W4=","partNumber":1,"partSource":"SOURCE1"]]'
```

Output:

```
{
```
create-annotation-store

The following code example shows how to use create-annotation-store.

AWS CLI

Example 1: To create a VCF annotation store

The following create-annotation-store example creates a VCF format annotation store.

```bash
aws omics create-annotation-store \
   --name my_ann_store \ 
   --store-format VCF \ 
```

Output:

```json
{
   "id": "0a91xmplc71f",
   "name": "my_ann_store",
   "reference": {
   },
   "status": "CREATING",
   "storeFormat": "VCF"
}
```

Example 2: To create a TSV annotation store
The following `create-annotation-store` example creates a TSV format annotation store.

```bash
aws omics create-annotation-store \
  --name tsv_ann_store \
  --store-format TSV \
  --store-options file://tsv-store-options.json
```

tsv-store-options.json configures format options for annotations.

```json
{
  "tsvStoreOptions": {
    "annotationType": "CHR_START_END_ZERO_BASE",
    "formatToHeader": {
      "CHR": "chromosome",
      "START": "start",
      "END": "end"
    },
    "schema": [
      {
        "chromosome": "STRING"
      },
      {
        "start": "LONG"
      },
      {
        "end": "LONG"
      },
      {
        "name": "STRING"
      }
    ]
  }
}
```

Output:

```json
{
  "creationTime": "2022-11-30T01:28:08.525586Z",
  "id": "861cxmpl96b0",
  "name": "tsv_ann_store",
}
```
The following code example shows how to use `create-annotation-store-version`.

**AWS CLI**

To create a new version of an annotation store

For more information, see [Omics Analytics](#) in the Amazon Omics Developer Guide.

- For API details, see [CreateAnnotationStore](#) in [AWS CLI Command Reference](#).
The following `create-annotation-store-version` example creates a new version of an annotation store.

```bash
aws omics create-annotation-store-version \
   --name my_annotation_store \
   --version-name my_version
```

Output:

```
{
   "creationTime": "2023-07-21T17:15:49.251040+00:00",
   "id": "3b93cdef69d2",
   "name": "my_annotation_store",
   "reference": {
   },
   "status": "CREATING",
   "versionName": "my_version"
}
```

For more information, see [Creating new versions of annotation stores](#) in the *AWS HealthOmics User Guide*.

- For API details, see [CreateAnnotationStoreVersion](#) in *AWS CLI Command Reference*.

**create-multipart-read-set-upload**

The following code example shows how to use `create-multipart-read-set-upload`.

**AWS CLI**

To begin a multipart read set upload.

The following `create-multipart-read-set-upload` example initiates a multipart read set upload.

```bash
aws omics create-multipart-read-set-upload \
   --sequence-store-id 0123456789 \
   --name HG00146 \
   --source-file-type FASTQ \
   --subject-id mySubject
```
The following code example shows how to use `create-reference-store`.

**AWS CLI**

To create a reference store

The following `create-reference-store` example creates a reference store `my-ref-store`.

```bash
aws omics create-reference-store \
   --name my-ref-store
```

Output:

```json
{
   "id": "123456789012"
}
```
create-run-group

The following code example shows how to use create-run-group.

AWS CLI

To create a run group

The following create-run-group example creates a run group named cram-converter.

```bash
aws omics create-run-group \
   --name cram-converter \
   --max-cpus 20 \
   --max-duration 600
```

Output:

```json
{
   "id": "1234567",
   "tags": {}
}
```

For more information, see Omics Workflows in the Amazon Omics Developer Guide.

- For API details, see CreateRunGroup in AWS CLI Command Reference.

create-sequence-store

The following code example shows how to use create-sequence-store.

AWS CLI

To create a sequence store

The following create-sequence-store example creates a sequence store.
aws omics create-sequence-store \
   --name my-seq-store

Output:

{
   "creationTime": "2022-11-23T01:24:33.629Z",
   "id": "1234567890",
   "name": "my-seq-store"
}

For more information, see Omics Storage in the Amazon Omics Developer Guide.

- For API details, see CreateSequenceStore in AWS CLI Command Reference.

create-share

The following code example shows how to use create-share.

AWS CLI

To create a share of a HealthOmics analytics store

The following create-share example shows how to create a share of a HealthOmics analytics store that can be accepted by a subscriber outside the account.

aws omics create-share \
    --principal-subscriber "123456789012" \
    --name "my_Share-123"

Output:

{
   "shareId": "495c21bedc889d07d0ab69d710a6841e-dd75ab7a1a9c384fa848b5bd8e5a7e0a",
   "name": "my_Share-123",
   "status": "PENDING"
}

For more information, see Cross-account sharing in the AWS HealthOmics User Guide.
create-variant-store

The following code example shows how to use `create-variant-store`.

**AWS CLI**

To create a variant store

The following `create-variant-store` example creates a variant store named `my_var_store`.

```
aws omics create-variant-store \
  --name my_var_store \
```

Output:

```json
{
  "creationTime": "2022-11-23T22:09:07.534499Z",
  "id": "02dexmplcfdd",
  "name": "my_var_store",
  "reference": {
  },
  "status": "CREATING"
}
```

For more information, see [Omics Analytics](https://aws.amazon.com) in the *Amazon Omics Developer Guide*.

- For API details, see [CreateShare](https://docs.aws.amazon.com/cli/latest/reference/omics/create-share.html) in *AWS CLI Command Reference*.

create-workflow

The following code example shows how to use `create-workflow`.

**AWS CLI**

To create a workflow

```
The following `create-workflow` example creates a WDL workflow.

```bash
aws omics create-workflow \
    --name cram-converter \
    --engine WDL \
    --definition-zip fileb://workflow-crambam.zip \
    --parameter-template file://workflow-params.json
```

`workflow-crambam.zip` is a ZIP archive containing a workflow definition. `workflow-params.json` defines runtime parameters for the workflow.

```
{
    "ref_fasta" : {
        "description": "Reference genome fasta file",
        "optional": false
    },
    "ref_fasta_index" : {
        "description": "Index of the reference genome fasta file",
        "optional": false
    },
    "ref_dict" : {
        "description": "dictionary file for 'ref_fasta'",
        "optional": false
    },
    "input_cram" : {
        "description": "The Cram file to convert to BAM",
        "optional": false
    },
    "sample_name" : {
        "description": "The name of the input sample, used to name the output BAM",
        "optional": false
    }
}
```

Output:

```
{
    "id": "1234567",
    "status": "CREATING",
    "tags": {}
}
```
For more information, see Omics Workflows in the Amazon Omics Developer Guide.

- For API details, see CreateWorkflow in AWS CLI Command Reference.

**delete-annotation-store**

The following code example shows how to use delete-annotation-store.

**AWS CLI**

To delete an annotation store

The following delete-annotation-store example deletes an annotation store named my_vcf_store.

```bash
aws omics delete-annotation-store \
   --name my_vcf_store
```

Output:

```json
{
   "status": "DELETING"
}
```

For more information, see Omics Analytics in the Amazon Omics Developer Guide.

- For API details, see DeleteAnnotationStore in AWS CLI Command Reference.

**delete-annotation-store-versions**

The following code example shows how to use delete-annotation-store-versions.

**AWS CLI**

To delete an annotation store version

The following delete-annotation-store-versions example deletes an annotation store version.

```bash
aws omics delete-annotation-store-versions \
   --name my_annotation_store \
   --versions my_version
```
For more information, see Creating new versions of annotation stores in the AWS HealthOmics User Guide.

- For API details, see DeleteAnnotationStoreVersions in AWS CLI Command Reference.

delete-reference

The following code example shows how to use delete-reference.

AWS CLI

To delete a reference

The following delete-reference example deletes a reference.

```bash
aws omics delete-reference
    --reference-store-id 1234567890
    --id 1234567890
```

For more information, see Omics Storage in the Amazon Omics Developer Guide.

- For API details, see DeleteReference in AWS CLI Command Reference.

delete-reference-store

The following code example shows how to use delete-reference-store.

AWS CLI

To delete a reference store

The following delete-reference-store example deletes a reference store with ID 1234567890.

```bash
aws omics delete-reference-store
    --id 1234567890
```
For more information, see Omics Storage in the Amazon Omics Developer Guide.

- For API details, see DeleteReferenceStore in AWS CLI Command Reference.

**delete-run**

The following code example shows how to use delete-run.

**AWS CLI**

To delete a workflow run

The following delete-run example deletes a run with ID 1234567.

```bash
aws omics delete-run \
--id 1234567
```

For more information, see Omics Workflows in the Amazon Omics Developer Guide.

- For API details, see DeleteRun in AWS CLI Command Reference.

**delete-run-group**

The following code example shows how to use delete-run-group.

**AWS CLI**

To delete a run group

The following delete-run-group example deletes a run group with ID 1234567.

```bash
aws omics delete-run-group \
--id 1234567
```

For more information, see Omics Workflows in the Amazon Omics Developer Guide.

- For API details, see DeleteRunGroup in AWS CLI Command Reference.

**delete-sequence-store**

The following code example shows how to use delete-sequence-store.
AWS CLI

To delete a sequence store

The following `delete-sequence-store` example deletes a sequence store with ID 1234567890.

```bash
aws omics delete-sequence-store \
--id 1234567890
```

For more information, see [Omics Storage](https://docs.aws.amazon.com/omics/latest/userguide/index.html) in the *Amazon Omics Developer Guide*.

- For API details, see [DeleteSequenceStore](https://docs.aws.amazon.com/cli/latest/reference/omics/delete-sequence-store.html) in *AWS CLI Command Reference*.

delete-share

The following code example shows how to use `delete-share`.

AWS CLI

To delete a share of HealthOmics analytics data

The following `delete-share` example deletes a cross-account share of analytics data.

```bash
aws omics delete-share \
--share-id "495c21bedc889d07d0ab69d710a6841e-dd75ab7a1a9c384fa848b5bd8e5a7e0a"
```

Output:

```
{
   "status": "DELETING"
}
```

For more information, see [Cross-account sharing](https://docs.aws.amazon.com/healthomics/latest/userguide/cross-account-sharing.html) in the *AWS HealthOmics User Guide*.

- For API details, see [DeleteShare](https://docs.aws.amazon.com/cli/latest/reference/omics/delete-share.html) in *AWS CLI Command Reference*.

delete-variant-store

The following code example shows how to use `delete-variant-store`.
AWS CLI

**To delete a variant store**

The following `delete-variant-store` example deletes a variant store named `my_var_store`.

```
aws omics delete-variant-store \
   --name my_var_store
```

Output:

```
{
   "status": "DELETING"
}
```

For more information, see [Omics Analytics](#) in the *Amazon Omics Developer Guide*.

- For API details, see [DeleteVariantStore](#) in *AWS CLI Command Reference*.

**delete-workflow**

The following code example shows how to use `delete-workflow`.

AWS CLI

**To delete a workflow**

The following `delete-workflow` example deletes a workflow with ID `1234567`.

```
aws omics delete-workflow \
   --id 1234567
```

For more information, see [Omics Workflows](#) in the *Amazon Omics Developer Guide*.

- For API details, see [DeleteWorkflow](#) in *AWS CLI Command Reference*.

**get-annotation-import-job**

The following code example shows how to use `get-annotation-import-job`.

---

**Actions and scenarios**
AWS CLI

To view an annotation import job

The following get-annotation-import-job example gets details about an annotation import job.

```bash
aws omics get-annotation-import-job \
 --job-id 984162c7-xmpl-4d23-ab47-286f7950bfbf
```

Output:

```json
{
   "creationTime": "2022-11-30T01:40:11.017746Z",
   "destinationName": "tsv_ann_store",
   "id": "984162c7-xmpl-4d23-ab47-286f7950bfbf",
   "items": [
      {
         "jobStatus": "COMPLETED",
         "source": "s3://omics-artifacts-01d6xmpl4e72dd32/targetedregions.bed.gz"
      }
   ],
   "roleArn": "arn:aws:iam::123456789012:role/omics-service-role-serviceRole-W8O1XMPL7QZ",
   "runLeftNormalization": false,
   "status": "COMPLETED",
   "updateTime": "2022-11-30T01:42:39.134009Z"
}
```

For more information, see Omics Analytics in the Amazon Omics Developer Guide.

- For API details, see GetAnnotationImportJob in AWS CLI Command Reference.

get-annotation-store

The following code example shows how to use get-annotation-store.

AWS CLI

To view an annotation store

The following get-annotation-store example gets details about an annotation store named my_ann_store.
aws omics get-annotation-store \
   --name my_ann_store

Output:

```
{
   "id": "0a91xmplc71f",
   "name": "my_ann_store",
   "reference": {
   },
   "status": "CREATING",
   "storeFormat": "VCF",
   "storeSizeBytes": 0,
   "tags": {}
}
```

For more information, see [Omics Analytics](https://doc.amazon-omics.com) in the *Amazon Omics Developer Guide*.

- For API details, see [GetAnnotationStore](https://doc.amazon-omics.com) in *AWS CLI Command Reference*.

**get-annotation-store-version**

The following code example shows how to use `get-annotation-store-version`.

**AWS CLI**

**To retrieve the metadata for an annotation store version**

The following `get-annotation-store-version` example retrieves the metadata for the requested annotation store version.

aws omics get-annotation-store-version \
   --name my_annotation_store \
   --version-name my_version

Output:
For more information, see Creating new versions of annotation stores in the AWS HealthOmics User Guide.

- For API details, see GetAnnotationStoreVersion in AWS CLI Command Reference.

**get-read-set**

The following code example shows how to use get-read-set.

**AWS CLI**

To download a read set

The following get-read-set example downloads part 3 of a read set as 1234567890.3.bam.

```bash
aws omics get-read-set \  
    --sequence-store-id 1234567890 \  
    --id 1234567890 \  
    --part-number 3 1234567890.3.bam
```

For more information, see Omics Storage in the Amazon Omics Developer Guide.

- For API details, see GetReadSet in AWS CLI Command Reference.

**get-read-set-activation-job**

The following code example shows how to use get-read-set-activation-job.
AWS CLI

To view a read set activation job

The following `get-read-set-activation-job` example gets details about a read set activation job.

```
aws omics get-read-set-activation-job \
  --sequence-store-id 1234567890 \
  --id 1234567890
```

Output:

```
{
    "completionTime": "2022-12-06T22:33:42.828Z",
    "creationTime": "2022-12-06T22:32:45.213Z",
    "id": "1234567890",
    "sequenceStoreId": "1234567890",
    "sources": [
        {
            "readSetId": "1234567890",
            "status": "FINISHED",
            "statusMessage": "No activation needed as read set is already in ACTIVATING or ACTIVE state."
        }
    ],
    "status": "COMPLETED",
    "statusMessage": "The job completed successfully."
}
```

For more information, see [Omics Storage](https://aws.amazon.com) in the *Amazon Omics Developer Guide*.

- For API details, see [GetReadSetActivationJob](https://docs.aws.amazon.com) in [AWS CLI Command Reference](https://aws.amazon.com).
aws omics get-read-set-export-job
   --sequence-store-id 1234567890
   --id 1234567890

Output:

```
{
   "completionTime": "2022-12-06T22:39:14.491Z",
   "creationTime": "2022-12-06T22:37:18.612Z",
   "destination": "s3://omics-artifacts-01d6xmpl4e72dd32/read-set-export/",
   "id": "1234567890",
   "sequenceStoreId": "1234567890",
   "status": "COMPLETED",
   "statusMessage": "The job is submitted and will start soon."
}
```

For more information, see Omics Storage in the Amazon Omics Developer Guide.

- For API details, see GetReadSetExportJob in AWS CLI Command Reference.

get-read-set-import-job

The following code example shows how to use get-read-set-import-job.

AWS CLI

To view a read set import job

The following get-read-set-import-job example gets details about a read set import job.

aws omics get-read-set-import-job
   --sequence-store-id 1234567890
   --id 1234567890

Output:

```
{
   "creationTime": "2022-11-23T01:36:38.158Z",
   "id": "1234567890",
   "roleArn": "arn:aws:iam::123456789012:role/omics-service-role-serviceRole-W801Xmpl7QZ",
   "sequenceStoreId": "1234567890",
```
"sources": [
    {
      "name": "HG00100",
      "sampleId": "bam-sample",
      "sourceFileType": "BAM",
      "sourceFiles": {
        "source1": "s3://omics-artifacts-01d6xmpl4e72dd32/HG00100.chrom20.ILLUMINA.bwa.GBR.low_coverage.20101123.bam",
        "source2": ""
      },
      "status": "IN_PROGRESS",
      "statusMessage": "The source job is currently in progress.",
      "subjectId": "bam-subject",
      "tags": {
        "aws:omics:sampleId": "bam-sample",
        "aws:omics:subjectId": "bam-subject"
      }
    },
    {
      "name": "HG00146",
      "sampleId": "fastq-sample",
      "sourceFileType": "FASTQ",
      "sourceFiles": {
        "source1": "s3://omics-artifacts-01d6xmpl4e72dd32/SRR233106_1.filt.fastq.gz",
        "source2": "s3://omics-artifacts-01d6xmpl4e72dd32/SRR233106_2.filt.fastq.gz"
      },
      "status": "IN_PROGRESS",
      "statusMessage": "The source job is currently in progress.",
      "subjectId": "fastq-subject",
      "tags": {
        "aws:omics:sampleId": "fastq-sample",
        "aws:omics:subjectId": "fastq-subject"
      }
    },
    {
      "name": "HG00096",
      "sampleId": "bam-sample",
      "sourceFileType": "BAM",
      "sourceFiles": {
        "source1": "s3://omics-artifacts-01d6xmpl4e72dd32/HG00096.chrom20.ILLUMINA.bwa.GBR.low_coverage.20101123.bam",
        "source2": ""
      },
      "status": "IN_PROGRESS",
      "statusMessage": "The source job is currently in progress.",
      "subjectId": "bam-subject",
      "tags": {
        "aws:omics:sampleId": "bam-sample",
        "aws:omics:subjectId": "bam-subject"
      }
    }
]
For more information, see Omics Storage in the Amazon Omics Developer Guide.

- For API details, see GetReadStreamImportJob in AWS CLI Command Reference.

**get-read-set-metadata**

The following code example shows how to use get-read-set-metadata.

**AWS CLI**

**To view a read set**

The following get-read-set-metadata example gets details about a read set's files.

```bash
aws omics get-read-set-metadata
   --sequence-store-id 1234567890
   --id 1234567890
```

**Output:**

```json
{
   ...
}
```
For more information, see Omics Storage in the Amazon Omics Developer Guide.

- For API details, see GetReadSetMetadata in AWS CLI Command Reference.

get-reference

The following code example shows how to use get-reference.

AWS CLI

To download a genome reference

The following get-reference example downloads part 1 of a genome as hg38.1.fa.

```
aws omics get-reference
```
For more information, see Omics Storage in the Amazon Omics Developer Guide.

- For API details, see GetReference in AWS CLI Command Reference.

**get-reference-import-job**

The following code example shows how to use get-reference-import-job.

**AWS CLI**

**To view a reference import job**

The following get-reference-import-job example gets details about a reference import job.

```
aws omics get-reference-import-job \
   --reference-store-id 1234567890 \
   --id 1234567890
```

**Output:**

```
{
   "creationTime": "2022-11-22T22:25:41.124Z",
   "id": "1234567890",
   "referenceStoreId": "1234567890",
   "roleArn": "arn:aws:iam::123456789012:role/omics-service-role-serviceRole-W8O1XMPL7QZ",
   "sources": [
      {
         "name": "assembly-38",
         "sourceFile": "s3://omics-artifacts-01d6xmpl4e72dd32/Homo_sapiens_assembly38.fasta",
         "status": "IN_PROGRESS",
         "statusMessage": "The source job is currently in progress."
      }
   ],
   "status": "IN_PROGRESS",
   "statusMessage": "The job is currently in progress."
}
```
For more information, see [Omics Storage](#) in the *Amazon Omics Developer Guide*.

- For API details, see [GetReferenceImportJob](#) in *AWS CLI Command Reference*.

### get-reference-metadata

The following code example shows how to use get-reference-metadata.

**AWS CLI**

**To view a reference**

The following `get-reference-metadata` example gets details about a reference.

```
aws omics get-reference-metadata \
  --reference-store-id 1234567890 \
  --id 1234567890
```

**Output:**

```json
{
  "files": {
    "index": {
      "contentLength": 160928,
      "partSize": 104857600,
      "totalParts": 1
    },
    "source": {
      "contentLength": 3249912778,
      "partSize": 104857600,
      "totalParts": 31
    }
  },
  "id": "1234567890",
  "md5": "7ff134953dcca8c8997453bbb80b6b5e",
  "name": "assembly-38",
  "referenceStoreId": "1234567890",
}```
For more information, see [Omics Storage](#) in the *Amazon Omics Developer Guide*.

- For API details, see [GetReferenceMetadata](#) in *AWS CLI Command Reference*.

**get-reference-store**

The following code example shows how to use `get-reference-store`.

**AWS CLI**

**To view a reference store**

The following `get-reference-store` example gets details about a reference store.

```bash
aws omics get-reference-store
    --id 1234567890
```

**Output:**

```json
{
    "creationTime": "2022-09-23T23:27:20.364Z",
    "id": "1234567890",
    "name": "my-rstore-0"
}
```

For more information, see [Omics Storage](#) in the *Amazon Omics Developer Guide*.

- For API details, see [GetReferenceStore](#) in *AWS CLI Command Reference*.

**get-run**

The following code example shows how to use `get-run`.

**AWS CLI**

**To view a workflow run**
The following `get-run` example gets details about a workflow run.

```
aws omics get-run \
   --id 1234567
```

Output:

```
{
   "creationTime": "2022-11-30T22:58:22.615865Z",
   "digest": "sha256:c54bxmpl742dcc26f7fa1f10e37550ddd8f251f418277c0a58e895b801ed28cf",
   "id": "1234567",
   "name": "cram-to-bam",
   "outputUri": "s3://omics-artifacts-01d6xmpl4e72dd32/workflow-output/",
   "parameters": {
      "ref_dict": "s3://omics-artifacts-01d6xmpl4e72dd32/Homo_sapiens_assembly38.dict",
      "ref_fasta_index": "s3://omics-artifacts-01d6xmpl4e72dd32/Homo_sapiens_assembly38.fasta.fai",
      "ref_fasta": "s3://omics-artifacts-01d6xmpl4e72dd32/Homo_sapiens_assembly38.fasta",
      "sample_name": "NA12878",
      "input_cram": "s3://omics-artifacts-01d6xmpl4e72dd32/NA12878.cram"
   },
   "resourceDigests": {
      "s3://omics-artifacts-01d6xmpl4e72dd32/Homo_sapiens_assembly38.fasta.fai": "etag:f76371b113734a56cde236bc0372de0a",
      "s3://omics-artifacts-01d6xmpl4e72dd32/Homo_sapiens_assembly38.dict": "etag:3884c62eb0e53fa92459ed9bff133ae6",
      "s3://omics-artifacts-01d6xmpl4e72dd32/Homo_sapiens_assembly38.fasta": "etag:e307d81c605fb91b7720a08f00276842-388",
      "s3://omics-artifacts-01d6xmpl4e72dd32/NA12878.cram": "etag:a9f52976381286c6143b5cc681671ec6"
   },
   "roleArn": "arn:aws:iam::123456789012:role/omics-service-role-serviceRole-W801XMPL7QZ",
   "startedBy": "arn:aws:iam::123456789012:user/laptop-2020",
   "status": "STARTING",
   "tags": {},
   "workflowId": "1234567",
   "workflowType": "PRIVATE"
}
```
get-run-group

The following code example shows how to use get-run-group.

AWS CLI

To view a run group

The following get-run-group example gets details about a run group.

```bash
aws omics get-run-group \
   --id 1234567
```

Output:

```json
{
"creationTime": "2022-12-01T00:58:42.915219Z",
"id": "1234567",
"maxCpus": 20,
"maxDuration": 600,
"name": "cram-convert",
"tags": {}
}
```

For more information, see Omics Workflows in the Amazon Omics Developer Guide.

- For API details, see GetRun in AWS CLI Command Reference.

get-run-task

The following code example shows how to use get-run-task.

AWS CLI

To view a task

The following get-run-task example gets details about a workflow task.
aws omics get-run-task \
   --id 1234567 \ 
   --task-id 1234567

Output:

{
    "cpus": 1,
    "creationTime": "2022-11-30T23:13:00.718651Z",
    "memory": 15,
    "name": "CramToBamTask",
    "startTime": "2022-11-30T23:17:47.016Z",
    "status": "COMPLETED",
    "taskId": "1234567"
}

For more information, see Omics Workflows in the Amazon Omics Developer Guide.

- For API details, see GetRunTask in AWS CLI Command Reference.

get-sequence-store

The following code example shows how to use get-sequence-store.

AWS CLI

To view a sequence store

The following get-sequence-store example gets details about a sequence store with ID 1234567890.

aws omics get-sequence-store \
   --id 1234567890

Output:

{
```
"arn": "arn:aws:omics:us-east-1:123456789012:sequenceStore/1234567890",
"id": "1234567890",
"name": "my-seq-store"
}
```

For more information, see [Omics Storage](https://docs.aws.amazon.com/omics/latest/api/omics_storage.html) in the Amazon Omics Developer Guide.


### get-share

The following code example shows how to use `get-share`.

#### AWS CLI

**To retrieves the metadata about a share of a HealthOmics analytics data**

The following `get-share` example retrieves the metadata for a cross-account share of analytics data.

```
aws omics get-share \
   --share-id "495c21bedc889d07d0ab69d710a6841e-dd75ab7a1a9c384fa848b5bd8e5a7e0a"
```

Output:

```
{
   "share": {
      "shareId": "495c21bedc889d07d0ab69d710a6841e-dd75ab7a1a9c384fa848b5bd8e5a7e0a",
      "name": "my_Share-123",
      "principalSubscriber": "123456789012",
      "ownerId": "555555555555",
      "status": "PENDING"
   }
}
```

For more information, see [Cross-account sharing](https://docs.aws.amazon.com/omics/latest/userguide/cross-account-sharing.html) in the AWS HealthOmics User Guide.

get-variant-import-job

The following code example shows how to use get-variant-import-job.

AWS CLI

To view a variant import job

The following get-variant-import-job example gets details about a variant import job.

```bash
aws omics get-variant-import-job \
    --job-id edd7b8ce-xmpl-47e2-bc99-258cac95a508
```

Output:

```
{
    "creationTime": "2022-11-23T22:42:50.037812Z",
    "destinationName": "my_var_store",
    "id": "edd7b8ce-xmpl-47e2-bc99-258cac95a508",
    "items": [
        {
            "jobStatus": "IN_PROGRESS",
            "source": "s3://omics-artifacts-01d6xmpl4e72dd32/
            Homo_sapiens_assembly38.known_indels.vcf.gz"
        }
    ],
    "roleArn": "arn:aws:iam::123456789012:role/omics-service-role-serviceRole-
        W8O1XMPL7QZ",
    "runLeftNormalization": false,
    "status": "IN_PROGRESS",
    "updateTime": "2022-11-23T22:43:05.898309Z"
}
```

For more information, see Omics Analytics in the Amazon Omics Developer Guide.

- For API details, see GetVariantImportJob in AWS CLI Command Reference.

get-variant-store

The following code example shows how to use get-variant-store.
**AWS CLI**

**To view a variant store**

The following `get-variant-store` example gets details about a variant store.

```bash
aws omics get-variant-store \
   --name my_var_store
```

Output:

```json
{
   "creationTime": "2022-11-23T22:09:07.534499Z",
   "id": "02demplcfdd",
   "name": "my_var_store",
   "reference": {
   },
   "status": "CREATING",
   "storeSizeBytes": 0,
   "tags": {},
   "updateTime": "2022-11-23T22:09:24.931711Z"
}
```

For more information, see [Omics Analytics](https://docs.aws.amazon.com/omics/latest/userguide/awsox-management.html) in the *Amazon Omics Developer Guide*.

- For API details, see [GetVariantStore](https://docs.aws.amazon.com/cli/latest/reference/omics/get-variant-store.html) in *AWS CLI Command Reference*.

**get-workflow**

The following code example shows how to use `get-workflow`.

**AWS CLI**

**To view a workflow**

The following `get-workflow` example gets details about a workflow with ID 1234567.

```bash
aws omics get-workflow \
```
--id 1234567

**Output:**

```json
{
    "digest": "sha256:c54bxmpl1742dcc26f7fa1f10e37550ddd8f251f418277c0a58e895b801ed28cf",
    "engine": "WDL",
    "id": "1234567",
    "main": "workflow-crambam.wdl",
    "name": "cram-converter",
    "parameterTemplate": {
        "ref_dict": {
            "description": "dictionary file for 'ref_fasta'"
        },
        "ref_fasta_index": {
            "description": "Index of the reference genome fasta file"
        },
        "ref_fasta": {
            "description": "Reference genome fasta file"
        },
        "input_cram": {
            "description": "The Cram file to convert to BAM"
        },
        "sample_name": {
            "description": "The name of the input sample, used to name the output BAM"
        }
    },
    "status": "ACTIVE",
    "statusMessage": "workflow-crambam.wdl
        workflow CramToBamFlow
        call CramToBamTask
        call ValidateSamFile
dtask CramToBamTask
task ValidateSamFile",
    "tags": {},
    "type": "PRIVATE"
}
```

For more information, see [Omics Workflows](https://docs.aws.amazon.com/omics/latest/userguide/) in the Amazon Omics Developer Guide.

list-annotation-import-jobs

The following code example shows how to use list-annotation-import-jobs.

AWS CLI

To get a list of annotation import jobs

The following list-annotation-import-jobs gets a list of annotation import jobs.

```bash
aws omics list-annotation-import-jobs
```

Output:

```json
{
   "annotationImportJobs": [
   {
      "creationTime": "2022-11-30T01:39:41.478294Z",
      "destinationName": "gff_ann_store",
      "id": "18a9e792-xmpl-4869-a105-e5b602900444",
      "roleArn": "arn:aws:iam::123456789012:role/omics-service-role-serviceRole-W8O1XMPL7QZ",
      "runLeftNormalization": false,
      "status": "COMPLETED",
      "updateTime": "2022-11-30T01:47:09.145178Z"
   },
   {
      "creationTime": "2022-11-30T00:45:58.007838Z",
      "destinationName": "my_ann_store",
      "id": "4e9eafc8-xmpl-431e-a0b2-3bda27cb600a",
      "roleArn": "arn:aws:iam::123456789012:role/omics-service-role-serviceRole-W8O1XMPL7QZ",
      "runLeftNormalization": false,
      "status": "FAILED",
      "updateTime": "2022-11-30T00:47:01.706325Z"
   }
  ]
}
```

For more information, see [Omics Analytics](https://aws.amazon.com) in the Amazon Omics Developer Guide.

- For API details, see [ListAnnotationImportJobs](https://docs.aws.amazon.com/cli/latest/reference/omics/list-annotation-import-jobs.html) in AWS CLI Command Reference.
list-annotation-store-versions

The following code example shows how to use list-annotation-store-versions.

AWS CLI

To list all the versions of an annotation store.

The following list-annotation-store-versions example lists all versions that exist of an annotation store.

```bash
aws omics list-annotation-store-versions \
  --name my_annotation_store
```

Output:

```json
{
  "annotationStoreVersions": [
    {
      "storeId": "4934045d1c6d",
      "id": "2a3f4a44aa7b",
      "status": "CREATING",
      "name": "my_annotation_store",
      "versionName": "my_version_2",
      "creationTime": "2023-07-21T17:20:59.380043+00:00",
      "versionSizeBytes": 0
    },
    {
      "storeId": "4934045d1c6d",
      "id": "4934045d1c6d",
      "status": "ACTIVE",
      "name": "my_annotation_store",
      "versionName": "my_version_1",
      "creationTime": "2023-07-21T17:15:49.251040+00:00",
      "updateTime": "2023-07-21T17:15:56.434223+00:00",
      "statusMessage": "",
      "versionSizeBytes": 0
    }
  ]
}
```
For more information, see [Creating new versions of annotation stores](#) in the *AWS HealthOmics User Guide*.

- For API details, see [ListAnnotationStoreVersions](#) in *AWS CLI Command Reference*.

### list-annotation-stores

The following code example shows how to use `list-annotation-stores`.

**AWS CLI**

**To get a list of annotation stores**

The following `list-annotation-stores` example gets a list of annotation stores.

```bash
aws omics list-annotation-stores
```

**Output:**

```json
{
   "annotationStores": [
      {
         "id": "0a91xmplc71f",
         "name": "my_ann_store",
         "reference": {
         },
         "status": "ACTIVE",
         "statusMessage": "",
         "storeFormat": "VCF",
         "storeSizeBytes": 0,
         "updateTime": "2022-11-23T22:53:27.372840Z"
      }
   ]
}
```
For more information, see Omics Analytics in the Amazon Omics Developer Guide.

- For API details, see ListAnnotationStores in AWS CLI Command Reference.

list-multipart-read-set-uploads

The following code example shows how to use list-multipart-read-set-uploads.

AWS CLI

To list all multipart read set uploads and their statuses.

The following list-multipart-read-set-uploads example lists all multipart read set uploads and their statuses.

```bash
aws omics list-multipart-read-set-uploads \
   --sequence-store-id 0123456789
```

Output:

```json
{
   "uploads":
      [
         {
            "sequenceStoreId": "0123456789",
            "uploadId": "8749584421",
            "sourceFileType": "FASTQ",
            "subjectId": "mySubject",
            "sampleId": "mySample",
            "generatedFrom": "1000 Genomes",
            "name": "HG00146",
            "description": "FASTQ for HG00146",
            "creationTime": "2023-11-29T19:22:51.349298+00:00"
         },
         {
            "sequenceStoreId": "0123456789",
            "uploadId": "5290538638",
            "sourceFileType": "BAM",
            "subjectId": "mySubject",
            "sampleId": "mySample",
            "generatedFrom": "1000 Genomes",
            "name": "HG00146",
            "description": "FASTQ for HG00146",
```

Actions and scenarios
For more information, see [Direct upload to a sequence store](#) in the *AWS HealthOmics User Guide*.

- For API details, see [ListMultipartReadSetUploads](#) in *AWS CLI Command Reference*.

### list-read-set-activation-jobs

The following code example shows how to use `list-read-set-activation-jobs`.

**AWS CLI**

**To get a list of read set activation jobs**

The following `list-read-set-activation-jobs` example gets a list of activation jobs for a sequence store with id `1234567890`.

```bash
aws omics list-read-set-activation-jobs
  --sequence-store-id 1234567890
```

**Output:**

```json
{
  "activationJobs": [
```

```json```
For more information, see Omics Storage in the Amazon Omics Developer Guide.

- For API details, see ListReadSetActivationJobs in AWS CLI Command Reference.

list-read-set-export-jobs

The following code example shows how to use list-read-set-export-jobs.

AWS CLI

To gets a list of read set export jobs

The following list-read-set-export-jobs example gets a list of export jobs for a sequence store with id 1234567890.

```
aws omics list-read-set-export-jobs \\
  --sequence-store-id 1234567890
```

Output:

```
{
  ":exportJobs": [
    {
      "completionTime": "2022-12-06T22:39:14.491Z",
      "creationTime": "2022-12-06T22:37:18.412Z",
      "destination": "s3://omics-artifacts-01d6xmpl4e72dd32/read-set-export/",
      "id": "1234567890",
```
For more information, see [Omics Storage](#) in the [Amazon Omics Developer Guide](#).

- For API details, see [ListReadSetExportJobs](#) in [AWS CLI Command Reference](#).

### list-read-set-import-jobs

The following code example shows how to use `list-read-set-import-jobs`.

#### AWS CLI

**To get a list of read set import jobs**

The following `list-read-set-import-jobs` example gets a list of import jobs for a sequence store with id 1234567890.

```
aws omics list-read-set-import-jobs \
    --sequence-store-id 1234567890
```

**Output:**

```
{
    "importJobs": [
        {
            "completionTime": "2022-11-29T18:17:49.244Z",
            "creationTime": "2022-11-29T17:32:47.700Z",
            "id": "1234567890",
            "roleArn": "arn:aws:iam::123456789012:role/omics-service-role-serviceRole-W8O1XMPL7QZ",
            "sequenceStoreId": "1234567890",
            "status": "COMPLETED"
        }
    ]
}
```
The following code example shows how to use `list-read-set-upload-parts`.

**AWS CLI**

*To list all parts in a requested multipart upload for a sequence store.*

The following `list-read-set-upload-parts` example list all parts in a requested multipart upload for a sequence store.

```bash
aws omics list-read-set-upload-parts \  
  --sequence-store-id 0123456789 \  
  --upload-id 1122334455 \  
  --part-source SOURCE1
```

**Output:**

```json
{
  "parts": [
    {
      "partNumber": 1,
      "partSize": 94371840,
      "file": "SOURCE1",
      "checksum": "984979b9928ae8d8622286c4a9cd8e99d964a22d59ed0f5722e1733eb280e635",
      "checksum": "984979b9928ae8d8622286c4a9cd8e99d964a22d59ed0f5722e1733eb280e635",
    }
  ]
}
```

For more information, see [Omics Storage](https://docs.aws.amazon.com/omics/latest/userguide) in the *Amazon Omics Developer Guide*.

- For API details, see [ListReadSetImportJobs](https://docs.aws.amazon.com/cli/latest/reference/aws-omics/list-read-set-import-jobs.html) in *AWS CLI Command Reference*.
list-read-sets

The following code example shows how to use list-read-sets.

AWS CLI

To get a list of read sets

The following list-read-sets example gets a list of read sets for a sequence store with id 1234567890.

```bash
aws omics list-read-sets \n --sequence-store-id 1234567890
```

Output:

```json
{
   "readSets": [
      {
         "creationTime": "2022-11-23T21:55:00.515Z",
         "fileType": "FASTQ",
         "lastUpdatedTime": "2023-02-02T20:14:47.533000+00:00"
      }
   ]
}
```

For more information, see [Direct upload to a sequence store](https://docs.aws.amazon.com/omics/latest/userguide/direct-upload.html) in the [AWS HealthOmics User Guide](https://docs.aws.amazon.com/omics/latest/userguide/).

For more information, see [Omics Storage](#) in the [Amazon Omics Developer Guide](#).

- For API details, see [ListReadSets](#) in [AWS CLI Command Reference](#).

### list-reference-import-jobs

The following code example shows how to use `list-reference-import-jobs`.

#### AWS CLI

**To get a list of reference import jobs**

The following `list-reference-import-jobs` example gets a list of reference import jobs for a reference store with id `1234567890`.

```bash
aws omics list-reference-import-jobs \
  --reference-store-id 1234567890
```

**Output:**

```javascript
{
  "importJobs": [
    {
      "completionTime": "2022-11-23T19:54:58.204Z",
      "creationTime": "2022-11-23T19:53:20.729Z",
      "id": "1234567890",
      "referenceStoreId": "1234567890",
      "roleArn": "arn:aws:iam::123456789012:role/omics-service-role-serviceRole-W801XMP7L7QZ",
      "status": "COMPLETED"
    }
  ]
}
```
For more information, see Omics Storage in the Amazon Omics Developer Guide.

- For API details, see ListReferenceImportJobs in AWS CLI Command Reference.

list-reference-stores

The following code example shows how to use list-reference-stores.

AWS CLI

To get a list of reference stores

The following list-reference-stores example gets a list of reference stores.

aws omics list-reference-stores

Output:

```
{
  "referenceStores": [
    {
      "id": "1234567890",
      "name": "my-ref-store"
    }
  ]
}
```

For more information, see Omics Storage in the Amazon Omics Developer Guide.

- For API details, see ListReferenceStores in AWS CLI Command Reference.
list-references

The following code example shows how to use list-references.

AWS CLI

To get a list of references

The following list-references example gets a list of genome references for a reference store with id 1234567890.

```
aws omics list-references \
    --reference-store-id 1234567890
```

Output:

```
{
    "references": [ 
    {
        "id": "1234567890",
        "md5": "7ff134953dcca8c8997453bbb80b6b5e",
        "name": "assembly-38",
        "referenceStoreId": "1234567890",
        "status": "ACTIVE",
    }
    ]
}
```

For more information, see Omics Storage in the Amazon Omics Developer Guide.

- For API details, see ListReferences in AWS CLI Command Reference.

list-run-groups

The following code example shows how to use list-run-groups.

AWS CLI

To get a list of run groups
The following `list-run-groups` example gets a list of run groups.

```bash
aws omics list-run-groups
```

Output:

```
{
    "items": [
        {
            "creationTime": "2022-12-01T00:58:42.915219Z",
            "id": "1234567",
            "maxCpus": 20,
            "maxDuration": 600,
            "name": "cram-convert"
        }
    ]
}
```

For more information, see [Omics Workflows](https://docs.aws.amazon.com/omics/latest/userguide/) in the *Amazon Omics Developer Guide*.

- For API details, see [ListRunGroups](https://docs.aws.amazon.com/cli/latest/reference/omics/list-run-groups.html) in *AWS CLI Command Reference*.

### list-run-tasks

The following code example shows how to use `list-run-tasks`.

**AWS CLI**

**To get a list of tasks**

The following `list-run-tasks` example gets a list of tasks for a workflow run.

```bash
aws omics list-run-tasks \
   --id 1234567
```

Output:

```
{
    "items": [
        {
            "cpus": 1,
            "name": "cram-convert"
        }
    ]
}
```
For more information, see Omics Workflows in the Amazon Omics Developer Guide.

- For API details, see ListRunTasks in AWS CLI Command Reference.

list-runs

The following code example shows how to use list-runs.

AWS CLI

To get a list of workflow runs

The following list-runs example gets a list of workflow runs.

```
aws omics list-runs
```

Output:

```
{
    "items": [
    
    
    
    
    
    ]
}
```
For more information, see [Omics Workflows](#) in the [Amazon Omics Developer Guide](#).

- For API details, see [ListRuns](#) in [AWS CLI Command Reference](#).

**list-sequence-stores**

The following code example shows how to use `list-sequence-stores`.

**AWS CLI**

To get a list of sequence stores
The following `list-sequence-stores` example gets a list of sequence stores.

```bash
aws omics list-sequence-stores
```

Output:

```json
{
    "sequenceStores": [
        {
            "creationTime": "2022-11-23T01:24:33.629Z",
            "id": "1234567890",
            "name": "my-seq-store"
        }
    ]
}
```

For more information, see [Omics Storage](#) in the [Amazon Omics Developer Guide](#).

- For API details, see [ListSequenceStores](#) in [AWS CLI Command Reference](#).

### list-shares

The following code example shows how to use `list-shares`.

**AWS CLI**

*To list the available shares of a HealthOmics analytics data*

The following `list-shares` example lists all shares that have been created for a resource-owner.

```bash
aws omics list-shares \
    --resource-owner SELF
```

Output:

```json
{
    "shares": [
        {
            "shareId": "595c1cbd-a008-4eca-a887-954d30c91c6e",
            "name": "myShare",
```

---

**Actions and scenarios**

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For more information, see [Cross-account sharing](#) in the AWS HealthOmics User Guide.

- For API details, see [ListShares](#) in [AWS CLI Command Reference](#).

### list-tags-for-resource

The following code example shows how to use `list-tags-for-resource`.

#### AWS CLI

**To get a list of tags**

The following `list-tags-for-resource` example gets a list of tags for a workflow with id 1234567.

```
aws omics list-tags-for-resource \\
```

Output:

```
{
   "tags": {
      "department": "analytics"
   }
}
```

For more information, see [Tagging resources in Amazon Omics](https://docs.aws.amazon.com/omics/latest/userguide/Tagging-resources.html) in the Amazon Omics Developer Guide.

- For API details, see [ListTagsForResource](https://docs.aws.amazon.com/cli/latest/reference/omics/list-tags-for-resource.html) in AWS CLI Command Reference.

**list-variant-import-jobs**

The following code example shows how to use `list-variant-import-jobs`.

**AWS CLI**

To get a list of variant import jobs

The following `list-variant-import-jobs` example gets a list of variant import jobs.

```
aws omics list-variant-import-jobs
```

Output:

```
{
   "variantImportJobs": [
      {
         "creationTime": "2022-11-23T22:47:02.514002Z",
         "destinationName": "my_var_store",
         "id": "69cb65d6-xmpl-4a4a-9025-4565794b684e",
         "roleArn": "arn:aws:iam::123456789012:role/omics-service-role-serviceRole-W8O1XMPL7QZ",
         "runLeftNormalization": false,
         "status": "COMPLETED",
         "updateTime": "2022-11-23T22:49:17.976597Z"
      },
      {
      
```
For more information, see Omics Analytics in the Amazon Omics Developer Guide.

- For API details, see ListVariantImportJobs in AWS CLI Command Reference.

list-variant-stores

The following code example shows how to use list-variant-stores.

AWS CLI

To get a list of variant stores

The following list-variant-stores example gets a list of variant stores.

```
aws omics list-variant-stores
```

Output:

```
{
   "variantStores": [
      {
         "creationTime": "2022-11-23T22:09:07.534999Z",
         "id": "02dexmplcfdd",
         "name": "my_var_store",
         "reference": {
         },
         "status": "CREATING",
         "storeArn": "arn:aws:omics:us-west-2:123456789012:variantStore/my_var_store"
      }
   ]
}```
For more information, see Omics Analytics in the Amazon Omics Developer Guide.

- For API details, see ListVariantStores in AWS CLI Command Reference.

**list-workflows**

The following code example shows how to use list-workflows.

**AWS CLI**

**To get a list of workflows**

The following list-workflows example gets a list of workflows.

`aws omics list-workflows`

**Output:**

```
{
  "items": [
    {
      "creationTime": "2022-09-23T23:08:22.041227Z",
      "digest": "nSCNo/qMWFxmplXpUdokXJnwgneOaxyyc2YOxVxrJTE=",
      "id": "1234567",
      "name": "my-wkflow-0",
    }
  ]
}
```
For more information, see Omics Workflows in the Amazon Omics Developer Guide.

- For API details, see ListWorkflows in AWS CLI Command Reference.

**start-annotation-import-job**

The following code example shows how to use start-annotation-import-job.

**AWS CLI**

**To import annotations**

The following start-annotation-import-job example imports annotations from Amazon S3.

```bash
aws omics start-annotation-import-job \
    --destination-name tsv_ann_store \
    --no-run-left-normalization \
    --role-arn arn:aws:iam::123456789012:role/omics-service-role-serviceRole-W8O1XMPL7QZ \
    --items source=s3://omics-artifacts-01d6xmpl4e72dd32/targetedregions.bed.gz
```

Output:

```
{
    "jobId": "984162c7-xmpl-4d23-ab47-286f7950bfbf"
}
```
start-read-set-activation-job

The following code example shows how to use `start-read-set-activation-job`.

**AWS CLI**

To activate an archived read set

The following `start-read-set-activation-job` example activates two read sets.

```bash
aws omics start-read-set-activation-job \
    --sequence-store-id 1234567890 \
    --sources readSetId=1234567890 readSetId=1234567890
```

Output:

```json
{
    "creationTime": "2022-12-06T22:35:10.100Z",
    "id": "1234567890",
    "sequenceStoreId": "1234567890",
    "status": "SUBMITTED"
}
```

For more information, see [Omics Storage](https://aws.amazon.com/) in the *Amazon Omics Developer Guide*.

- For API details, see [StartReadSetActivationJob](https://aws.amazon.com/) in *AWS CLI Command Reference*.

start-read-set-export-job

The following code example shows how to use `start-read-set-export-job`.

**AWS CLI**

To export a read set

The following `start-read-set-export-job` example exports two read sets to Amazon S3.
aws omics start-read-set-export-job \
   --sequence-store-id 1234567890 \
   --sources readSetId=1234567890 readSetId=1234567890 \
   --role-arn arn:aws:iam::123456789012:role/omics-service-role-serviceRole-W801XMPL7QZ \
   --destination s3://omics-artifacts-01d6xmpl4e72dd32/read-set-export/

Output:

```json
{
   "creationTime": "2022-12-06T22:37:18.612Z",
   "destination": "s3://omics-artifacts-01d6xmpl4e72dd32/read-set-export/",
   "id": "1234567890",
   "sequenceStoreId": "1234567890",
   "status": "SUBMITTED"
}
```

For more information, see [Oomics Storage](#) in the *Amazon Omics Developer Guide*.

- For API details, see [StartReadSetExportJob](#) in *AWS CLI Command Reference*.

### start-read-set-import-job

The following code example shows how to use `start-read-set-import-job`.

**AWS CLI**

**To import a read set**

The following `start-read-set-import-job` example imports a read set.

```bash
aws omics start-read-set-import-job \
   --sequence-store-id 1234567890 \
   --role-arn arn:aws:iam::123456789012:role/omics-service-role-serviceRole-W801XMPL7QZ \
   --sources file://readset-sources.json
```

`readset-sources.json` is a JSON document with the following content.

```json
[
]
```
The following code example shows how to use `start-reference-import-job`.

**AWS CLI**

**To import a reference genome**

The following `start-reference-import-job` example imports a reference genome from Amazon S3.

```
aws omics start-reference-import-job \\
```
The following code example shows how to use `start-run`.

**AWS CLI**

**To run a workflow**

The following `start-run` example runs a workflow with ID 1234567.

```bash
aws omics start-run \
  --workflow-id 1234567 \
  --role-arn arn:aws:iam::123456789012:role/omics-service-role-serviceRole-W8O1XMPL7QZ \
  --name 'cram-to-bam' \
  --output-uri s3://omics-artifacts-01d6xmpl4e72dd32/workflow-output/ \
  --run-group-id 1234567 \
  --priority 1 \
  --storage-capacity 10 \
  --log-level ALL \
  --parameters file://workflow-inputs.json
```
workflow-inputs.json is a JSON document with the following content.

```json
{
    "sample_name": "NA12878",
    "input_cram": "s3://omics-artifacts-01d6xmpl4e72dd32/NA12878.cram",
    "ref_dict": "s3://omics-artifacts-01d6xmpl4e72dd32/
Homo_sapiens_assembly38.dict",
    "ref_fasta": "s3://omics-artifacts-01d6xmpl4e72dd32/
Homo_sapiens_assembly38.fasta",
    "ref_fasta_index": "omics-artifacts-01d6xmpl4e72dd32/
Homo_sapiens_assembly38.fasta.fai"
}
```

Output:

```json
{
    "id": "1234567",
    "status": "PENDING",
    "tags": {}
}
```

For more information, see Omics Workflows in the Amazon Omics Developer Guide.

**To load source files from Amazon Omics**

You can also load source files from Amazon Omics storage, by using service-specific URIs. The following example workflow-inputs.json file uses Amazon Omics URIs for read set and reference genome sources.

```json
{
    "sample_name": "NA12878",
    "input_cram": "omics://123456789012.storage.us-west-2.amazonaws.com/1234567890/readSet/1234567890/source1",
    "ref_dict": "s3://omics-artifacts-01d6xmpl4e72dd32/
Homo_sapiens_assembly38.dict",
    "ref_fasta": "omics://123456789012.storage.us-west-2.amazonaws.com/1234567890/reference/1234567890",
    "ref_fasta_index": "omics://123456789012.storage.us-west-2.amazonaws.com/1234567890/reference/1234567890/index"
}
For more information, see Omics Workflows in the Amazon Omics Developer Guide.

- For API details, see StartRun in AWS CLI Command Reference.

### start-variant-import-job

The following code example shows how to use start-variant-import-job.

#### AWS CLI

**To import a variant file**

The following start-variant-import-job example imports a VCF format variant file.

```bash
aws omics start-variant-import-job \
  --destination-name my_var_store \
  --no-run-left-normalization \
  --role-arn arn:aws:iam::123456789012:role/omics-service-role-serviceRole-W8O1XMPL7QZ \
  --items source=s3://omics-artifacts-01d6xmpl4e72dd32/
  Homo_sapiens_assembly38.known_indels.vcf.gz
```

**Output:**

```
{
   "jobId": "edd7b8ce-xmpl-47e2-bc99-258cac95a508"
}
```

For more information, see Omics Analytics in the Amazon Omics Developer Guide.

- For API details, see StartVariantImportJob in AWS CLI Command Reference.

### tag-resource

The following code example shows how to use tag-resource.

#### AWS CLI

**To tag a resource**

The following tag-resource example adds a department tag to a workflow with id 1234567.
aws omics tag-resource
   --resource-arn arn:aws:omics:us-west-2:123456789012:workflow/1234567 \
   --tags department=analytics

For more information, see Tagging resources in Amazon Omics in the Amazon Omics Developer Guide.

• For API details, see TagResource in AWS CLI Command Reference.

untag-resource

The following code example shows how to use untag-resource.

AWS CLI

To remove a tag from a resource

The following untag-resource example removes the department tag from a workflow.

aws omics untag-resource \  
   --resource-arn arn:aws:omics:us-west-2:123456789012:workflow/1234567 \  
   --tag-keys department

For more information, see Omics Storage in the Amazon Omics Developer Guide.

• For API details, see UntagResource in AWS CLI Command Reference.

update-annotation-store

The following code example shows how to use update-annotation-store.

AWS CLI

To update an annotation store

The following update-annotation-store example updates the description of an annotation store named my_vcf_store.

aws omics update-annotation-store \  
   --name my_vcf_store \
--description "VCF annotation store"

Output:

```json
{
  "creationTime": "2022-12-05T18:00:56.101860Z",
  "description": "VCF annotation store",
  "id": "bd6axmpl2444",
  "name": "my_vcf_store",
  "reference": {
  },
  "status": "ACTIVE",
  "storeFormat": "VCF",
  "updateTime": "2022-12-05T18:13:16.100051Z"
}
```

For more information, see [Omics Analytics](https://docs.aws.amazon.com/omics//latest/userguide/index.html) in the *Amazon Omics Developer Guide*.

- For API details, see [UpdateAnnotationStore](https://docs.aws.amazon.com/cli/latest/reference/omics/update-annotation-store.html) in *AWS CLI Command Reference*.

### update-run-group

The following code example shows how to use `update-run-group`.

**AWS CLI**

**To update a run group**

The following `update-run-group` example updates the settings of a run group with id 1234567.

```
aws omics update-run-group \
  --id 1234567 \
  --max-cpus 10
```

Output:

```json
{
  "creationTime": "2022-12-01T00:58:42.915219Z",
  "name": "my_run_group",
  "status": "ACTIVE",
  "updateTime": "2022-12-01T00:58:42.915219Z"
}
```
The following code example shows how to use `update-variant-store`.

**AWS CLI**

**To update a variant store**

The following `update-variant-store` example updates the description of a variant store named `my_var_store`.

```bash
aws omics update-variant-store \
   --name my_var_store \
   --description "variant store"
```

**Output:**

```json
{
   "creationTime": "2022-11-23T22:09:07.534499Z",
   "description": "variant store",
   "id": "02dexmplcfdd",
   "name": "my_var_store",
   "reference": {
   },
   "status": "ACTIVE",
   "updateTime": "2022-12-05T18:23:37.686402Z"
}
```

For more information, see [Omics Workflows](#) in the *Amazon Omics Developer Guide*.

- For API details, see [UpdateRunGroup](#) in *AWS CLI Command Reference*.

For more information, see [Omics Analytics](#) in the *Amazon Omics Developer Guide*.
update-workflow

The following code example shows how to use update-workflow.

**AWS CLI**

**To update a workflow**

The following update-workflow example updates the description of a workflow with ID 1234567.

```bash
aws omics update-workflow \
  --id 1234567 \
  --description "copy workflow"
```

For more information, see Omics Storage in the Amazon Omics Developer Guide.

- For API details, see UpdateWorkflow in AWS CLI Command Reference.

upload-read-set-part

The following code example shows how to use upload-read-set-part.

**AWS CLI**

**To upload a read set part.**

The following upload-read-set-part example uploads a specified part of a read set.

```bash
aws omics upload-read-set-part \
  --sequence-store-id 0123456789 \
  --upload-id 1122334455 \
  --part-source SOURCE1 \
  --part-number 1 \
  --payload /path/to/file/read_1_part_1.fastq.gz
```

Output:

```
{
```
For more information, see Direct upload to a sequence store in the AWS HealthOmics User Guide.

- For API details, see UploadReadSetPart in AWS CLI Command Reference.

IAM examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with IAM.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics

- Actions

Actions

Add a user to a group

The following code example shows how to add a user to an IAM group.

AWS CLI

**To add a user to an IAM group**

The following add-user-to-group command adds an IAM user named Bob to the IAM group named Admins.

```bash
aws iam add-user-to-group
```
This command produces no output.

For more information, see Adding and removing users in an IAM user group in the AWS IAM User Guide.

- For API details, see AddUserToGroup in AWS CLI Command Reference.

## Attach a policy to a role

The following code example shows how to attach an IAM policy to a role.

**AWS CLI**

**To attach a managed policy to an IAM role**

The following `attach-role-policy` command attaches the AWS managed policy named ReadOnlyAccess to the IAM role named ReadOnlyRole.

```
aws iam attach-role-policy \
    --policy-arn arn:aws:iam::aws:policy/ReadOnlyAccess \
    --role-name ReadOnlyRole
```

This command produces no output.

For more information, see Managed policies and inline policies in the AWS IAM User Guide.

- For API details, see AttachRolePolicy in AWS CLI Command Reference.

## Attach a policy to a user

The following code example shows how to attach an IAM policy to a user.

⚠️ **Warning**

To avoid security risks, don't use IAM users for authentication when developing purpose-built software or working with real data. Instead, use federation with an identity provider such as AWS IAM Identity Center.
AWS CLI

To attach a managed policy to an IAM user

The following `attach-user-policy` command attaches the AWS managed policy named AdministratorAccess to the IAM user named Alice.

```
aws iam attach-user-policy \
  --policy-arn arn:aws:iam::aws:policy/AdministratorAccess \
  --user-name Alice
```

This command produces no output.

For more information, see Managed policies and inline policies in the AWS IAM User Guide.

- For API details, see AttachUserPolicy in AWS CLI Command Reference.

Attach an inline policy to a role

The following code example shows how to attach an inline policy to an IAM role.

AWS CLI

To attach a permissions policy to an IAM role

The following `put-role-policy` command adds a permissions policy to the role named Test-Role.

```
aws iam put-role-policy \
  --role-name Test-Role \
  --policy-name ExamplePolicy \
  --policy-document file://AdminPolicy.json
```

This command produces no output.

The policy is defined as a JSON document in the `AdminPolicy.json` file. (The file name and extension do not have significance.)

To attach a trust policy to a role, use the `update-assume-role-policy` command.

For more information, see Modifying a role in the AWS IAM User Guide.

- For API details, see PutRolePolicy in AWS CLI Command Reference.
Create a SAML provider

The following code example shows how to create an AWS Identity and Access Management (IAM) SAML provider.

AWS CLI

To create a SAML provider

This example creates a new SAML provider in IAM named MySAMLProvider. It is described by the SAML metadata document found in the file SAMLMetaData.xml.

```
aws iam create-saml-provider \
   --saml-metadata-document file://SAMLMetaData.xml \
   --name MySAMLProvider
```

Output:

```
{
   "SAMLProviderArn": "arn:aws:iam::123456789012:saml-provider/MySAMLProvider"
}
```

For more information, see Creating IAM SAML identity providers in the AWS IAM User Guide.  
- For API details, see CreateSAMLProvider in AWS CLI Command Reference.

Create a group

The following code example shows how to create an IAM group.

AWS CLI

To create an IAM group

The following create-group command creates an IAM group named Admins.

```
aws iam create-group \
   --group-name Admins
```

Output:

```
{
```

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For more information, see Creating IAM user groups in the AWS IAM User Guide.

- For API details, see CreateGroup in AWS CLI Command Reference.

Create a policy

The following code example shows how to create an IAM policy.

AWS CLI

**Example 1: To create a customer managed policy**

The following command creates a customer managed policy named my-policy.

```bash
aws iam create-policy \\
   --policy-name my-policy \\
   --policy-document file://policy
```

The file policy is a JSON document in the current folder that grants read only access to the shared folder in an Amazon S3 bucket named my-bucket.

```json
{
   "Version": "2012-10-17",
   "Statement": [
      {
         "Effect": "Allow",
         "Action": [
            "s3:Get*",
            "s3:List*"
         ],
         "Resource": [
            "arn:aws:s3:::my-bucket/shared/*"
         ]
      }
   ]
}
```
Example 2: To create a customer managed policy with a description

The following command creates a customer managed policy named my-policy with an immutable description:

```
aws iam create-policy \
    --policy-name my-policy \
    --policy-document file://policy.json \
    --description "This policy grants access to all Put, Get, and List actions for my-bucket"
```

The file policy.json is a JSON document in the current folder that grants access to all Put, List, and Get actions for an Amazon S3 bucket named my-bucket.

```json
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Effect": "Allow",
            "Action": "s3:*",
            "Condition": {
                "StringEquals": {
                    "s3:Bucket": "my-bucket"
                }
            }
        }
    ]
}
```
Output:

```
{
  "Policy": {
    "PolicyName": "my-policy",
    "PolicyId": "ANPAWGSUGIDPEXAMPLE",
    "Arn": "arn:aws:iam::123456789012:policy/my-policy",
    "Path": "/",
    "DefaultVersionId": "v1",
    "AttachmentCount": 0,
    "PermissionsBoundaryUsageCount": 0,
    "IsAttachable": true,
    "CreateDate": "2023-05-24T22:38:47+00:00",
    "UpdateDate": "2023-05-24T22:38:47+00:00"
  }
}
```


**Example 3: To Create a customer managed policy with tags**

The following command creates a customer managed policy named `my-policy` with tags. This example uses the `--tags` parameter flag with the following JSON-formatted tags: '{"Key": "Department", "Value": "Accounting"}' '{"Key": "Location", "Value": "Seattle"}'. Alternatively, the `--tags` flag can be used with tags in the shorthand format: 'Key=Department,Value=Accounting Key=Location,Value=Seattle'.

```
aws iam create-policy \
  --policy-name my-policy \
```

The file `policy.json` is a JSON document in the current folder that grants access to all Put, List, and Get actions for an Amazon S3 bucket named `my-bucket`.

```json
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Effect": "Allow",
            "Action": [
                "s3:ListBucket*",
                "s3:PutBucket*",
                "s3:GetBucket*"
            ],
            "Resource": [
                "arn:aws:s3:::my-bucket"
            ]
        }
    ]
}
```

Output:

```json
{
    "Policy": {
        "PolicyName": "my-policy",
        "PolicyId": "ANPAWGSUGIDPEXAMPLE",
        "Arn": "arn:aws:iam::12345678012:policy/my-policy",
        "Path": "/",
        "DefaultVersionId": "v1",
        "AttachmentCount": 0,
        "PermissionsBoundaryUsageCount": 0,
        "IsAttachable": true,
        "CreateDate": "2023-05-24T23:16:39+00:00",
        "UpdateDate": "2023-05-24T23:16:39+00:00",
        "Tags": [
            {
                "Key": "Department",
                "Value": "Accounting"
            }
        ]
    }
}
```
"Key": "Location",
"Value": "Seattle"
[
]
}

For more information on Tagging policies, see Tagging customer managed policies in the AWS IAM User Guide.

- For API details, see CreatePolicy in AWS CLI Command Reference.

Create a policy version

The following code example shows how to create an IAM policy version.

AWS CLI

To create a new version of a managed policy

This example creates a new v2 version of the IAM policy whose ARN is arn:aws:iam::123456789012:policy/MyPolicy and makes it the default version.

```
aws iam create-policy-version
   --policy-arn arn:aws:iam::123456789012:policy/MyPolicy
   --set-as-default
```

Output:

```
{
   "PolicyVersion": {
      "CreateDate": "2015-06-16T18:56:03.721Z",
      "VersionId": "v2",
      "IsDefaultVersion": true
   }
}
```

For more information, see Versioning IAM policies in the AWS IAM User Guide.

- For API details, see CreatePolicyVersion in AWS CLI Command Reference.
Create a role

The following code example shows how to create an IAM role.

AWS CLI

Example 1: To create an IAM role

The following `create-role` command creates a role named Test-Role and attaches a trust policy to it.

```bash
aws iam create-role
   --role-name Test-Role
   --assume-role-policy-document file:///Test-Role-Trust-Policy.json
```

Output:

```json
{
   "Role": {
      "AssumeRolePolicyDocument": 
        "<URL-encoded-JSON>",
      "RoleId": "AKIAIOSFODNN7EXAMPLE",
      "CreateDate": "2013-06-07T20:43:32.821Z",
      "RoleName": "Test-Role",
      "Path": "/",
      " Arn": 
        "arn:aws:iam::123456789012:role/Test-Role"
   }
}
```

The trust policy is defined as a JSON document in the `Test-Role-Trust-Policy.json` file. (The file name and extension do not have significance.) The trust policy must specify a principal.

To attach a permissions policy to a role, use the `put-role-policy` command.

For more information, see [Creating IAM roles](#) in the [AWS IAM User Guide](#).

Example 2: To create an IAM role with specified maximum session duration

The following `create-role` command creates a role named Test-Role and sets a maximum session duration of 7200 seconds (2 hours).

```bash
aws iam create-role
   --role-name Test-Role
   --max-permission-session-duration-seconds 7200
```
--role-name Test-Role \
--assume-role-policy-document file://Test-Role-Trust-Policy.json \
--max-session-duration 7200

Output:

```
{
    "Role": {
        "Path": "/",
        "RoleName": "Test-Role",
        "RoleId": "AKIAIOSFODNN7EXAMPLE",
        "Arn": "arn:aws:iam::12345678012:role/Test-Role",
        "CreateDate": "2023-05-24T23:50:25+00:00",
        "AssumeRolePolicyDocument": {
            "Version": "2012-10-17",
            "Statement": [
                {
                    "Sid": "Statement1",
                    "Effect": "Allow",
                    "Principal": {
                        "AWS": "arn:aws:iam::12345678012:root"
                    },
                    "Action": "sts:AssumeRole"
                }
            ]
        }
    }
}
```

For more information, see [Modifying a role maximum session duration (AWS API)](https://docs.aws.amazon.com/IAM/latest/UserGuide/id_roles_permission-policy.html) in the AWS IAM User Guide.

**Example 3: To create an IAM Role with tags**

The following command creates an IAM Role Test-Role with tags. This example uses the `--tags` parameter flag with the following JSON-formatted tags: '{"Key": "Department", "Value": "Accounting"}' '{"Key": "Location", "Value": "Seattle"}'. Alternatively, the `--tags` flag can be used with tags in the shorthand format: 'Key=Department,Value=Accounting Key=Location,Value=Seattle'.

```
aws iam create-role \
```
```
--role-name Test-Role \
--assume-role-policy-document file://Test-Role-Trust-Policy.json \
--tags '{"Key": "Department", "Value": "Accounting"}' '{"Key": "Location", "Value": "Seattle"}';
```

Output:

```json
{
   "Role": {
      "Path": "/",
      "RoleName": "Test-Role",
      "RoleId": "AKIAIOSFODNN7EXAMPLE",
      "Arn": "arn:aws:iam::123456789012:role/Test-Role",
      "CreateDate": "2023-05-25T23:29:41+00:00",
      "AssumeRolePolicyDocument": {
         "Version": "2012-10-17",
         "Statement": [
            {
               "Sid": "Statement1",
               "Effect": "Allow",
               "Principal": {
                  "AWS": "arn:aws:iam::123456789012:root"
               },
               "Action": "sts:AssumeRole"
            }
         ],
         "Tags": [
            {
               "Key": "Department",
               "Value": "Accounting"
            },
            {
               "Key": "Location",
               "Value": "Seattle"
            }
         ]
      }
   }
}
```

For more information, see [Tagging IAM roles](#) in the AWS IAM User Guide.

- For API details, see [CreateRole](#) in AWS CLI Command Reference.
Create a service-linked role

The following code example shows how to create an IAM service-linked role.

AWS CLI

To create a service-linked role

The following `create-service-linked-role` example creates a service-linked role for the specified AWS service and attaches the specified description.

```
aws iam create-service-linked-role \
    --aws-service-name lex.amazonaws.com \
    --description "My service-linked role to support Lex"
```

Output:

```json
{
    "Role": {
        "Path": "/aws-service-role/lex.amazonaws.com/",
        "RoleName": "AWSServiceRoleForLexBots",
        "RoleId": "AROA1234567890EXAMPLE",
        "Arn": "arn:aws:iam::1234567890:role/aws-service-role/lex.amazonaws.com/\nAWSServiceRoleForLexBots",
        "CreateDate": "2019-04-17T20:34:14+00:00",
        "AssumeRolePolicyDocument": {
            "Version": "2012-10-17",
            "Statement": [
                {
                    "Action": [
                        "sts:AssumeRole"
                    ],
                    "Effect": "Allow",
                    "Principal": {
                        "Service": [
                            "lex.amazonaws.com"
                        ]
                    }
                }
            ]
        }
    }
}
```
For more information, see Using service-linked roles in the AWS IAM User Guide.

- For API details, see CreateServiceLinkedRole in AWS CLI Command Reference.

Create a user

The following code example shows how to create an IAM user.

⚠️ Warning

To avoid security risks, don’t use IAM users for authentication when developing purpose-built software or working with real data. Instead, use federation with an identity provider such as AWS IAM Identity Center.

AWS CLI

Example 1: To create an IAM user

The following create-user command creates an IAM user named Bob in the current account.

```bash
aws iam create-user 
  --user-name Bob
```

Output:

```
{
  "User": {
    "UserName": "Bob",
    "Path": "/",
    "CreateDate": "2023-06-08T03:20:41.270Z",
    "UserId": "AIDAIOSFODNN7EXAMPLE",
    "Arn": "arn:aws:iam::123456789012:user/Bob"
  }
}
```

For more information, see Creating an IAM user in your AWS account in the AWS IAM User Guide.

Example 2: To create an IAM user at a specified path

The following create-user command creates an IAM user named Bob at the specified path.
aws iam create-user \
   --user-name Bob \
   --path /division_abc/subdivision_xyz/

Output:

{
   "User": {
      "Path": "/division_abc/subdivision_xyz/",
      "UserName": "Bob",
      "UserId": "AIDAIOSFODNN7EXAMPLE",
      "Arn": "arn:aws:iam::12345678012:user/division_abc/subdivision_xyz/Bob",
      "CreateDate": "2023-05-24T18:20:17+00:00"
   }
}

For more information, see IAM identifiers in the AWS IAM User Guide.

**Example 3: To Create an IAM User with tags**

The following create-user command creates an IAM user named Bob with tags. This example uses the --tags parameter flag with the following JSON-formatted tags: '
{"Key": "Department", "Value": "Accounting"}' '
{"Key": "Location", "Value": "Seattle"}'. Alternatively, the --tags flag can be used with tags in the shorthand format: 'Key=Department,Value=Accounting Key=Location,Value=Seattle'.

aws iam create-user \
   --user-name Bob \
   --tags '{"Key": "Department", "Value": "Accounting"}' '{"Key": "Location", "Value": "Seattle"}'

Output:

{
   "User": {
      "Path": "/",
      "UserName": "Bob",
      "UserId": "AIDAIOSFODNN7EXAMPLE",
      "Arn": "arn:aws:iam::12345678012:user/Bob",
      "CreateDate": "2023-05-25T17:14:21+00:00"
   }
}
For more information, see Tagging IAM users in the AWS IAM User Guide.

Example 3: To create an IAM user with a set permissions boundary

The following create-user command creates an IAM user named Bob with the permissions boundary of AmazonS3FullAccess.

```
aws iam create-user \
   --user-name Bob \
   --permissions-boundary arn:aws:iam::aws:policy/AmazonS3FullAccess
```

Output:

```
{
   "User": {
      "Path": "/",
      "UserName": "Bob",
      "UserId": "AIDAIOSF0DN7EXAMPLE",
      "Arn": "arn:aws:iam::12345678012:user/Bob",
      "CreateDate": "2023-05-24T17:50:53+00:00",
      "PermissionsBoundary": {
         "PermissionsBoundaryType": "Policy",
         "PermissionsBoundaryArn": "arn:aws:iam::aws:policy/AmazonS3FullAccess"
      }
   }
}
```

For more information, see Permissions boundaries for IAM entities in the AWS IAM User Guide.
Create an access key

The following code example shows how to create an IAM access key.

⚠️ Warning

To avoid security risks, don't use IAM users for authentication when developing purpose-built software or working with real data. Instead, use federation with an identity provider such as AWS IAM Identity Center.

AWS CLI

To create an access key for an IAM user

The following `create-access-key` command creates an access key (access key ID and secret access key) for the IAM user named Bob.

```bash
aws iam create-access-key \
   --user-name Bob
```

Output:

```json
{
   "AccessKey": {
      "UserName": "Bob",
      "Status": "Active",
      "CreateDate": "2015-03-09T18:39:23.411Z",
      "SecretAccessKey": "wJalrXUtFEMI/K7MDENG/bPxRfiCYzEXAMPLEKEY",
      "AccessKeyId": "AKIAIOSFODNN7EXAMPLE"
   }
}
```

Store the secret access key in a secure location. If it is lost, it cannot be recovered, and you must create a new access key.

For more information, see Managing access keys for IAM users in the AWS IAM User Guide.

- For API details, see CreateAccessKey in AWS CLI Command Reference.
Create an alias for an account

The following code example shows how to create an alias for an IAM account.

AWS CLI

To create an account alias

The following create-account-alias command creates the alias examplecorp for your AWS account.

```
aws iam create-account-alias \
    --account-alias examplecorp
```

This command produces no output.

For more information, see Your AWS account ID and its alias in the AWS IAM User Guide.
- For API details, see CreateAccountAlias in AWS CLI Command Reference.

Create an inline policy for a group

The following code example shows how to create an inline IAM policy for a group.

AWS CLI

To add a policy to a group

The following put-group-policy command adds a policy to the IAM group named Admins.

```
aws iam put-group-policy \
    --group-name Admins \
    --policy-document file://AdminPolicy.json \
    --policy-name AdminRoot
```

This command produces no output.

The policy is defined as a JSON document in the AdminPolicy.json file. (The file name and extension do not have significance.)

For more information, see Managing IAM policies in the AWS IAM User Guide.
- For API details, see PutGroupPolicy in AWS CLI Command Reference.
Create an inline policy for a user

The following code example shows how to create an inline IAM policy for a user.

⚠️ Warning

To avoid security risks, don't use IAM users for authentication when developing purpose-built software or working with real data. Instead, use federation with an identity provider such as AWS IAM Identity Center.

AWS CLI

To attach a policy to an IAM user

The following `put-user-policy` command attaches a policy to the IAM user named Bob.

```bash
aws iam put-user-policy
  --user-name Bob
  --policy-name ExamplePolicy
  --policy-document file://AdminPolicy.json
```

This command produces no output.

The policy is defined as a JSON document in the `AdminPolicy.json` file. (The file name and extension do not have significance.)

For more information, see Adding and removing IAM identity permissions in the AWS IAM User Guide.

- For API details, see `PutUserPolicy` in AWS CLI Command Reference.

Create an instance profile

The following code example shows how to create an IAM instance profile.

AWS CLI

To create an instance profile

The following `create-instance-profile` command creates an instance profile named Webserver.
aws iam create-instance-profile \
   --instance-profile-name Webserver

Output:

{
   "InstanceProfile": {
      "InstanceProfileId": "AIPAJMBYC7DLSPEXAMPLE",
      "Roles": [],
      "CreateDate": "2015-03-09T20:33:19.626Z",
      "InstanceProfileName": "Webserver",
      "Path": "/",
      "Arn": "arn:aws:iam::123456789012:instance-profile/Webserver"
   }
}

To add a role to an instance profile, use the add-role-to-instance-profile command.

For more information, see Using an IAM role to grant permissions to applications running on Amazon EC2 instances in the AWS IAM User Guide.

- For API details, see CreateInstanceProfile in AWS CLI Command Reference.

Delete SAML provider

The following code example shows how to delete an AWS Identity and Access Management (IAM) SAML provider.

AWS CLI

To delete a SAML provider

This example deletes the IAM SAML 2.0 provider whose ARN is arn:aws:iam::123456789012:saml-provider/SAMLADFSProvider.

aws iam delete-saml-provider \
   --saml-provider-arn arn:aws:iam::123456789012:saml-provider/SAMLADFSProvider

This command produces no output.

For more information, see Creating IAM SAML identity providers in the AWS IAM User Guide.
Delete a group

The following code example shows how to delete an IAM group.

**AWS CLI**

**To delete an IAM group**

The following `delete-group` command deletes an IAM group named `MyTestGroup`.

```bash
aws iam delete-group \\
   --group-name MyTestGroup
```

This command produces no output.

For more information, see [Deleting an IAM user group](https://docs.aws.amazon.com/IAM/latest/UserGuide/id_users_delete_unauthorized.html) in the AWS IAM User Guide.

- For API details, see [DeleteGroup](https://docs.aws.amazon.com/cli/latest/reference/iam/delete-group.html) in AWS CLI Command Reference.

Delete a group policy

The following code example shows how to delete an IAM group policy.

**AWS CLI**

**To delete a policy from an IAM group**

The following `delete-group-policy` command deletes the policy named `ExamplePolicy` from the group named `Admins`.

```bash
aws iam delete-group-policy \\
   --group-name Admins \\
   --policy-name ExamplePolicy
```

This command produces no output.

To see the policies attached to a group, use the `list-group-policies` command.

For more information, see [Managing IAM policies](https://docs.aws.amazon.com/IAM/latest/UserGuide/id_users_delete_unauthorized.html) in the AWS IAM User Guide.

- For API details, see [DeleteGroupPolicy](https://docs.aws.amazon.com/cli/latest/reference/iam/delete-group-policy.html) in AWS CLI Command Reference.
Delete a policy

The following code example shows how to delete an IAM policy.

**AWS CLI**

**To delete an IAM policy**

This example deletes the policy whose ARN is `arn:aws:iam::123456789012:policy/MySamplePolicy`.

```
aws iam delete-policy \
    --policy-arn arn:aws:iam::123456789012:policy/MySamplePolicy
```

This command produces no output.


- For API details, see [DeletePolicy](https://docs.aws.amazon.com/cli/latest/reference/iam/delete-policy.html) in *AWS CLI Command Reference*.

Delete a role

The following code example shows how to delete an IAM role.

**AWS CLI**

**To delete an IAM role**

The following `delete-role` command removes the role named `Test-Role`.

```
aws iam delete-role \
    --role-name Test-Role
```

This command produces no output.

Before you can delete a role, you must remove the role from any instance profile (`remove-role-from-instance-profile`), detach any managed policies (`detach-role-policy`) and delete any inline policies that are attached to the role (`delete-role-policy`).


- For API details, see [DeleteRole](https://docs.aws.amazon.com/cli/latest/reference/iam/delete-role.html) in *AWS CLI Command Reference*. 
Delete a role policy

The following code example shows how to delete an IAM role policy.

AWS CLI

To remove a policy from an IAM role

The following delete-role-policy command removes the policy named ExamplePolicy from the role named Test-Role.

```
aws iam delete-role-policy \
   --role-name Test-Role \
   --policy-name ExamplePolicy
```

This command produces no output.

For more information, see Modifying a role in the AWS IAM User Guide.
- For API details, see DeleteRolePolicy in AWS CLI Command Reference.

Delete a server certificate

The following code example shows how to delete an IAM server certificate.

AWS CLI

To delete a server certificate from your AWS account

The following delete-server-certificate command removes the specified server certificate from your AWS account.

```
aws iam delete-server-certificate \
   --server-certificate-name myUpdatedServerCertificate
```

This command produces no output.

To list the server certificates available in your AWS account, use the list-server-certificate command.

For more information, see Managing server certificates in IAM in the AWS IAM User Guide.
- For API details, see DeleteServerCertificate in AWS CLI Command Reference.
Delete a service-linked role

The following code example shows how to delete an IAM service-linked role.

AWS CLI

To delete a service-linked role

The following delete-service-linked-role example deletes the specified service-linked role that you no longer need. The deletion happens asynchronously. You can check the status of the deletion and confirm when it is done by using the get-service-linked-role-deletion-status command.

```bash
aws iam delete-service-linked-role \
   --role-name AWSServiceRoleForLexBots
```

Output:

```json
{
   "DeletionTaskId": "task/aws-service-role/lex.amazonaws.com/AWSServiceRoleForLexBots/1a2b3c4d-1234-abcd-7890-abcdeEXAMPLE"
}
```

For more information, see Using service-linked roles in the AWS IAM User Guide.

- For API details, see DeleteServiceLinkedRole in AWS CLI Command Reference.

Delete a user

The following code example shows how to delete an IAM user.

⚠️ Warning

To avoid security risks, don't use IAM users for authentication when developing purpose-built software or working with real data. Instead, use federation with an identity provider such as AWS IAM Identity Center.

AWS CLI

To delete an IAM user
The following `delete-user` command removes the IAM user named Bob from the current account.

```bash
aws iam delete-user \
  --user-name Bob
```

This command produces no output.

For more information, see [Deleting an IAM user](https://docs.aws.amazon.com/IAM/latest/UserGuide/id_users_manage.html) in the *AWS IAM User Guide*.

- For API details, see `DeleteUser` in *AWS CLI Command Reference*.

---

**Delete an access key**

The following code example shows how to delete an IAM access key.

⚠️ **Warning**

To avoid security risks, don't use IAM users for authentication when developing purpose-built software or working with real data. Instead, use federation with an identity provider such as [AWS IAM Identity Center](https://www.amazon.com/about-aws/center).  

**AWS CLI**

**To delete an access key for an IAM user**

The following `delete-access-key` command deletes the specified access key (access key ID and secret access key) for the IAM user named Bob.

```bash
aws iam delete-access-key \
  --access-key-id AKIDPMS9RO4H3FEXAMPLE \
  --user-name Bob
```

This command produces no output.

To list the access keys defined for an IAM user, use the `list-access-keys` command.

For more information, see [Managing access keys for IAM users](https://docs.aws.amazon.com/IAM/latest/UserGuide/id_users_accesskeys.html) in the *AWS IAM User Guide*.

- For API details, see `DeleteAccessKey` in *AWS CLI Command Reference*.  

---

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Delete an account alias

The following code example shows how to delete an IAM account alias.

**AWS CLI**

**To delete an account alias**

The following `delete-account-alias` command removes the alias `mycompany` for the current account.

```
aws iam delete-account-alias \
   --account-alias mycompany
```

This command produces no output.

For more information, see [Your AWS account ID and its alias](https://aws.amazon.com/documentation/iam/user-guide/what-is-user-id/) in the *AWS IAM User Guide*.

- For API details, see [DeleteAccountAlias](https://docs.aws.amazon.com/cli/latest/reference/iam/delete-account-alias.html) in *AWS CLI Command Reference*.

Delete an inline policy from a user

The following code example shows how to delete an inline IAM policy from a user.

⚠️ **Warning**

To avoid security risks, don't use IAM users for authentication when developing purpose-built software or working with real data. Instead, use federation with an identity provider such as [AWS IAM Identity Center](https).

**AWS CLI**

**To remove a policy from an IAM user**

The following `delete-user-policy` command removes the specified policy from the IAM user named Bob.

```
aws iam delete-user-policy \
   --user-name Bob \
   --policy-name ExamplePolicy
```
This command produces no output.

To get a list of policies for an IAM user, use the list-user-policies command.

For more information, see Creating an IAM user in your AWS account in the AWS IAM User Guide.

For API details, see CreateUserPolicy in AWS CLI Command Reference.

**Delete an instance profile**

The following code example shows how to delete an IAM instance profile.

**AWS CLI**

**To delete an instance profile**

The following delete-instance-profile command deletes the instance profile named ExampleInstanceProfile.

```bash
aws iam delete-instance-profile
    --instance-profile-name ExampleInstanceProfile
```

This command produces no output.

For more information, see Using instance profiles in the AWS IAM User Guide.

For API details, see DeleteInstanceProfile in AWS CLI Command Reference.

**Detach a policy from a role**

The following code example shows how to detach an IAM policy from a role.

**AWS CLI**

**To detach a policy from a role**

This example removes the managed policy with the ARN

```bash
aws iam detach-role-policy
    --role-name FedTesterRole
    --policy-arn arn:aws:iam::123456789012:policy/FederatedTesterAccessPolicy
```
This command produces no output.

For more information, see Modifying a role in the AWS IAM User Guide.

- For API details, seeDetachRolePolicy in AWS CLI Command Reference.

**Detach a policy from a user**

The following code example shows how to detach an IAM policy from a user.

⚠️ **Warning**

To avoid security risks, don't use IAM users for authentication when developing purpose-built software or working with real data. Instead, use federation with an identity provider such as AWS IAM Identity Center.

**AWS CLI**

**To detach a policy from a user**

This example removes the managed policy with the ARN

```bash
aws iam detach-user-policy \
    --user-name Bob \
    --policy-arn arn:aws:iam::123456789012:policy/TesterPolicy
```

This command produces no output.

For more information, see Changing permissions for an IAM user in the AWS IAM User Guide.

- For API details, see DetachUserPolicy in AWS CLI Command Reference.

**Generate a credential report**

The following code example shows how to generate a credential report from IAM for the current account. After the report is generated, get it by using the GetCredentialReport action.

**AWS CLI**

**To generate a credential report**
The following example attempts to generate a credential report for the AWS account.

```bash
aws iam generate-credential-report
```

Output:

```json
{
  "State": "STARTED",
  "Description": "No report exists. Starting a new report generation task"
}
```

For more information, see [Getting credential reports for your AWS account](https://docs.aws.amazon.com/iam/latest/userguide/credential-reports.html) in the *AWS IAM User Guide*.

- For API details, see `GenerateCredentialReport` in [AWS CLI Command Reference](https://docs.aws.amazon.com/cli/latest/reference/iam/generate-credential-report.html).

---

**Get a credential report**

The following code example shows how to get the most recently generated credential report from IAM.

**AWS CLI**

**To get a credential report**

This example opens the returned report and outputs it to the pipeline as an array of text lines.

```bash
aws iam get-credential-report
```

Output:

```json
{
  "GeneratedTime": "2015-06-17T19:11:50Z",
  "ReportFormat": "text/csv"
}
```

For more information, see [Getting credential reports for your AWS account](https://docs.aws.amazon.com/iam/latest/userguide/credential-reports.html) in the *AWS IAM User Guide*.

Get a detailed authorization report for your account

The following code example shows how to get a detailed IAM authorization report for your account.

**AWS CLI**

**To list an AWS accounts IAM users, groups, roles, and policies**

The following `get-account-authorization-details` command returns information about all IAM users, groups, roles, and policies in the AWS account.

```
aws iam get-account-authorization-details
```

Output:

```json
{
   "RoleDetailList": [
      {
         "AssumeRolePolicyDocument": {
            "Version": "2012-10-17",
            "Statement": [
               {
                  "Sid": "",
                  "Effect": "Allow",
                  "Principal": {
                     "Service": "ec2.amazonaws.com"
                  },
                  "Action": "sts:AssumeRole"
               }
            ]
         },
         "RoleId": "AROA1234567890EXAMPLE",
         "CreateDate": "2014-07-30T17:09:20Z",
         "InstanceProfileList": [
            {
               "InstanceProfileId": "AIPA1234567890EXAMPLE",
               "Roles": [
                  {
                     "AssumeRolePolicyDocument": {
                        "Version": "2012-10-17",
                        "Statement": [
                           
```
"Sid": "",
"Effect": "Allow",
"Principal": {
    "Service": "ec2.amazonaws.com"
},
"Action": "sts:AssumeRole"
}
],
"RoleId": "AROA1234567890EXAMPLE",
"CreateDate": "2014-07-30T17:09:20Z",
"RoleName": "EC2role",
"Path": "/",
"Arn": "arn:aws:iam::123456789012:role/EC2role"
},
"CreateDate": "2014-07-30T17:09:20Z",
"InstanceProfileName": "EC2role",
"Path": "/",
"Arn": "arn:aws:iam::123456789012:instance-profile/EC2role"
],
"RoleName": "EC2role",
"Path": "/",
"AttachedManagedPolicies": [
{
    "PolicyName": "AmazonS3FullAccess",
    "PolicyArn": "arn:aws:iam::aws:policy/AmazonS3FullAccess"
},
{
    "PolicyName": "AmazonDynamoDBFullAccess",
    "PolicyArn": "arn:aws:iam::aws:policy/AmazonDynamoDBFullAccess"
}
],
"RoleLastUsed": {
    "Region": "us-west-2",
    "LastUsedDate": "2019-11-13T17:30:00Z"
},
"RolePolicyList": [],
"Arn": "arn:aws:iam::123456789012:role/EC2role"
],
"GroupDetailList": [
{

"GroupId": "AIDA1234567890EXAMPLE",
"AttachedManagedPolicies": {
    "PolicyName": "AdministratorAccess",
    "PolicyArn": "arn:aws:iam::aws:policy/AdministratorAccess"
},
"GroupName": "Admins",
"Path": "/",
"Arn": "arn:aws:iam::123456789012:group/Admins",
"CreateDate": "2013-10-14T18:32:24Z",
"GroupPolicyList": []
},
{
    "GroupId": "AIDA1234567890EXAMPLE",
    "AttachedManagedPolicies": {
        "PolicyName": "PowerUserAccess",
        "PolicyArn": "arn:aws:iam::aws:policy/PowerUserAccess"
    },
    "GroupName": "Dev",
    "Path": "/",
    "Arn": "arn:aws:iam::123456789012:group/Dev",
    "CreateDate": "2013-10-14T18:33:55Z",
    "GroupPolicyList": []
},
{
    "GroupId": "AIDA1234567890EXAMPLE",
    "AttachedManagedPolicies": [],
    "GroupName": "Finance",
    "Path": "/",
    "Arn": "arn:aws:iam::123456789012:group/Finance",
    "CreateDate": "2013-10-14T18:57:48Z",
    "GroupPolicyList": [
        {
            "PolicyName": "policygen-201310141157",
            "PolicyDocument": {
                "Version": "2012-10-17",
                "Statement": [
                    {
                        "Action": "aws-portal:*",
                        "Sid": "Stmt1381777017000",
                        "Resource": "*",
                        "Effect": "Allow"
                    }
                ]
            }
        }
    ]
}
"UserDetailList": [
  {
    "UserName": "Alice",
    "GroupList": [
      "Admins"
    ],
    "CreateDate": "2013-10-14T18:32:24Z",
    "UserId": "AIDA1234567890EXAMPLE",
    "UserPolicyList": [],
    "Path": "/",
    "AttachedManagedPolicies": [],
    "Arn": "arn:aws:iam::123456789012:user/Alice"
  },
  {
    "UserName": "Bob",
    "GroupList": [
      "Admins"
    ],
    "CreateDate": "2013-10-14T18:32:25Z",
    "UserId": "AIDA1234567890EXAMPLE",
    "UserPolicyList": [
      {
        "PolicyName": "DenyBillingAndIAMPolicy",
        "PolicyDocument": {
          "Version": "2012-10-17",
          "Statement": {
            "Effect": "Deny",
            "Action": [
              "aws-portal:*",
              "iam:*
            ],
            "Resource": "*"
          }
        }
      }
    ],
    "Path": "/",
    "AttachedManagedPolicies": [],
    "Arn": "arn:aws:iam::123456789012:user/Bob"
  }
],
{
    "UserName": "Charlie",
    "GroupList": [
        "Dev"
    ],
    "CreateDate": "2013-10-14T18:33:56Z",
    "UserId": "AIDA1234567890EXAMPLE",
    "UserPolicyList": [],
    "Path": "/",
    "AttachedManagedPolicies": [],
    "Arn": "arn:aws:iam::123456789012:user/Charlie"
}
],
"Policies": [
{
    "PolicyName": "create-update-delete-set-managed-policies",
    "CreateDate": "2015-02-06T19:58:34Z",
    "AttachmentCount": 1,
    "IsAttachable": true,
    "PolicyId": "ANPA1234567890EXAMPLE",
    "DefaultVersionId": "v1",
    "PolicyVersionList": [
        {
            "CreateDate": "2015-02-06T19:58:34Z",
            "VersionId": "v1",
            "Document": {
                "Version": "2012-10-17",
                "Statement": {
                    "Effect": "Allow",
                    "Action": [
                        "iam:CreatePolicy",
                        "iam:CreatePolicyVersion",
                        "iam:DeletePolicy",
                        "iam:DeletePolicyVersion",
                        "iam:GetPolicy",
                        "iam:GetPolicyVersion",
                        "iam:ListPolicies",
                        "iam:ListPolicyVersions",
                        "iam:SetDefaultPolicyVersion"
                    ],
                    "Resource": "*"
                }
            },
            "IsDefaultVersion": true
        }
    ]
}
{  
  "Path": "/",
  "UpdateDate": "2015-02-06T19:58:34Z"
},
{  
  "PolicyName": "S3-read-only-specific-bucket",
  "CreateDate": "2015-01-21T21:39:41Z",
  "AttachmentCount": 1,
  "IsAttachable": true,
  "PolicyId": "ANPA1234567890EXAMPLE",
  "DefaultVersionId": "v1",
  "PolicyVersionList": [
    
    {  
      "CreateDate": "2015-01-21T21:39:41Z",
      "VersionId": "v1",
      "Document": {
        "Version": "2012-10-17",
        "Statement": [
          
          {  
            "Effect": "Allow",
            "Action": [
              "s3:Get*",
              "s3:List*"
            ],
            "Resource": [
              "arn:aws:s3:::example-bucket",
              "arn:aws:s3:::example-bucket/*"
            ]
          }
        ]
      },
      "IsDefaultVersion": true
    }
  ],
  "Path": "/",
  "Arn": "arn:aws:iam::123456789012:policy/S3-read-only-specific-bucket",
  "UpdateDate": "2015-01-21T23:39:41Z"
},
{  
  "PolicyName": "AmazonEC2FullAccess",
  "CreateDate": "2015-02-06T18:40:15Z",
  " Arn": "arn:aws:iam::123456789012:policy/AmazonEC2FullAccess",
  "UpdateDate": "2015-02-06T18:40:15Z"
}
"AttachmentCount": 1,  
"IsAttachable": true,  
"PolicyId": "ANPA1234567890EXAMPLE",  
"DefaultVersionId": "v1",  
"PolicyVersionList": [  
  {  
    "CreateDate": "2014-10-30T20:59:46Z",  
    "VersionId": "v1",  
    "Document": {  
      "Version": "2012-10-17",  
      "Statement": [  
        {  
          "Action": "ec2:*",  
          "Effect": "Allow",  
          "Resource": "*"  
        },  
        {  
          "Effect": "Allow",  
          "Action": "elasticloadbalancing:*",  
          "Resource": "*"  
        },  
        {  
          "Effect": "Allow",  
          "Action": "cloudwatch:*",  
          "Resource": "*"  
        },  
        {  
          "Effect": "Allow",  
          "Action": "autoscaling:*",  
          "Resource": "*"  
        }  
      ]  
    },  
    "IsDefaultVersion": true  
  }  
],  
"Path": "/",  
"Arn": "arn:aws:iam::aws:policy/AmazonEC2FullAccess",  
"UpdateDate": "2015-02-06T18:40:15Z"  
]},
For more information, see [AWS security audit guidelines](https://docs.aws.amazon.com/IAM/latest/UserGuide/bk_secAuditGuidelines.html) in the *AWS IAM User Guide*.


### Get a policy

The following code example shows how to get an IAM policy.

**AWS CLI**

**To retrieve information about the specified managed policy**

This example returns details about the managed policy whose ARN is `arn:aws:iam::123456789012:policy/MySamplePolicy`.

```bash
aws iam get-policy \
  --policy-arn arn:aws:iam::123456789012:policy/MySamplePolicy
```

**Output:**

```json
{
  "Policy": {
    "PolicyName": "MySamplePolicy",
    "CreateDate": "2015-06-17T19:23:32Z",
    "AttachmentCount": 0,
    "IsAttachable": true,
    "PolicyId": "Z27SI6FQMGNOQ2EXAMPLE1",
    "DefaultVersionId": "v1",
    "Path": "/",
    "Arn": "arn:aws:iam::123456789012:policy/MySamplePolicy",
    "UpdateDate": "2015-06-17T19:23:32Z"
  }
}
```

For more information, see [Policies and permissions in IAM](https://docs.aws.amazon.com/IAM/latest/UserGuide/bk_IAM_Policy.html) in the *AWS IAM User Guide*.

- For API details, see [GetPolicy](https://docs.aws.amazon.com/cli/latest/reference/iam/get-policy.html) in *AWS CLI Command Reference*. 
Get a policy version

The following code example shows how to get an IAM policy version.

AWS CLI

To retrieve information about the specified version of the specified managed policy

This example returns the policy document for the v2 version of the policy whose ARN is arn:aws:iam::123456789012:policy/MyManagedPolicy.

```
aws iam get-policy-version \
  --policy-arn arn:aws:iam::123456789012:policy/MyPolicy \
  --version-id v2
```

Output:

```
{
  "PolicyVersion": {
    "Document": {
      "Version": "2012-10-17",
      "Statement": [
        {
          "Effect": "Allow",
          "Action": "iam:*",
          "Resource": "*"
        }
      ],
      "VersionId": "v2",
      "IsDefaultVersion": true,
      "CreateDate": "2023-04-11T00:22:54+00:00"
    }
  }
}
```

For more information, see Policies and permissions in IAM in the AWS IAM User Guide.

- For API details, see GetPolicyVersion in AWS CLI Command Reference.

Get a role

The following code example shows how to get an IAM role.
AWS CLI

To get information about an IAM role

The following get-role command gets information about the role named Test-Role.

```
aws iam get-role \
--role-name Test-Role
```

Output:

```
{
   "Role": {
      "Description": "Test Role",
      "AssumeRolePolicyDocument":"<URL-encoded-JSON>",
      "MaxSessionDuration": 3600,
      "RoleId": "AROA1234567890EXAMPLE",
      "CreateDate": "2019-11-13T16:45:56Z",
      "RoleName": "Test-Role",
      "Path": "/",
      "RoleLastUsed": {
         "Region": "us-east-1",
         "LastUsedDate": "2019-11-13T17:14:00Z"
      },
      "Arn": "arn:aws:iam::123456789012:role/Test-Role"
   }
}
```

The command displays the trust policy attached to the role. To list the permissions policies attached to a role, use the list-role-policies command.

For more information, see Creating IAM roles in the AWS IAM User Guide.

- For API details, see GetRole in AWS CLI Command Reference.

Get a server certificate

The following code example shows how to get an IAM server certificate.

AWS CLI

To get details about a server certificate in your AWS account
The following `get-server-certificate` command retrieves all of the details about the specified server certificate in your AWS account.

```bash
aws iam get-server-certificate
  --server-certificate-name myUpdatedServerCertificate
```

Output:

```json
{
  "ServerCertificate": {
    "ServerCertificateMetadata": {
      "Path": "/",
      "ServerCertificateName": "myUpdatedServerCertificate",
      "ServerCertificateId": "ASCAEXAMPLE123EXAMPLE",
      "Arn": "arn:aws:iam::123456789012:server-certificate/myUpdatedServerCertificate",
      "UploadDate": "2019-04-22T21:13:44+00:00",
      "Expiration": "2019-10-15T23:23:00+00:00"
    },
    "CertificateBody": "-----BEGIN CERTIFICATE-----
MIICiTCCAfICCQD6m7oRw0uX0jANBgkqhkiG9w0BAQUFADBcDiELMAkGA1UEBhMCVVMxCzAJBgNVBAgTB0lTVEB1MB4GCSqGSIb3DQEBCwUAMIKwDQYJKoZIhvcNAQEBBQADggIBADAm0dUVR0km6p7WJmCgQ7O8Q+mCuH9Ae1263Km9PjD2juC9URJ36h5Ibf2/jzEkqKr0GdHt pm42s0U0Tt436Q6wYUv7jgK82L1E6/aMx6E8yG1r9be57JfjB564P5t6QVhZknQboLm
-----END CERTIFICATE-----",
    "CertificateChain": "-----BEGIN CERTIFICATE-----
MIICiTCCAfICCQD6md7oRw0uX0jANBgkqhkiG9w0BAQUFADBCDiELMAkGA1UEBhMCVVMxCzAJBgNVBAgTB0lTVEB1MB4GCSqGSIb3DQEBCwUAMIKwDQYJKoZIhvcNAQEBBQADggIBAdPIbP7L97/yM+bHc2SshWEt1f69NdUG9n753G9KeF1A2s0t1m3pMfVbNR5lGpOIA80hB7X3M6zv9nXqK4X6A0c7O
-----END CERTIFICATE-----"
},
"CertificateBody": "-----BEGIN CERTIFICATE-----
MIICiTCCAfICCQD6m7oRw0uX0jANBgkqhkiG9w0BAQUFADBCDiELMAkGA1UEBhMCVVMxCzAJBgNVBAgTB0lTVEB1MB4GCSqGSIb3DQEBCwUAMIKwDQYJKoZIhvcNAQEBBQADggIBAdPIbP7L97/yM+bHc2SshWEt1f69NdUG9n753G9KeF1A2s0t1m3pMfVbNR5lGpOIA80hB7X3M6zv9nXqK4X6A0c7O
-----END CERTIFICATE-----"
```

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To list the server certificates available in your AWS account, use the `list-server-certificates` command.

For more information, see [Managing server certificates in IAM](https://docs.aws.amazon.com/IAM/latest/userguide/managing-certificates.html) in the **AWS IAM User Guide**.

- For API details, see [GetServerCertificate](https://docs.aws.amazon.com/cli/latest/reference/iam/get-server-certificate.html) in **AWS CLI Command Reference**.

## Get a service-linked role's deletion status

The following code example shows how to get an AWS Identity and Access Management (IAM) service-linked role's deletion status.

### AWS CLI

**To check the status of a request to delete a service-linked role**

The following `get-service-linked-role-deletion-status` example displays the status of a previously request to delete a service-linked role. The delete operation occurs asynchronously. When you make the request, you get a `DeletionTaskId` value that you provide as a parameter for this command.

```
aws iam get-service-linked-role-deletion-status \
  --deletion-task-id task/aws-service-role/lex.amazonaws.com/\n  AWSServiceRoleForLexBots/1a2b3c4d-1234-abcd-7890-abcdeEXAMPLE
```

Output:

```
{
  "Status": "SUCCEEDED"
}
```

For more information, see [Using service-linked roles](https://docs.aws.amazon.com/IAM/latest/userguide/service-linked-roles.html) in the **AWS IAM User Guide**.
For API details, see `GetServiceLinkedRoleDeletionStatus` in *AWS CLI Command Reference.*

### Get a summary of account usage

The following code example shows how to get a summary of account usage from IAM.

**AWS CLI**

**To get information about IAM entity usage and IAM quotas in the current account**

The following `get-account-summary` command returns information about the current IAM entity usage and current IAM entity quotas in the account.

```bash
aws iam get-account-summary
```

**Output:**

```json
{
   "SummaryMap": {
      "UsersQuota": 5000,
      "GroupsQuota": 100,
      "InstanceProfiles": 6,
      "SigningCertificatesPerUserQuota": 2,
      "AccountAccessKeysPresent": 0,
      "RolesQuota": 250,
      "RolePolicySizeQuota": 10240,
      "AccountSigningCertificatesPresent": 0,
      "Users": 27,
      "ServerCertificatesQuota": 20,
      "ServerCertificates": 0,
      "AssumeRolePolicySizeQuota": 2048,
      "Groups": 7,
      "MFADevicesInUse": 1,
      "Roles": 3,
      "AccountMFAEnabled": 1,
      "MFADevices": 3,
      "GroupsPerUserQuota": 10,
      "GroupPolicySizeQuota": 5120,
      "InstanceProfilesQuota": 100,
      "AccessKeysPerUserQuota": 2,
      "Providers": 0,
      "UserPolicySizeQuota": 2048
   }
}
```
For more information about entity limitations, see IAM and AWS STS quotas in the AWS IAM User Guide.

- For API details, see GetAccountSummary in AWS CLI Command Reference.

Get a user

The following code example shows how to get an IAM user.

⚠️ **Warning**

To avoid security risks, don't use IAM users for authentication when developing purpose-built software or working with real data. Instead, use federation with an identity provider such as AWS IAM Identity Center.

**AWS CLI**

**To get information about an IAM user**

The following `get-user` command gets information about the IAM user named Paulo.

```bash
aws iam get-user \  
   --user-name Paulo
```

Output:

```json
{
   "User": {
      "UserName": "Paulo",
      "Path": "/",
      "CreateDate": "2019-09-21T23:03:13Z",
      "UserId": "AIDA123456789EXAMPLE",
      "Arn": "arn:aws:iam::123456789012:user/Paulo"
   }
}
```

For more information, see Managing IAM users in the AWS IAM User Guide.
Get data about the last use of an access key

The following code example shows how to get data about the last use of an IAM access key.

⚠️ **Warning**

To avoid security risks, don't use IAM users for authentication when developing purpose-built software or working with real data. Instead, use federation with an identity provider such as [AWS IAM Identity Center](https://aws.amazon.com/iam/identity-center).

### AWS CLI

**To retrieve information about when the specified access key was last used**

The following example retrieves information about when the access key `ABCDEXAMPLE` was last used.

```bash
aws iam get-access-key-last-used
   --access-key-id ABCDEXAMPLE
```

Output:

```
{
   "UserName": "Bob",
   "AccessKeyLastUsed": {
      "Region": "us-east-1",
      "ServiceName": "iam",
      "LastUsedDate": "2015-06-16T22:45:00Z"
   }
}
```

For more information, see [Managing access keys for IAM users](https://docs.aws.amazon.com/IAM/latest/userguide/iam-user-welcome.html) in the [AWS IAM User Guide](https://docs.aws.amazon.com/IAM/latest/userguide/iam-user-welcome.html).

- For API details, see [GetAccessKeyLastUsed](https://docs.aws.amazon.com/cli/latest/reference/iam/get-access-key-last-used.html) in [AWS CLI Command Reference](https://docs.aws.amazon.com/cli/latest/reference/iam/get-access-key-last-used.html).

### Get the account password policy

The following code example shows how to get the IAM account password policy.

```bash
aws iam get-account-password-policy
```

Output:

```
{
   "RequiredItem": {
      "PasswordLength": 8,
      "RequireLowercase": false,
      "RequireUppercase": false,
      "RequireDigit": false,
      "RequireNonPrintable": false,
      "AllowPasswordToMatchUsername": false,
      "AllowUsersToChangePassword": true,
      "MaxPasswordAge": 0,
      "MinPasswordAge": 0,
      "PasswordTTL": 0,
      "PreventPasswordReuse": false,
      "PasswordReusePeriod": 0
   }
}
```

For more information, see [Managing access keys for IAM users](https://docs.aws.amazon.com/IAM/latest/userguide/iam-user-welcome.html) in the [AWS IAM User Guide](https://docs.aws.amazon.com/IAM/latest/userguide/iam-user-welcome.html).

To see the current account password policy

The following `get-account-password-policy` command displays details about the password policy for the current account.

```
aws iam get-account-password-policy
```

Output:

```
{
   "PasswordPolicy": {
      "AllowUsersToChangePassword": false,
      "RequireLowercaseCharacters": false,
      "RequireUppercaseCharacters": false,
      "MinimumPasswordLength": 8,
      "RequireNumbers": true,
      "RequireSymbols": true
   }
}
```

If no password policy is defined for the account, the command returns a `NoSuchEntity` error.

For more information, see Setting an account password policy for IAM users in the AWS IAM User Guide.

- For API details, see `GetAccountPasswordPolicy` in AWS CLI Command Reference.

List SAML providers

The following code example shows how to list SAML providers for IAM.

**AWS CLI**

To list the SAML providers in the AWS account

This example retrieves the list of SAML 2.0 providers created in the current AWS account.

```
aws iam list-saml-providers
```

Output:
For more information, see Creating IAM SAML identity providers in the AWS IAM User Guide.

- For API details, see ListSAMLProviders in AWS CLI Command Reference.

List a user's access keys

The following code example shows how to list a user's IAM access keys.

⚠️ **Warning**

To avoid security risks, don't use IAM users for authentication when developing purpose-built software or working with real data. Instead, use federation with an identity provider such as AWS IAM Identity Center.

AWS CLI

**To list the access key IDs for an IAM user**

The following `list-access-keys` command lists the access keys IDs for the IAM user named Bob.

```bash
aws iam list-access-keys 
  --user-name Bob
```

Output:

```json
{
  "AccessKeyMetadata": [
    {}
  ]
}
```
You cannot list the secret access keys for IAM users. If the secret access keys are lost, you must create new access keys using the `create-access-keys` command.

For more information, see `Managing access keys for IAM users` in the `AWS IAM User Guide`.

- For API details, see `ListAccessKeys` in `AWS CLI Command Reference`.

### List account aliases

The following code example shows how to list IAM account aliases.

#### AWS CLI

**To list account aliases**

The following `list-account-aliases` command lists the aliases for the current account.

```
aws iam list-account-aliases
```

**Output:**

```
{
    "AccountAliases": [
        "mycompany"
    ]
}
```

For more information, see `Your AWS account ID and its alias` in the `AWS IAM User Guide`. 
• For API details, see ListAccountAliases in AWS CLI Command Reference.

List groups

The following code example shows how to list IAM groups.

AWS CLI

To list the IAM groups for the current account

The following list-groups command lists the IAM groups in the current account.

```bash
 aws iam list-groups
```

Output:

```json
{
   "Groups": [
      {
         "Path": "/",
         "CreateDate": "2013-06-04T20:27:27.972Z",
         "GroupId": "AIDACKCEVSQ6C2EXAMPLE",
         "Arn": "arn:aws:iam::123456789012:group/Admins",
         "GroupName": "Admins"
      },
      {
         "Path": "/",
         "CreateDate": "2013-04-16T20:30:42Z",
         "GroupId": "AIDGPMS9R04H3FEXAMPLE",
         "Arn": "arn:aws:iam::123456789012:group/S3-Admins",
         "GroupName": "S3-Admins"
      }
   ]
}
```

For more information, see Managing IAM user groups in the AWS IAM User Guide.

• For API details, see ListGroups in AWS CLI Command Reference.

List inline policies for a role

The following code example shows how to list inline policies for an IAM role.
To list the policies attached to an IAM role

The following `list-role-policies` command lists the names of the permissions policies for the specified IAM role.

```
aws iam list-role-policies \
   --role-name Test-Role
```

Output:

```
{
   "PolicyNames": [
      "ExamplePolicy"
   ]
}
```

To see the trust policy attached to a role, use the `get-role` command. To see the details of a permissions policy, use the `get-role-policy` command.

For more information, see Creating IAM roles in the AWS IAM User Guide.

- For API details, see ListRolePolicies in AWS CLI Command Reference.

List inline policies for a user

The following code example shows how to list inline IAM policies for a user.

⚠️ **Warning**

To avoid security risks, don't use IAM users for authentication when developing purpose-built software or working with real data. Instead, use federation with an identity provider such as AWS IAM Identity Center.

AWS CLI

To list policies for an IAM user

The following `list-user-policies` command lists the policies that are attached to the IAM user named Bob.
aws iam list-user-policies \
   --user-name Bob

Output:

{
   "PolicyNames": [
      "ExamplePolicy",
      "TestPolicy"
   ]
}

For more information, see Creating an IAM user in your AWS account in the AWS IAM User Guide.
- For API details, see ListUserPolicies in AWS CLI Command Reference.

List policies

The following code example shows how to list IAM policies.

AWS CLI

To list managed policies that are available to your AWS account

This example returns a collection of the first two managed policies available in the current AWS account.

aws iam list-policies \
   --max-items 3

Output:

{
   "Policies": [
      {
         "PolicyName": "AWSCloudTrailAccessPolicy",
         "PolicyId": "ANPAXQE2B5PJ7YEXAMPLE",
         "Path": "/",
         "DefaultVersionId": "v1",
         "AttachmentCount": 0,
      }
   ]
}
For more information, see Policies and permissions in IAM in the AWS IAM User Guide.

- For API details, see ListPolicies in AWS CLI Command Reference.

List policies attached to a role

The following code example shows how to list policies attached to an IAM role.

AWS CLI

To list all managed policies that are attached to the specified role
This command returns the names and ARNs of the managed policies attached to the IAM role named `SecurityAuditRole` in the AWS account.

```bash
aws iam list-attached-role-policies --role-name SecurityAuditRole
```

Output:

```json
{
   "AttachedPolicies": [
      {
         "PolicyName": "SecurityAudit",
         "PolicyArn": "arn:aws:iam::aws:policy/SecurityAudit"
      }
   ],
   "IsTruncated": false
}
```

For more information, see Policies and permissions in IAM in the AWS IAM User Guide.

- For API details, see ListAttachedRolePolicies in AWS CLI Command Reference.

### List roles

The following code example shows how to list IAM roles.

**AWS CLI**

To list IAM roles for the current account

The following list-roles command lists IAM roles for the current account.

```bash
aws iam list-roles
```

Output:

```json
{
   "Roles": [
      {
         "Path": "/",
         "RoleName": "ExampleRole",
         "RoleId": "AROAJ52OT4H7LEXAMPLE",
         "Arn": "arn:aws:iam::aws:role/ExampleRole"
      }
   ]
}
```
"Arn": "arn:aws:iam::123456789012:role/ExampleRole",
"CreateDate": "2017-09-12T19:23:36+00:00",
"AssumeRolePolicyDocument": {
    "Version": "2012-10-17",
    "Statement": [
        {
            "Sid": "",
            "Effect": "Allow",
            "Principal": {
                "Service": "ec2.amazonaws.com"
            },
            "Action": "sts:AssumeRole"
        }
    ],
    "MaxSessionDuration": 3600
},
{
    "Path": "/example_path/",
    "RoleName": "ExampleRoleWithPath",
    "RoleId": "AROAI4QRP7UFT7EXAMPLE",
    "Arn": "arn:aws:iam::123456789012:role/example_path/ExampleRoleWithPath",
    "CreateDate": "2023-09-21T20:29:38+00:00",
    "AssumeRolePolicyDocument": {
        "Version": "2012-10-17",
        "Statement": [
            {
                "Sid": "",
                "Effect": "Allow",
                "Principal": {
                    "Service": "ec2.amazonaws.com"
                },
                "Action": "sts:AssumeRole"
            }
        ],
        "MaxSessionDuration": 3600
    }
}

For more information, see [Creating IAM roles](#) in the *AWS IAM User Guide*. 
List server certificates

The following code example shows how to list IAM server certificates.

AWS CLI

To list the server certificates in your AWS account

The following `list-server-certificates` command lists all of the server certificates stored and available for use in your AWS account.

```
aws iam list-server-certificates
```

Output:

```
{
   "ServerCertificateMetadataList": [
   {
      "Path": "/",
      "ServerCertificateName": "myUpdatedServerCertificate",
      "ServerCertificateId": "ASCAEXAMPLE123EXAMPLE",
      "Arn": "arn:aws:iam::123456789012:server-certificate/myUpdatedServerCertificate",
      "UploadDate": "2019-04-22T21:13:44+00:00",
      "Expiration": "2019-10-15T22:23:16+00:00"
   },
   {
      "Path": "/cloudfront/",
      "ServerCertificateName": "MyTestCert",
      "ServerCertificateId": "ASCAEXAMPLE456EXAMPLE",
      "Arn": "arn:aws:iam::123456789012:server-certificate/Org1/Org2/MyTestCert",
      "UploadDate": "2015-04-21T18:14:16+00:00",
      "Expiration": "2018-01-14T17:52:36+00:00"
   }
   ]
}
```

For more information, see Managing server certificates in IAM in the AWS IAM User Guide.
List users

The following code example shows how to list IAM users.

⚠️ Warning

To avoid security risks, don't use IAM users for authentication when developing purpose-built software or working with real data. Instead, use federation with an identity provider such as AWS IAM Identity Center.

AWS CLI

To list IAM users

The following list-users command lists the IAM users in the current account.

```bash
aws iam list-users
```

Output:

```json
{
   "Users": [
      {
         "UserName": "Adele",
         "Path": "/",
         "CreateDate": "2013-03-07T05:14:48Z",
         "UserId": "AKIAI44QH8DH8EXAMPLE",
         "Arn": "arn:aws:iam::123456789012:user/Adele"
      },
      {
         "UserName": "Bob",
         "Path": "/",
         "CreateDate": "2012-09-21T23:03:13Z",
         "UserId": "AKIAIOSFODNN7EXAMPLE",
         "Arn": "arn:aws:iam::123456789012:user/Bob"
      }
   ]
}
```
For more information, see Listing IAM users in the AWS IAM User Guide.

- For API details, see ListUsers in AWS CLI Command Reference.

Remove a user from a group

The following code example shows how to remove a user from an IAM group.

AWS CLI

To remove a user from an IAM group

The following remove-user-from-group command removes the user named Bob from the IAM group named Admins.

```bash
aws iam remove-user-from-group \\
--user-name Bob \\
--group-name Admins
```

This command produces no output.

For more information, see Adding and removing users in an IAM user group in the AWS IAM User Guide.

- For API details, see RemoveUserFromGroup in AWS CLI Command Reference.

Update a server certificate

The following code example shows how to update an IAM server certificate.

AWS CLI

To change the path or name of a server certificate in your AWS account

The following update-server-certificate command changes the name of the certificate from myServerCertificate to myUpdatedServerCertificate. It also changes the path to /cloudfront/ so that it can be accessed by the Amazon CloudFront service. This command produces no output. You can see the results of the update by running the list-server-certificates command.

```bash
aws-iam update-server-certificate \\
```

Actions and scenarios
Update server certificates

```
--server-certificate-name myServerCertificate \
--new-server-certificate-name myUpdatedServerCertificate \
--new-path /cloudfront/
```

This command produces no output.

For more information, see Managing server certificates in IAM in the AWS IAM User Guide.

- For API details, see UpdateServerCertificate in AWS CLI Command Reference.

Update a user

The following code example shows how to update an IAM user.

⚠️ **Warning**

To avoid security risks, don't use IAM users for authentication when developing purpose-built software or working with real data. Instead, use federation with an identity provider such as AWS IAM Identity Center.

AWS CLI

**To change an IAM user's name**

The following update-user command changes the name of the IAM user Bob to Robert.

```
aws iam update-user \
  --user-name Bob \
  --new-user-name Robert
```

This command produces no output.

For more information, see Renaming an IAM user group in the AWS IAM User Guide.

- For API details, see UpdateUser in AWS CLI Command Reference.

Update an access key

The following code example shows how to update an IAM access key.
Warning

To avoid security risks, don't use IAM users for authentication when developing purpose-built software or working with real data. Instead, use federation with an identity provider such as AWS IAM Identity Center.

AWS CLI

To activate or deactivate an access key for an IAM user

The following `update-access-key` command deactivates the specified access key (access key ID and secret access key) for the IAM user named Bob.

```bash
aws iam update-access-key \
   --access-key-id AKIAIOSFODNN7EXAMPLE \
   --status Inactive \
   --user-name Bob
```

This command produces no output.

Deactivating the key means that it cannot be used for programmatic access to AWS. However, the key is still available and can be reactivated.

For more information, see Managing access keys for IAM users in the AWS IAM User Guide.

- For API details, see UpdateAccessKey in AWS CLI Command Reference.

Upload a server certificate

The following code example shows how to upload an AWS Identity and Access Management (IAM) server certificate.

AWS CLI

To upload a server certificate to your AWS account

The following `upload-server-certificate` command uploads a server certificate to your AWS account. In this example, the certificate is in the file `public_key_cert_file.pem`, the associated private key is in the file `my_private_key.pem`, and the certificate chain
provided by the certificate authority (CA) is in the `my_certificate_chain_file.pem` file. When the file has finished uploading, it is available under the name `myServerCertificate`. Parameters that begin with `file://` tell the command to read the contents of the file and use that as the parameter value instead of the file name itself.

```
aws iam upload-server-certificate \
   --server-certificate-name myServerCertificate \
   --certificate-body file://public_key_cert_file.pem \
   --private-key file://my_private_key.pem \
   --certificate-chain file://my_certificate_chain_file.pem
```

Output:

```
{
   "ServerCertificateMetadata": {
      "Path": "/",
      "ServerCertificateName": "myServerCertificate",
      "ServerCertificateId": "ASCAEXAMPLE123EXAMPLE",
      "UploadDate": "2019-04-22T21:13:44+00:00",
      "Expiration": "2019-10-15T22:23:16+00:00"
   }
}
```

For more information, see Creating, Uploading, and Deleting Server Certificates in the Using IAM guide.

- For API details, see [UploadServerCertificate](#) in AWS CLI Command Reference.

**add-client-id-to-open-id-connect-provider**

The following code example shows how to use `add-client-id-to-open-id-connect-provider`.

### AWS CLI

**To add a client ID (audience) to an Open-ID Connect (OIDC) provider**

The following `add-client-id-to-open-id-connect-provider` command adds the client ID `my-application-ID` to the OIDC provider named `server.example.com`. 
- For API details, see AddClientIdToOpenIdConnectProvider in AWS CLI Command Reference.

**add-role-to-instance-profile**

The following code example shows how to use add-role-to-instance-profile.

**AWS CLI**

To add a role to an instance profile

The following add-role-to-instance-profile command adds the role named S3Access to the instance profile named Webserver.

```bash
aws iam add-role-to-instance-profile \
  --role-name S3Access \
  --instance-profile-name Webserver
```

This command produces no output.

To create an instance profile, use the create-instance-profile command.

For more information, see Using an IAM role to grant permissions to applications running on Amazon EC2 instances in the AWS IAM User Guide.

- For API details, see AddRoleToInstanceProfile in AWS CLI Command Reference.

**attach-group-policy**

The following code example shows how to use attach-group-policy.

```bash
aws iam add-client-id-to-open-id-connect-provider \ 
  --client-id my-application-ID \ 
  --open-id-connect-provider-arn arn:aws:iam::123456789012:oidc-provider/server.example.com
```

This command produces no output.

To create an OIDC provider, use the create-open-id-connect-provider command.

For more information, see Creating OpenID Connect (OIDC) identity providers in the AWS IAM User Guide.

- For API details, see AddClientIdToOpenIdConnectProvider in AWS CLI Command Reference.
AWS CLI

**To attach a managed policy to an IAM group**

The following `attach-group-policy` command attaches the AWS managed policy named `ReadOnlyAccess` to the IAM group named `Finance`.

```bash
aws iam attach-group-policy \
   --policy-arn arn:aws:iam::aws:policy/ReadOnlyAccess \
   --group-name Finance
```

This command produces no output.

For more information, see [Managed policies and inline policies](https://docs.aws.amazon.com/IAM/latest/UserGuide/index.html) in the *AWS IAM User Guide*.

- For API details, see [AttachGroupPolicy](https://docs.aws.amazon.com/cli/latest/reference/iam/attach-group-policy.html) in *AWS CLI Command Reference*.

**change-password**

The following code example shows how to use `change-password`.

**AWS CLI**

**To change the password for your IAM user**

To change the password for your IAM user, we recommend using the `--cli-input-json` parameter to pass a JSON file that contains your old and new passwords. Using this method, you can use strong passwords with non-alphanumeric characters. It can be difficult to use passwords with non-alphanumeric characters when you pass them as command line parameters. To use the `--cli-input-json` parameter, start by using the `change-password` command with the `--generate-cli-skeleton` parameter, as in the following example.

```bash
aws iam change-password \
   --generate-cli-skeleton > change-password.json
```

The previous command creates a JSON file called `change-password.json` that you can use to fill in your old and new passwords. For example, the file might look like the following.

```json
{
   "OldPassword": "3s0K_;xh4~8XXI",
   "NewPassword": "]35d/[pB9Fo9wJ"
}
```
Next, to change your password, use the change-password command again, this time passing the --cli-input-json parameter to specify your JSON file. The following change-password command uses the --cli-input-json parameter with a JSON file called change-password.json.

```sh
cmd
aws iam change-password \
   --cli-input-json file://change-password.json
```

This command produces no output.

This command can be called by IAM users only. If this command is called using AWS account (root) credentials, the command returns an InvalidUserType error.

For more information, see How an IAM user changes their own password in the AWS IAM User Guide.

- For API details, see ChangePassword in AWS CLI Command Reference.

create-login-profile

The following code example shows how to use create-login-profile.

AWS CLI

**To create a password for an IAM user**

To create a password for an IAM user, we recommend using the --cli-input-json parameter to pass a JSON file that contains the password. Using this method, you can create a strong password with non-alphanumeric characters. It can be difficult to create a password with non-alphanumeric characters when you pass it as a command line parameter.

To use the --cli-input-json parameter, start by using the create-login-profile command with the --generate-cli-skeleton parameter, as in the following example.

```sh
cmd
aws iam create-login-profile \
   --generate-cli-skeleton > create-login-profile.json
```

The previous command creates a JSON file called create-login-profile.json that you can use to fill in the information for a subsequent create-login-profile command. For example:
Next, to create a password for an IAM user, use the `create-login-profile` command again, this time passing the `--cli-input-json` parameter to specify your JSON file. The following `create-login-profile` command uses the `--cli-input-json` parameter with a JSON file called `create-login-profile.json`.

```bash
aws iam create-login-profile \
  --cli-input-json file://create-login-profile.json
```

Output:

```json
{
  "LoginProfile": {
    "UserName": "Bob",
    "CreateDate": "2015-03-10T20:55:40.274Z",
    "PasswordResetRequired": true
  }
}
```

If the new password violates the account password policy, the command returns a `PasswordPolicyViolation` error.

To change the password for a user that already has one, use `update-login-profile`. To set a password policy for the account, use the `update-account-password-policy` command.

If the account password policy allows them to, IAM users can change their own passwords using the `change-password` command.

For more information, see Managing passwords for IAM users in the AWS IAM User Guide.

- For API details, see CreateLoginProfile in AWS CLI Command Reference.

### create-open-id-connect-provider

The following code example shows how to use `create-open-id-connect-provider`.
AWS CLI

To create an OpenID Connect (OIDC) provider

To create an OpenID Connect (OIDC) provider, we recommend using the --cli-input-json parameter to pass a JSON file that contains the required parameters. When you create an OIDC provider, you must pass the URL of the provider, and the URL must begin with https://. It can be difficult to pass the URL as a command line parameter, because the colon (:) and forward slash (/) characters have special meaning in some command line environments. Using the --cli-input-json parameter gets around this limitation.

To use the --cli-input-json parameter, start by using the create-open-id-connect-provider command with the --generate-cli-skeleton parameter, as in the following example.

```
aws iam create-open-id-connect-provider \\
   --generate-cli-skeleton > create-open-id-connect-provider.json
```

The previous command creates a JSON file called create-open-id-connect-provider.json that you can use to fill in the information for a subsequent create-open-id-connect-provider command. For example:

```
{
   "Url": "https://server.example.com",
   "ClientIDList": [
      "example-application-ID"
   ],
   "ThumbprintList": [
      "c376084dfb3d2b68b7897bf5f565da8eEXAMPLE"
   ]
}
```

Next, to create the OpenID Connect (OIDC) provider, use the create-open-id-connect-provider command again, this time passing the --cli-input-json parameter to specify your JSON file. The following create-open-id-connect-provider command uses the --cli-input-json parameter with a JSON file called create-open-id-connect-provider.json.

```
aws iam create-open-id-connect-provider \\
   --cli-input-json file://create-open-id-connect-provider.json
```
Output:

```json
{
   "OpenIDConnectProviderArn": "arn:aws:iam::123456789012:oidc-provider/server.example.com"
}
```

For more information about OIDC providers, see Creating OpenID Connect (OIDC) identity providers in the AWS IAM User Guide.

For more information about obtaining thumbprints for an OIDC provider, see Obtaining the thumbprint for an OpenID Connect Identity Provider in the AWS IAM User Guide.

- For API details, see CreateOpenIdConnectProvider in AWS CLI Command Reference.

create-service-specific-credential

The following code example shows how to use create-service-specific-credential.

AWS CLI

Create a set of service-specific credentials for a user

The following create-service-specific-credential example creates a username and password that can be used to access only the configured service.

```bash
aws iam create-service-specific-credential \
   --user-name sofia \
   --service-name codecommit.amazonaws.com
```

Output:

```json
{
   "ServiceSpecificCredential": {
      "CreateDate": "2019-04-18T20:45:36+00:00",
      "ServiceName": "codecommit.amazonaws.com",
      "ServiceUserName": "sofia-at-123456789012",
      "ServicePassword": "k1zPZM6uVxMQ3oxqgoYlNuJPyRTZ1vREs76zTQE3eJk=",
      "ServiceSpecificCredentialId": "ACCAEXAMPLE123EXAMPLE",
      "UserName": "sofia",
      "Status": "Active"
   }
}
```
For more information, see [Create Git credentials for HTTPS connections to CodeCommit](#) in the [AWS CodeCommit User Guide](#).

- For API details, see [CreateServiceSpecificCredential](#) in [AWS CLI Command Reference](#).

**create-virtual-mfa-device**

The following code example shows how to use `create-virtual-mfa-device`.

**AWS CLI**

**To create a virtual MFA device**

This example creates a new virtual MFA device called BobsMFADevice. It creates a file that contains bootstrap information called QRCode.png and places it in the C:/ directory. The bootstrap method used in this example is QRCodePNG.

```bash
aws iam create-virtual-mfa-device \\
    --virtual-mfa-device-name BobsMFADevice \\
    --outfile C:/QRCode.png \\
    --bootstrap-method QRCodePNG
```

**Output:**

```
{
    "VirtualMFADevice": {
        "SerialNumber": "arn:aws:iam::210987654321:mfa/BobsMFADevice"
    }
}
```

For more information, see [Using multi-factor authentication (MFA) in AWS](#) in the [AWS IAM User Guide](#).

- For API details, see [CreateVirtualMfaDevice](#) in [AWS CLI Command Reference](#).

**deactivate-mfa-device**

The following code example shows how to use `deactivate-mfa-device`.

```bash
aws iam deactivate-mfa-device
    --mfa-device-name BobsMFADevice
```

**Output:**

```
{
    "VirtualMFADevice": {
        "SerialNumber": "arn:aws:iam::210987654321:mfa/BobsMFADevice"
    }
}
```

For more information, see [Using multi-factor authentication (MFA) in AWS](#) in the [AWS IAM User Guide](#).

- For API details, see [DeleteVirtualMfaDevice](#) in [AWS CLI Command Reference](#).
To deactivate an MFA device

This command deactivates the virtual MFA device with the ARN
arn:aws:iam::210987654321:mfa/BobsMFADevice that is associated with the user Bob.

```
aws iam deactivate-mfa-device 
   --user-name Bob 
   --serial-number arn:aws:iam::210987654321:mfa/BobsMFADevice
```

This command produces no output.

For more information, see [Using multi-factor authentication (MFA) in AWS](https://docs.aws.amazon.com/iam/latest/userguide/mfa.html) in the AWS IAM User Guide.

- For API details, see [DeactivateMfaDevice](https://docs.aws.amazon.com/cli/latest/reference/iam/deactivate-mfa-device.html) in AWS CLI Command Reference.

decode-authorization-message

The following code example shows how to use `decode-authorization-message`.

AWS CLI

To decode a authorization failure message

The following decode-authorization-message example decodes the message returned by the EC2 console when attempting to launch an instance without the required permissions.

```
aws sts decode-authorization-message 
   --encoded-message lxzA8VEjEvu-s0TTt3PgyXik9YakQqsFJGRZ98xNcyWAxwRq14xIvd-
   npzbgTevuufCBjebBAaDARgc9cbTK1rJbg3awM33o-Vy3ebPErE2-
   mWR9hVYdvX-0zKgVOWFg9pWjZaJSMqxB-aLXo-I_8TTvBq888x8IFPBMAzNdpu0IjxDjzf22PF3SOE3XvIQ-
   _PEO0aUqHCcsSrFtxvxm6yQD1nbb6GTIVrfa0Bzy8lsoMo7SjIa2r5vph6SY5vCCw6o2JKe3hIHTa8zRrDbZSFMcX-
   Xx9AYAAI6bhcis7C__bZh4d1AAWooHFGKfjoJcWgwqzgbu9hWyVvKTpeot5hsb8qANYyjRCPXTKpi6PZfdijIkw6g
```

The output is formatted as a single-line string of JSON text that you can parse with any JSON text processor.
For more information, see [How can I decode an authorization failure message after receiving an "UnauthorizedOperation" error during an EC2 instance launch?](https://aws.amazon.com/repost/) in AWS re:Post.

For more information, see Setting an account password policy for IAM users in the AWS IAM User Guide.

- For API details, see DeleteAccountPasswordPolicy in AWS CLI Command Reference.

delete-login-profile

The following code example shows how to use delete-login-profile.

AWS CLI

To delete a password for an IAM user

The following delete-login-profile command deletes the password for the IAM user named Bob.

```bash
aws iam delete-login-profile \
   --user-name Bob
```

This command produces no output.

For more information, see Managing passwords for IAM users in the AWS IAM User Guide.
- For API details, see DeleteLoginProfile in AWS CLI Command Reference.

delete-open-id-connect-provider

The following code example shows how to use delete-open-id-connect-provider.

AWS CLI

To delete an IAM OpenID Connect identity provider

This example deletes the IAM OIDC provider that connects to the provider example.oidcprovider.com.

```bash
aws iam delete-open-id-connect-provider \
   --open-id-connect-provider-arn arn:aws:iam::123456789012:oidc-provider/example.oidcprovider.com
```

This command produces no output.
For more information, see Creating OpenID Connect (OIDC) identity providers in the AWS IAM User Guide.

- For API details, see DeleteOpenIdConnectProvider in AWS CLI Command Reference.

**delete-policy-version**

The following code example shows how to use delete-policy-version.

**AWS CLI**

**To delete a version of a managed policy**

This example deletes the version identified as v2 from the policy whose ARN is `arn:aws:iam::123456789012:policy/MySamplePolicy`.

```bash
aws iam delete-policy-version \
  --policy-arn arn:aws:iam::123456789012:policy/MyPolicy \
  --version-id v2
```

This command produces no output.

For more information, see Policies and permissions in IAM in the AWS IAM User Guide.
- For API details, see DeletePolicyVersion in AWS CLI Command Reference.

**delete-role-permissions-boundary**

The following code example shows how to use delete-role-permissions-boundary.

**AWS CLI**

**To delete a permissions boundary from an IAM role**

The following delete-role-permissions-boundary example deletes the permissions boundary for the specified IAM role. To apply a permissions boundary to a role, use the put-role-permissions-boundary command.

```bash
aws iam delete-role-permissions-boundary \
  --role-name lambda-application-role
```
This command produces no output.

For more information, see Policies and permissions in IAM in the AWS IAM User Guide.

• For API details, see DeleteRolePermissionsBoundary in AWS CLI Command Reference.

delete-service-specific-credential

The following code example shows how to use delete-service-specific-credential.

AWS CLI

Example 1: Delete a service-specific credential for the requesting user

The following delete-service-specific-credential example deletes the specified service-specific credential for the user making the request. The service-specific-credential-id is provided when you create the credential and you can retrieve it by using the list-service-specific-credentials command.

```
aws iam delete-service-specific-credential \\
   --service-specific-credential-id ACCAEXAMPLE123EXAMPLE
```

This command produces no output.

Example 2: Delete a service-specific credential for a specified user

The following delete-service-specific-credential example deletes the specified service-specific credential for the specified user. The service-specific-credential-id is provided when you create the credential and you can retrieve it by using the list-service-specific-credentials command.

```
aws iam delete-service-specific-credential \\
   --user-name sofia \\
   --service-specific-credential-id ACCAEXAMPLE123EXAMPLE
```

This command produces no output.

For more information, see Create Git credentials for HTTPS connections to CodeCommit in the AWS CodeCommit User Guide.

• For API details, see DeleteServiceSpecificCredential in AWS CLI Command Reference.
delete-signing-certificate

The following code example shows how to use delete-signing-certificate.

AWS CLI

To delete a signing certificate for an IAM user

The following delete-signing-certificate command deletes the specified signing certificate for the IAM user named Bob.

```bash
aws iam delete-signing-certificate \
  --user-name Bob \
  --certificate-id TA7SMP42TDN5Z26OBPJ7EXAMPLE
```

This command produces no output.

To get the ID for a signing certificate, use the list-signing-certificates command.

For more information, see Manage signing certificates in the Amazon EC2 User Guide.

- For API details, see DeleteSigningCertificate in AWS CLI Command Reference.

delete-ssh-public-key

The following code example shows how to use delete-ssh-public-key.

AWS CLI

To delete an SSH public keys attached to an IAM user

The following delete-ssh-public-key command deletes the specified SSH public key attached to the IAM user sofia.

```bash
aws iam delete-ssh-public-key \
  --user-name sofia \
  --ssh-public-key-id APKA123456789EXAMPLE
```

This command produces no output.

For more information, see Use SSH keys and SSH with CodeCommit in the AWS IAM User Guide.
• For API details, see DeleteSshPublicKey in AWS CLI Command Reference.

delete-user-permissions-boundary

The following code example shows how to use delete-user-permissions-boundary.

AWS CLI

To delete a permissions boundary from an IAM user

The following delete-user-permissions-boundary example deletes the permissions boundary attached to the IAM user named intern. To apply a permissions boundary to a user, use the put-user-permissions-boundary command.

```bash
aws iam delete-user-permissions-boundary \
   --user-name intern
```

This command produces no output.

For more information, see Policies and permissions in IAM in the AWS IAM User Guide.

• For API details, see DeleteUserPermissionsBoundary in AWS CLI Command Reference.

delete-virtual-mfa-device

The following code example shows how to use delete-virtual-mfa-device.

AWS CLI

To remove a virtual MFA device

The following delete-virtual-mfa-device command removes the specified MFA device from the current account.

```bash
aws iam delete-virtual-mfa-device \
   --serial-number arn:aws:iam::123456789012:mfa/MFATest
```

This command produces no output.

For more information, see Deactivating MFA devices in the AWS IAM User Guide.
• For API details, see `DeleteVirtualMfaDevice` in *AWS CLI Command Reference*.

**detach-group-policy**

The following code example shows how to use `detach-group-policy`.

**AWS CLI**

**To detach a policy from a group**

This example removes the managed policy with the ARN `arn:aws:iam::123456789012:policy/TesterAccessPolicy` from the group called Testers.

```aws
aws iam detach-group-policy \
  --group-name Testers \
  --policy-arn arn:aws:iam::123456789012:policy/TesterAccessPolicy
```

This command produces no output.

For more information, see *Managing IAM user groups* in the *AWS IAM User Guide*.

• For API details, see `DetachGroupPolicy` in *AWS CLI Command Reference*.

**enable-mfa-device**

The following code example shows how to use `enable-mfa-device`.

**AWS CLI**

**To enable an MFA device**

After you use the `create-virtual-mfa-device` command to create a new virtual MFA device, you can assign the MFA device to a user. The following `enable-mfa-device` example assigns the MFA device with the serial number `arn:aws:iam::210987654321:mfa/BobsMFADevice` to the user Bob. The command also synchronizes the device with AWS by including the first two codes in sequence from the virtual MFA device.

```aws
aws iam enable-mfa-device \
  --user-name Bob \
  --serial-number arn:aws:iam::210987654321:mfa/BobsMFADevice
```
This command produces no output.

For more information, see Enabling a virtual multi-factor authentication (MFA) device in the AWS IAM User Guide.

- For API details, see EnableMfaDevice in AWS CLI Command Reference.

generate-organizations-access-report

The following code example shows how to use generate-organizations-access-report.

**AWS CLI**

**Example 1: To generate an access report for a root in an organization**

The following generate-organizations-access-report example starts a background job to create an access report for the specified root in an organization. You can display the report after it's created by running the get-organizations-access-report command.

```
aws iam generate-organizations-access-report \
   --entity-path o-4fxmplt198/r-c3xb
```

Output:
```
{
   "JobId": "a8b6c06f-aaa4-8xmp-28bc-81da71836359"
}
```

**Example 2: To generate an access report for an account in an organization**

The following generate-organizations-access-report example starts a background job to create an access report for account ID 123456789012 in the organization o-4fxmplt198. You can display the report after it's created by running the get-organizations-access-report command.

```
aws iam generate-organizations-access-report \
   --entity-path o-4fxmplt198/r-c3xb/123456789012
```
Example 3: To generate an access report for an account in an organizational unit in an organization

The following generate-organizations-access-report example starts a background job to create an access report for account ID 234567890123 in organizational unit ou-c3xb-lmu7j2yg in the organization o-4fxmplt198. You can display the report after it's created by running the get-organizations-access-report command.

```bash
aws iam generate-organizations-access-report \
    --entity-path o-4fxmplt198/r-c3xb/ou-c3xb-lmu7j2yg/234567890123
```

Output:

```json
{
    "JobId": "2eb6c2e6-0xmp-ec04-1425-c937916a64af"
}
```

To get details about roots and organizational units in your organization, use the organizations list-roots and organizations list-organizational-units-for-parent commands.

For more information, see Refining permissions in AWS using last accessed information in the AWS IAM User Guide.

- For API details, see GenerateOrganizationsAccessReport in AWS CLI Command Reference.

generate-service-last-accessed-details

The following code example shows how to use generate-service-last-accessed-details.

AWS CLI

Example 1: To generate a service access report for a custom policy
The following `generate-service-last-accessed-details` example starts a background job to generate a report that lists the services accessed by IAM users and other entities with a custom policy named `intern-boundary`. You can display the report after it is created by running the `get-service-last-accessed-details` command.

```bash
aws iam generate-service-last-accessed-details \
  --arn arn:aws:iam::123456789012:policy/intern-boundary
```

Output:

```json
{
  "JobId": "2eb6c2b8-7b4c-3xmp-3c13-03b72c8cdfdc"
}
```

**Example 2: To generate a service access report for the AWS managed AdministratorAccess policy**

The following `generate-service-last-accessed-details` example starts a background job to generate a report that lists the services accessed by IAM users and other entities with the AWS managed `AdministratorAccess` policy. You can display the report after it is created by running the `get-service-last-accessed-details` command.

```bash
aws iam generate-service-last-accessed-details \
  --arn arn:aws:iam::aws:policy/AdministratorAccess
```

Output:

```json
{
  "JobId": "78b6c2ba-d09e-6xmp-7039-ecde30b26916"
}
```

For more information, see [Refining permissions in AWS using last accessed information](https://docs.aws.amazon.com/IAM/latest/UserGuide/id_so_lastaccessed.html) in the *AWS IAM User Guide*.

- For API details, see [GenerateServiceLastAccessedDetails](https://docs.aws.amazon.com/cli/latest/reference/iam/generate-service-last-accessed-details.html) in *AWS CLI Command Reference*.

**get-context-keys-for-custom-policy**

The following code example shows how to use `get-context-keys-for-custom-policy`.

```bash
```
Example 1: To list the context keys referenced by one or more custom JSON policies provided as a parameter on the command line

The following get-context-keys-for-custom-policy command parses each supplied policy and lists the context keys used by those policies. Use this command to identify which context key values you must supply to successfully use the policy simulator commands simulate-custom-policy and simulate-custom-policy. You can also retrieve the list of context keys used by all policies associated by an IAM user or role by using the get-context-keys-for-custom-policy command. Parameter values that begin with file:// instruct the command to read the file and use the contents as the value for the parameter instead of the file name itself.

```bash
aws iam get-context-keys-for-custom-policy \
  --policy-input-list '{"Version":"2012-10-17","Statement":
{"aws:CurrentTime":"2015-08-16T12:00:00Z"}}}'}
```

Output:

```json
{
  "ContextKeyNames": [  
    "aws:username",
    "aws:CurrentTime"
  ]
}
```

Example 2: To list the context keys referenced by one or more custom JSON policies provided as a file input

The following get-context-keys-for-custom-policy command is the same as the previous example, except that the policies are provided in a file instead of as a parameter. Because the command expects a JSON list of strings, and not a list of JSON structures, the file must be structured as follows, although you can collapse it into one one.

```
[  
  "Policy1",
  "Policy2"
]```
So for example, a file that contains the policy from the previous example must look like the following. You must escape each embedded double-quote inside the policy string by preceding it with a backslash ".

```
[ {
    "Version": "2012-10-17",
    "Statement": {
      "Effect": "Allow",
      "Action": "dynamodb:*",
    },
    "Condition": {
      "DateGreaterThan": {
        "aws:CurrentTime": "2015-08-16T12:00:00Z"
      }
    }
  }
]```

This file can then be submitted to the following command.

```
aws iam get-context-keys-for-custom-policy \
   --policy-input-list file://policyfile.json
```

Output:

```
{
    "ContextKeyNames": [
      "aws:username",
      "aws:CurrentTime"
    ]
}
```

For more information, see Using the IAM Policy Simulator (AWS CLI and AWS API) in the AWS IAM User Guide.

- For API details, see GetContextKeysForCustomPolicy in AWS CLI Command Reference.

get-context-keys-for-principal-policy

The following code example shows how to use get-context-keys-for-principal-policy.

AWS CLI

To list the context keys referenced by all policies associated with an IAM principal

The following get-context-keys-for-principal-policy command retrieves all policies that are attached to the user saanvi and any groups she is a member of. It then parses
each and lists the context keys used by those policies. Use this command to identify which context key values you must supply to successfully use the `simulate-custom-policy` and `simulate-principal-policy` commands. You can also retrieve the list of context keys used by an arbitrary JSON policy by using the `get-context-keys-for-custom-policy` command.

```
aws iam get-context-keys-for-principal-policy \
   --policy-source-arn arn:aws:iam::123456789012:user/saanvi
```

Output:
```
{
   "ContextKeyNames": [
      "aws:username",
      "aws:CurrentTime"
   ]
}
```


### get-group

The following code example shows how to use `get-group`.

**AWS CLI**

**To get an IAM group**

This example returns details about the IAM group Admins.

```
aws iam get-group \
   --group-name Admins
```

Output:
```
{
   "Group": {
```


### get-group-policy

The following code example shows how to use `get-group-policy`.

**AWS CLI**

To get information about a policy attached to an IAM group

The following `get-group-policy` command gets information about the specified policy attached to the group named `Test-Group`.

```bash
aws iam get-group-policy
   --group-name Test-Group
   --policy-name S3-ReadOnly-Policy
```

Output:

```json
{
   "GroupName": "Test-Group",
   "PolicyDocument": {
      "Statement": [
         {
            "Action": ["s3:Get*", "s3:List*"],
            "Resource": "*",
            "Effect": "Allow"
         }
      ]
   }
}
```
get-instance-profile

The following code example shows how to use `get-instance-profile`.

**AWS CLI**

**To get information about an instance profile**

The following `get-instance-profile` command gets information about the instance profile named `ExampleInstanceProfile`.

```bash
aws iam get-instance-profile \
    --instance-profile-name ExampleInstanceProfile
```

**Output:**

```
{
    "InstanceProfile": {
        "InstanceProfileId": "AID2MAB8DPLSRHEXAMPLE",
        "Roles": [
            {
                "AssumeRolePolicyDocument": "<URL-encoded-JSON>",
                "RoleId": "AIDGPMS9RO4H3FEXAMPLE",
                "CreateDate": "2013-01-09T06:33:26Z",
                "RoleName": "Test-Role",
                "Path": "/",
                "Arn": "arn:aws:iam::336924118301:role/Test-Role"
            }
        ],
        "CreateDate": "2013-06-12T23:52:02Z",
        "InstanceProfileName": "ExampleInstanceProfile",
        "Path": "/",
```

For more information, see [Managing IAM policies](https://docs.aws.amazon.com/IAM/latest/UserGuide/index.html) in the *AWS IAM User Guide*.

- For API details, see [GetGroupPolicy](https://docs.aws.amazon.com/cli/latest/reference/iam/get-group-policy.html) in *AWS CLI Command Reference*. 

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For more information, see Using instance profiles in the AWS IAM User Guide.

- For API details, see GetInstanceProfile in AWS CLI Command Reference.

get-login-profile

The following code example shows how to use get-login-profile.

AWS CLI

To get password information for an IAM user

The following get-login-profile command gets information about the password for the IAM user named Bob.

```
aws iam get-login-profile \
   --user-name Bob
```

Output:

```
{
   "LoginProfile": {
      "UserName": "Bob",
      "CreateDate": "2012-09-21T23:03:39Z"
   }
}
```

The get-login-profile command can be used to verify that an IAM user has a password. The command returns a NoSuchEntity error if no password is defined for the user.

You cannot view a password using this command. If the password is lost, you can reset the password (update-login-profile) for the user. Alternatively, you can delete the login profile (delete-login-profile) for the user and then create a new one (create-login-profile).

For more information, see Managing passwords for IAM users in the AWS IAM User Guide.

- For API details, see GetLoginProfile in AWS CLI Command Reference.
get-mfa-device

The following code example shows how to use get-mfa-device.

AWS CLI

To retrieve information about a FIDO security key

The following get-mfa-device command example retrieves information about the specified FIDO security key.

```bash
aws iam get-mfa-device \
    --serial-number arn:aws:iam::123456789012:u2f/user/alice/fidokeyname-
EXAMPLEBN5FHTECLFG7EXAMPLE
```

Output:

```
{
   "UserName": "alice",
   "SerialNumber": "arn:aws:iam::123456789012:u2f/user/alice/fidokeyname-
EXAMPLEBN5FHTECLFG7EXAMPLE",
   "EnableDate": "2023-09-19T01:49:18+00:00",
   "Certifications": {
       "FIDO": "L1"
   }
}
```

For more information, see [Using multi-factor authentication (MFA) in AWS](https://docs.aws.amazon.com/iam/latest用户提供Using multi-factor authentication (MFA) in AWS in the AWS IAM User Guide).


get-open-id-connect-provider

The following code example shows how to use get-open-id-connect-provider.

AWS CLI

To return information about the specified OpenID Connect provider

This example returns details about the OpenID Connect provider whose ARN is `arn:aws:iam::123456789012:oidc-provider/server.example.com`. 
aws iam get-open-id-connect-provider \
   --open-id-connect-provider-arn arn:aws:iam::123456789012:oidc-provider/server.example.com

Output:

```
{
   "Url": "server.example.com",
   "CreateDate": "2015-06-16T19:41:48Z",
   "ThumbprintList": [
      "12345abcdefghijk67890lmnopqrst987example"
   ],
   "ClientIDList": [
      "example-application-ID"
   ]
}
```

For more information, see Creating OpenID Connect (OIDC) identity providers in the AWS IAM User Guide.

- For API details, see GetOpenIdConnectProvider in AWS CLI Command Reference.

get-organizations-access-report

The following code example shows how to use get-organizations-access-report.

**AWS CLI**

To retrieve an access report

The following get-organizations-access-report example displays a previously generated access report for an AWS Organizations entity. To generate a report, use the generate-organizations-access-report command.

```
aws iam get-organizations-access-report \\
   --job-id a8b6c06f-aaa4-8xmp-28bc-81da71836359
```

Output:

```
{
   "JobStatus": "COMPLETED",
```
For more information, see [Refining permissions in AWS using last accessed information](https://docs.aws.amazon.com/iam/latest/userguide/refine-permissions-last-accessed.html) in the [AWS IAM User Guide](https://docs.aws.amazon.com/iam/latest/userguide/)


**get-role-policy**

The following code example shows how to use `get-role-policy`.

**AWS CLI**

To get information about a policy attached to an IAM role

The following `get-role-policy` command gets information about the specified policy attached to the role named Test-Role.

```bash
aws iam get-role-policy \
  --role-name Test-Role \
  --policy-name ExamplePolicy
```

Output:

```json
{
  "RoleName": "Test-Role",
  "PolicyDocument": {
    "Statement": [
      {
        "Action": ["s3:ListBucket",
```

"JobCreationDate": "2019-09-30T06:53:36.187Z",
"JobCompletionDate": "2019-09-30T06:53:37.547Z",
"NumberOfServicesAccessible": 188,
"NumberOfServicesNotAccessed": 171,
"AccessDetails": [ 
  {
    "ServiceName": "Alexa for Business",
    "ServiceNamespace": "a4b",
    "TotalAuthenticatedEntities": 0
  },
  ...
]`
For more information, see Creating IAM roles in the AWS IAM User Guide.

- For API details, see GetRolePolicy in AWS CLI Command Reference.

get-saml-provider

The following code example shows how to use get-saml-provider.

AWS CLI

To retrieve the SAML provider metadocument

This example retrieves the details about the SAML 2.0 provider whose ARM is arn:aws:iam::123456789012:saml-provider/SAMLADFS. The response includes the metadata document that you got from the identity provider to create the AWS SAML provider entity as well as the creation and expiration dates.

```
aws iam get-saml-provider \
  --saml-provider-arn arn:aws:iam::123456789012:saml-provider/SAMLADFS
```

Output:

```json
{
    "SAMLMetadataDocument": "...SAMLMetadataDocument-XML...",
    "CreateDate": "2017-03-06T22:29:46+00:00",
    "ValidUntil": "2117-03-06T22:29:46.433000+00:00",
    "Tags": [
        {
            "Key": "DeptID",
```
For more information, see Creating IAM SAML identity providers in the AWS IAM User Guide.

- For API details, see GetSamlProvider in AWS CLI Command Reference.

get-service-last-accessed-details

The following code example shows how to use get-service-last-accessed-details.

AWS CLI

**To retrieve a service access report**

The following get-service-last-accessed-details example retrieves a previously generated report that lists the services accessed by IAM entities. To generate a report, use the generate-service-last-accessed-details command.

```
aws iam get-service-last-accessed-details \
    --job-id 2eb6c2b8-7b4c-3xmp-3c13-03b72c8cdfdc
```

Output:

```
{
    "JobStatus": "COMPLETED",
    "JobCreationDate": "2019-10-01T03:50:35.929Z",
    "ServicesLastAccessed": [
        ...
        {
            "ServiceName": "AWS Lambda",
            "LastAuthenticated": "2019-09-30T23:02:00Z",
            "ServiceNamespace": "lambda",
            "LastAuthenticatedEntity": "arn:aws:iam::123456789012:user/admin",
            "TotalAuthenticatedEntities": 6
        }
    ]
}
```
get-service-last-accessed-details-with-entities

The following code example shows how to use `get-service-last-accessed-details-with-entities`.

**AWS CLI**

**To retrieve a service access report with details for a service**

The following `get-service-last-accessed-details-with-entities` example retrieves a report that contains details about IAM users and other entities that accessed the specified service. To generate a report, use the `generate-service-last-accessed-details` command. To get a list of services accessed with namespaces, use `get-service-last-accessed-details`.

```bash
aws iam get-service-last-accessed-details-with-entities \
    --job-id 78b6c2ba-d09e-6xmp-7039-ecde30b26916 \
    --service-namespace lambda
```

Output:

```json
{
    "JobStatus": "COMPLETED",
    "JobCreationDate": "2019-10-01T03:55:41.756Z",
    "JobCompletionDate": "2019-10-01T03:55:42.533Z",
    "EntityDetailsList": [
        {
            "EntityInfo": {
                "Arn": "arn:aws:iam::123456789012:user/admin",
                "Name": "admin",
                "Type": "USER",
                "Id": "AIDAIO2XMPLENQEXAMPLE",
                "Path": "/"
            },
            "LastAuthenticated": "2019-09-30T23:02:00Z"
        }
    ]
}
```
For more information, see Refining permissions in AWS using last accessed information in the AWS IAM User Guide.

- For API details, see GetServiceLastAccessedDetailsWithEntities in AWS CLI Command Reference.

**get-ssh-public-key**

The following code example shows how to use get-ssh-public-key.

**AWS CLI**

**Example 1: To retrieve an SSH public key attached to an IAM user in SSH encoded form**

The following get-ssh-public-key command retrieves the specified SSH public key from the IAM user sofia. The output is in SSH encoding.

```
aws iam get-ssh-public-key \
  --user-name sofia \
  --ssh-public-key-id APKA123456789EXAMPLE \
  --encoding SSH
```

**Output:**

```
{
  "SSHPublicKey": {
    "UserName": "sofia",
    "SSHPublicKeyId": "APKA123456789EXAMPLE",
    "Path": "/",
    "LastAuthenticated": "2019-09-16T19:34:00Z"
  }
}
```
Example 2: To retrieve an SSH public key attached to an IAM user in PEM encoded form

The following `get-ssh-public-key` command retrieves the specified SSH public key from the IAM user sofia. The output is in PEM encoding.

```bash
aws iam get-ssh-public-key
   --user-name sofia
   --ssh-public-key-id APKA123456789EXAMPLE
   --encoding PEM
```

Output:

```json
{
   "SSHPublicKey": {
      "UserName": "sofia",
      "SSHPublicKeyId": "APKA123456789EXAMPLE",
      "SSHPublicKeyBody": "-----BEGIN PUBLIC KEY-----
<<long encoded PEM string>>
-----END PUBLIC KEY-----
",
      "Status": "Inactive",
      "UploadDate": "2019-04-18T17:04:49+00:00"
   }
}
```

For more information, see [Use SSH keys and SSH with CodeCommit](https://docs.aws.amazon.com/IAM/latest/UserGuide/id-auth-profile-ssh-url.html) in the *AWS IAM User Guide*.

- For API details, see [GetSshPublicKey](https://docs.aws.amazon.com/cli/latest/reference/iam/get-ssh-public-key.html) in *AWS CLI Command Reference*.

**get-user-policy**

The following code example shows how to use `get-user-policy`.

**AWS CLI**

*To list policy details for an IAM user*
The following `get-user-policy` command lists the details of the specified policy that is attached to the IAM user named Bob.

```
aws iam get-user-policy \
  --user-name Bob \
  --policy-name ExamplePolicy
```

Output:

```
{
  "UserName": "Bob",
  "PolicyName": "ExamplePolicy",
  "PolicyDocument": {
    "Version": "2012-10-17",
    "Statement": [
      {
        "Action": "*",
        "Resource": "*",
        "Effect": "Allow"
      }
    ]
  }
}
```

To get a list of policies for an IAM user, use the `list-user-policies` command.


- For API details, see [GetUserPolicy](https://docs.aws.amazon.com/cli/latest/reference/iam/get-user-policy.html) in *AWS CLI Command Reference*.

### list-attached-group-policies

The following code example shows how to use `list-attached-group-policies`.

**AWS CLI**

To list all managed policies that are attached to the specified group

This example returns the names and ARNs of the managed policies that are attached to the IAM group named Admins in the AWS account.

```
aws iam list-attached-group-policies \
```
Output:

```json
{
   "AttachedPolicies": [
      {
         "PolicyName": "AdministratorAccess",
         "PolicyArn": "arn:aws:iam::aws:policy/AdministratorAccess"
      },
      {
         "PolicyName": "SecurityAudit",
         "PolicyArn": "arn:aws:iam::aws:policy/SecurityAudit"
      }
   ],
   "IsTruncated": false
}
```

For more information, see [Policies and permissions in IAM](https://docs.aws.amazon.com/IAM/latest/userguide/policies-and-permissions.html) in the *AWS IAM User Guide*.

- For API details, see [ListAttachedGroupPolicies](https://docs.aws.amazon.com/cli/latest/reference/iam/list-attached-group-policies.html) in *AWS CLI Command Reference*.

### list-attached-user-policies

The following code example shows how to use `list-attached-user-policies`.

**AWS CLI**

**To list all managed policies that are attached to the specified user**

This command returns the names and ARNs of the managed policies for the IAM user named `Bob` in the AWS account.

```sh
aws iam list-attached-user-policies \
   --user-name Bob
```

Output:

```json
{
   "AttachedPolicies": [
      {
      
```
For more information, see Policies and permissions in IAM in the AWS IAM User Guide.

- For API details, see ListAttachedUserPolicies in AWS CLI Command Reference.

**list-entities-for-policy**

The following code example shows how to use list-entities-for-policy.

**AWS CLI**

**To list all users, groups, and roles that the specified managed policy is attached to**

This example returns a list of IAM groups, roles, and users who have the policy `arn:aws:iam::123456789012:policy/TestPolicy` attached.

```bash
aws iam list-entities-for-policy \
  --policy-arn arn:aws:iam::123456789012:policy/TestPolicy
```

Output:

```json
{
    "PolicyGroups": [
        {
            "GroupName": "Admins",
            "GroupId": "AGPACKCEVSQ6C2EXAMPLE"
        }
    ],
    "PolicyUsers": [
        {
            "UserName": "Alice",
            "UserId": "AIDACKCEVSQ6C2EXAMPLE"
        }
    ]
}
```
For more information, see Policies and permissions in IAM in the AWS IAM User Guide.

- For API details, see ListEntitiesForPolicy in AWS CLI Command Reference.

**list-group-policies**

The following code example shows how to use list-group-policies.

**AWS CLI**

**To list all inline policies that are attached to the specified group**

The following list-group-policies command lists the names of inline policies that are attached to the IAM group named Admins in the current account.

```bash
aws iam list-group-policies \
  --group-name Admins
```

Output:

```
{
  "PolicyNames": [
    "AdminRoot",
    "ExamplePolicy"
  ]
}
```

For more information, see Managing IAM policies in the AWS IAM User Guide.

- For API details, see ListGroupPolicies in AWS CLI Command Reference.
list-groups-for-user

The following code example shows how to use list-groups-for-user.

AWS CLI

To list the groups that an IAM user belongs to

The following list-groups-for-user command displays the groups that the IAM user named Bob belongs to.

```bash/aws iam list-groups-for-user \
   --user-name Bob
```

Output:

```json
{
  "Groups": [
    {
      "Path": "/",
      "CreateDate": "2013-05-06T01:18:08Z",
      "GroupId": "AKIAIOSFODNN7EXAMPLE",
      "Arn": "arn:aws:iam::123456789012:group/Admin",
      "GroupName": "Admin"
    },
    {
      "Path": "/",
      "CreateDate": "2013-05-06T01:37:28Z",
      "GroupId": "AKIAI44QH8DHEXAMPLE",
      "Arn": "arn:aws:iam::123456789012:group/s3-Users",
      "GroupName": "s3-Users"
    }
  ]
}
```

For more information, see Managing IAM user groups in the AWS IAM User Guide.

- For API details, see ListGroupsForUser in AWS CLI Command Reference.

list-instance-profile-tags

The following code example shows how to use list-instance-profile-tags.
AWS CLI

To list the tags attached to an instance profile

The following `list-instance-profile-tags` command retrieves the list of tags associated with the specified instance profile.

```bash
aws iam list-instance-profile-tags
   --instance-profile-name deployment-role
```

Output:

```json
{
   "Tags": [
       {
           "Key": "DeptID",
           "Value": "123456"
       },
       {
           "Key": "Department",
           "Value": "Accounting"
       }
   ]
}
```

For more information, see Tagging IAM resources in the AWS IAM User Guide.

- For API details, see ListInstanceProfileTags in AWS CLI Command Reference.

**list-instance-profiles**

The following code example shows how to use `list-instance-profiles`.

**AWS CLI**

To lists the instance profiles for the account

The following `list-instance-profiles` command lists the instance profiles that are associated with the current account.

```bash
aws iam list-instance-profiles
```
Output:

```json
{
  "InstanceProfiles": [
    {
      "Path": "/",
      "InstanceProfileName": "example-dev-role",
      "InstanceProfileId": "AIPAIXEU4NUHUPEXAMPLE",
      "Arn": "arn:aws:iam::123456789012:instance-profile/example-dev-role",
      "CreateDate": "2023-09-21T18:17:41+00:00",
      "Roles": [
        {
          "Path": "/",
          "RoleName": "example-dev-role",
          "RoleId": "AROAJ52OTH4H7LEXAMPLE",
          "Arn": "arn:aws:iam::123456789012:role/example-dev-role",
          "CreateDate": "2023-09-21T18:17:40+00:00",
          "AssumeRolePolicyDocument": {
            "Version": "2012-10-17",
            "Statement": [
              {
                "Effect": "Allow",
                "Principal": {
                  "Service": "ec2.amazonaws.com"
                },
                "Action": "sts:AssumeRole"
              }
            ]
          }
        }
      ]
    },
    {
      "Path": "/",
      "InstanceProfileName": "example-s3-role",
      "InstanceProfileId": "AIPAJVJVNRIQFREXAMPLE",
      "Arn": "arn:aws:iam::123456789012:instance-profile/example-s3-role",
      "CreateDate": "2023-09-21T18:18:50+00:00",
      "Roles": [
        {
          "Path": "/",
          "RoleName": "example-s3-role",
          "RoleId": "AROAINUBC5O7XLEXAMPLE",
          "Arn": "arn:aws:iam::123456789012:role/example-s3-role",
```
For more information, see [Using instance profiles](#) in the AWS IAM User Guide.

- For API details, see [ListInstanceProfiles](#) in AWS CLI Command Reference.

list-instance-profiles-for-role

The following code example shows how to use list-instance-profiles-for-role.

**AWS CLI**

**To list the instance profiles for an IAM role**

The following list-instance-profiles-for-role command lists the instance profiles that are associated with the role Test-Role.

```bash
aws iam list-instance-profiles-for-role \   --role-name Test-Role
```

Output:

```json
{
   "InstanceProfiles": [
   
   ]
}
```
For more information, see Using instance profiles in the AWS IAM User Guide.

- For API details, see ListInstanceProfilesForRole in AWS CLI Command Reference.

**list-mfa-device-tags**

The following code example shows how to use list-mfa-device-tags.

**AWS CLI**

To list the tags attached to an MFA device

The following list-mfa-device-tags command retrieves the list of tags associated with the specified MFA device.

```bash
aws iam list-mfa-device-tags \
    --serial-number arn:aws:iam::123456789012:mfa/alice
```

**Output:**

```json
{
    "Tags": [
        {
            "TagKey": "ExampleTag1",
            "TagValue": "Value1"
        },
        {
            "TagKey": "ExampleTag2",
            "TagValue": "Value2"
        }
    ]
}
```
For more information, see Tagging IAM resources in the AWS IAM User Guide.

- For API details, see ListMfaDeviceTags in AWS CLI Command Reference.

### list-mfa-devices

The following code example shows how to use list-mfa-devices.

**AWS CLI**

**To list all MFA devices for a specified user**

This example returns details about the MFA device assigned to the IAM user Bob.

```bash
aws iam list-mfa-devices \
    --user-name Bob
```

**Output:**

```json
{
    "MFADevices": [
        {
            "UserName": "Bob",
            "SerialNumber": "arn:aws:iam::123456789012:mfa/Bob",
            "EnableDate": "2019-10-28T20:37:09+00:00"
        },
        {
            "UserName": "Bob",
            "SerialNumber": "GAKT12345678",
            "EnableDate": "2023-02-18T21:44:42+00:00"
        },
        {
            "UserName": "Bob",
```
For more information, see Using multi-factor authentication (MFA) in AWS in the AWS IAM User Guide.

• For API details, see ListMfaDevices in AWS CLI Command Reference.

list-open-id-connect-provider-tags

The following code example shows how to use list-open-id-connect-provider-tags.

AWS CLI

To list the tags attached to an OpenID Connect (OIDC)-compatible identity provider

The following list-open-id-connect-provider-tags command retrieves the list of tags associated with the specified OIDC identity provider.

```bash
aws iam list-open-id-connect-provider-tags \
   --open-id-connect-provider-arn arn:aws:iam::123456789012:oidc-provider/server.example.com
```

Output:

```json
{
   "Tags": [
      {
         "Key": "DeptID",
         "Value": "123456"
      },
      {
```
"Key": "Department",
"Value": "Accounting"
}]
}

For more information, see Tagging IAM resources in the AWS IAM User Guide.

- For API details, see ListOpenIdConnectProviderTags in AWS CLI Command Reference.

list-open-id-connect-providers

The following code example shows how to use list-open-id-connect-providers.

AWS CLI

To list information about the OpenID Connect providers in the AWS account

This example returns a list of ARNs of all the OpenID Connect providers that are defined in the current AWS account.

aws iam list-open-id-connect-providers

Output:

{
    "OpenIDConnectProviderList": [
      {
        "Arn": "arn:aws:iam::123456789012:oidc-provider/example.oidcprovider.com"
      }
    ]
}

For more information, see Creating OpenID Connect (OIDC) identity providers in the AWS IAM User Guide.

- For API details, see ListOpenIdConnectProviders in AWS CLI Command Reference.

list-policies-granting-service-access

The following code example shows how to use list-policies-granting-service-access.
AWS CLI

To list the policies that grant a principal access to the specified service

The following `list-policies-granting-service-access` example retrieves the list of policies that grant the IAM user sofia access to AWS CodeCommit service.

```bash
aws iam list-policies-granting-service-access \
  --arn arn:aws:iam::123456789012:user/sofia \
  --service-namespaces codecommit
```

Output:

```json
{
  "PoliciesGrantingServiceAccess": [
    {
      "ServiceNamespace": "codecommit",
      "Policies": [
        {
          "PolicyName": "Grant-Sofia-Access-To-CodeCommit",
          "PolicyType": "INLINE",
          "EntityType": "USER",
          "EntityName": "sofia"
        }
      ]
    }
  ],
  "IsTruncated": false
}
```

For more information, see Using IAM with CodeCommit: Git credentials, SSH keys, and AWS access keys in the AWS IAM User Guide.

- For API details, see `ListPoliciesGrantingServiceAccess` in AWS CLI Command Reference.

list-policy-tags

The following code example shows how to use `list-policy-tags`.

AWS CLI

To list the tags attached to a managed policy
The following `list-policy-tags` command retrieves the list of tags associated with the specified managed policy.

```bash
aws iam list-policy-tags \
   --policy-arn arn:aws:iam::123456789012:policy/billing-access
```

Output:

```json
{
   "Tags": [
      {
         "Key": "DeptID",
         "Value": "123456"
      },
      {
         "Key": "Department",
         "Value": "Accounting"
      }
   ]
}
```

For more information, see [Tagging IAM resources](https://docs.aws.amazon.com/IAM/latest/UserGuide.idtaggingconcepts.html) in the AWS IAM User Guide.

- For API details, see `ListPolicyTags` in AWS CLI Command Reference.

### list-policy-versions

The following code example shows how to use `list-policy-versions`.

**AWS CLI**

**To list information about the versions of the specified managed policy**

This example returns the list of available versions of the policy whose ARN is `arn:aws:iam::123456789012:policy/MySamplePolicy`.

```bash
aws iam list-policy-versions \
   --policy-arn arn:aws:iam::123456789012:policy/MySamplePolicy
```

Output:

```json
{
}
```
The following code example shows how to use `list-role-tags`.

**AWS CLI**

To list the tags attached to a role

The following `list-role-tags` command retrieves the list of tags associated with the specified role.

```bash
aws iam list-role-tags \
    --role-name production-role
```

Output:

```json
{
    "Tags": [
        {
            "Key": "Department",
            "Value": "Accounting"
        },
```

For more information, see [Policies and permissions in IAM](https://docs.aws.amazon.com/IAM/latest/UserGuide/governance_policies.html) in the *AWS IAM User Guide*.

- For API details, see [ListPolicyVersions](https://docs.aws.amazon.com/cli/latest/reference/iam/list-policy-versions.html) in *AWS CLI Command Reference*.
For more information, see Tagging IAM resources in the AWS IAM User Guide.

- For API details, see ListRoleTags in AWS CLI Command Reference.

list-saml-provider-tags

The following code example shows how to use list-saml-provider-tags.

AWS CLI

To list the tags attached to a SAML provider

The following list-saml-provider-tags command retrieves the list of tags associated with the specified SAML provider.

```
aws iam list-saml-provider-tags \
   --saml-provider-arn arn:aws:iam::123456789012:saml-provider/ADFS
```

Output:

```
{
   "Tags": [
      {
         "Key": "DeptID",
         "Value": "12345"
      },
      {
         "Key": "Department",
         "Value": "Accounting"
      }
   ]
}
```

For more information, see Tagging IAM resources in the AWS IAM User Guide.

- For API details, see ListSamlProviderTags in AWS CLI Command Reference.
list-server-certificate-tags

The following code example shows how to use list-server-certificate-tags.

**AWS CLI**

**To list the tags attached to a server certificate**

The following list-server-certificate-tags command retrieves the list of tags associated with the specified server certificate.

```bash
aws iam list-server-certificate-tags "server-certificate-name ExampleCertificate"
```

**Output:**

```
{
  "Tags": [
    {
      "Key": "DeptID",
      "Value": "123456"
    },
    {
      "Key": "Department",
      "Value": "Accounting"
    }
  ]
}
```

For more information, see [Tagging IAM resources](https://docs.aws.amazon.com/IAM/latest/UserGuide/id_tagging.html) in the *AWS IAM User Guide*.

- For API details, see [ListServerCertificateTags](https://docs.aws.amazon.com/cli/latest/reference/iam/list-server-certificate-tags.html) in *AWS CLI Command Reference*.

list-service-specific-credential

The following code example shows how to use list-service-specific-credential.

**AWS CLI**

**Example 1: List the service-specific credentials for a user**

The following list-service-specific-credentials example displays all service-specific credentials assigned to the specified user. Passwords are not included in the response.
aws iam list-service-specific-credentials \
   --user-name sofia

Output:

{
   "ServiceSpecificCredential": {
      "CreateDate": "2019-04-18T20:45:36+00:00",
      "ServiceName": "codecommit.amazonaws.com",
      "ServiceUserName": "sofia-at-123456789012",
      "ServiceSpecificCredentialId": "ACCAEXAMPLE123EXAMPLE",
      "UserName": "sofia",
      "Status": "Active"
   }
}

Example 2: List the service-specific credentials for a user filtered to a specified service

The following list-service-specific-credentials example displays the service-specific credentials assigned to the user making the request. The list is filtered to include only those credentials for the specified service. Passwords are not included in the response.

aws iam list-service-specific-credentials \
   --service-name codecommit.amazonaws.com

Output:

{
   "ServiceSpecificCredential": {
      "CreateDate": "2019-04-18T20:45:36+00:00",
      "ServiceName": "codecommit.amazonaws.com",
      "ServiceUserName": "sofia-at-123456789012",
      "ServiceSpecificCredentialId": "ACCAEXAMPLE123EXAMPLE",
      "UserName": "sofia",
      "Status": "Active"
   }
}

For more information, see Create Git credentials for HTTPS connections to CodeCommit in the AWS CodeCommit User Guide.

- For API details, see ListServiceSpecificCredential in AWS CLI Command Reference.
**list-service-specific-credentials**

The following code example shows how to use `list-service-specific-credentials`.

**AWS CLI**

**To retrieve a list of credentials**

The following `list-service-specific-credentials` example lists the credentials generated for HTTPS access to AWS CodeCommit repositories for a user named developer.

```
aws iam list-service-specific-credentials \
   --user-name developer \ 
   --service-name codecommit.amazonaws.com
```

**Output:**

```
{
   "ServiceSpecificCredentials": [
    {
      "UserName": "developer",
      "Status": "Inactive",
      "ServiceUserName": "developer-at-123456789012",
      "CreateDate": "2019-10-01T04:31:41Z",
      "ServiceSpecificCredentialId": "ACCAQFODXMPL4YFHP7DZE",
      "ServiceName": "codecommit.amazonaws.com"
    },
    {
      "UserName": "developer",
      "Status": "Active",
      "ServiceUserName": "developer+1-at-123456789012",
      "CreateDate": "2019-10-01T04:31:45Z",
      "ServiceSpecificCredentialId": "ACCAQFOXMP6VW57M7AJP",
      "ServiceName": "codecommit.amazonaws.com"
    }
   ]
}
```

For more information, see [Create Git credentials for HTTPS connections to CodeCommit](https://docs.aws.amazon.com/CodeCommit/latest/userguide/create-gmt-connect.html) in the [AWS CodeCommit User Guide](https://docs.aws.amazon.com/CodeCommit/latest/userguide/).

- For API details, see [ListServiceSpecificCredentials](https://docs.aws.amazon.com/cli/latest/reference/iam/list-service-specific-credentials.html) in [AWS CLI Command Reference](https://docs.aws.amazon.com/cli/latest/reference/).
list-signing-certificates

The following code example shows how to use `list-signing-certificates`.

**AWS CLI**

To list the signing certificates for an IAM user

The following `list-signing-certificates` command lists the signing certificates for the IAM user named Bob.

```bash
aws iam list-signing-certificates \
   --user-name Bob
```

Output:

```json
{
   "Certificates": [
      {
         "UserName": "Bob",
         "Status": "Inactive",
         "CertificateBody": "-----BEGIN CERTIFICATE-----<certificate-body>-----END CERTIFICATE-----",
         "CertificateId": "TA7SMP42TDN5Z26OBPJE7EXAMPLE",
         "UploadDate": "2013-06-06T21:40:08Z"
      }
   ]
}
```

For more information, see Manage signing certificates in the Amazon EC2 User Guide.

- For API details, see ListSigningCertificates in AWS CLI Command Reference.

list-ssh-public-keys

The following code example shows how to use `list-ssh-public-keys`.

**AWS CLI**

To list the SSH public keys attached to an IAM user

The following `list-ssh-public-keys` example lists the SSH public keys attached to the IAM user sofia.
aws iam list-ssh-public-keys \
   --user-name sofia

Output:

```json
{
    "SSHPublicKeys": [
        {
            "UserName": "sofia",
            "SSHPublicKeyId": "APKA1234567890EXAMPLE",
            "Status": "Inactive",
            "UploadDate": "2019-04-18T17:04:49+00:00"
        }
    ]
}
```

For more information, see Use SSH keys and SSH with CodeCommit in the AWS IAM User Guide
- For API details, see ListSshPublicKeys in AWS CLI Command Reference.

list-user-tags

The following code example shows how to use list-user-tags.

AWS CLI

To list the tags attached to a user

The following list-user-tags command retrieves the list of tags associated with the specified IAM user.

aws iam list-user-tags \
   --user-name alice

Output:

```json
{
    "Tags": [
        {
            "Key": "Department",
            "Value": "Accounting"
        }
    ]
}
```
For more information, see Tagging IAM resources in the AWS IAM User Guide.

• For API details, see ListUserTags in AWS CLI Command Reference.

list-virtual-mfa-devices

The following code example shows how to use list-virtual-mfa-devices.

AWS CLI

To list virtual MFA devices

The following list-virtual-mfa-devices command lists the virtual MFA devices that have been configured for the current account.

```
aws iam list-virtual-mfa-devices
```

Output:

```
{
   "VirtualMFADevices": [ [ "SerialNumber": "arn:aws:iam::123456789012:mfa/ExampleMFADevice" ], [ "SerialNumber": "arn:aws:iam::123456789012:mfa/Fred" ] ]
}
```

For more information, see Enabling a virtual multi-factor authentication (MFA) device in the AWS IAM User Guide.

• For API details, see ListVirtualMfaDevices in AWS CLI Command Reference.
put-role-permissions-boundary

The following code example shows how to use `put-role-permissions-boundary`.

**AWS CLI**

**Example 1: To apply a permissions boundary based on a custom policy to an IAM role**

The following `put-role-permissions-boundary` example applies the custom policy named `intern-boundary` as the permissions boundary for the specified IAM role.

```bash
aws iam put-role-permissions-boundary \
  --permissions-boundary arn:aws:iam::123456789012:policy/intern-boundary \
  --role-name lambda-application-role
```

This command produces no output.

**Example 2: To apply a permissions boundary based on an AWS managed policy to an IAM role**

The following `put-role-permissions-boundary` example applies the AWS managed `PowerUserAccess` policy as the permissions boundary for the specified IAM role.

```bash
aws iam put-role-permissions-boundary \
  --permissions-boundary arn:aws:iam::aws:policy/PowerUserAccess \
  --role-name x-account-admin
```

This command produces no output.

For more information, see [Modifying a role](https://docs.aws.amazon.com/IAM/latest/UserGuide/id修改-role.html) in the *AWS IAM User Guide*.

- For API details, see [PutRolePermissionsBoundary](https://docs.aws.amazon.com/cli/latest/reference/iam/put-role-permissions-boundary.html) in *AWS CLI Command Reference*.

put-user-permissions-boundary

The following code example shows how to use `put-user-permissions-boundary`.

**AWS CLI**

**Example 1: To apply a permissions boundary based on a custom policy to an IAM user**

The following `put-user-permissions-boundary` example applies a custom policy named `intern-boundary` as the permissions boundary for the specified IAM user.
aws iam put-user-permissions-boundary \
    --permissions-boundary arn:aws:iam::123456789012:policy/intern-boundary \
    --user-name intern

This command produces no output.

**Example 2: To apply a permissions boundary based on an AWS managed policy to an IAM user**

The following `put-user-permissions-boundary` example applies the AWS managed policy named `PowerUserAccess` as the permissions boundary for the specified IAM user.

aws iam put-user-permissions-boundary \
    --permissions-boundary arn:aws:iam::aws:policy/PowerUserAccess \
    --user-name developer

This command produces no output.


- For API details, see [PutUserPermissionsBoundary](https://docs.aws.amazon.com/cli/latest/reference/iam/put-user-permissions-boundary.html) in *AWS CLI Command Reference*.

**remove-client-id-from-open-id-connect-provider**

The following code example shows how to use `remove-client-id-from-open-id-connect-provider`.

**AWS CLI**

**To remove the specified client ID from the list of client IDs registered for the specified IAM OpenID Connect provider**

This example removes the client ID `My-TestApp-3` from the list of client IDs associated with the IAM OIDC provider whose ARN is `arn:aws:iam::123456789012:oidc-provider/example.oidcprovider.com`.

aws iam remove-client-id-from-open-id-connect-provider \
    --client-id My-TestApp-3 \
    --open-id-connect-provider-arn arn:aws:iam::123456789012:oidc-provider/example.oidcprovider.com
This command produces no output.

For more information, see Creating OpenID Connect (OIDC) identity providers in the AWS IAM User Guide.

• For API details, see RemoveClientIdFromOpenIdConnectProvider in AWS CLI Command Reference.

remove-role-from-instance-profile

The following code example shows how to use remove-role-from-instance-profile.

AWS CLI

To remove a role from an instance profile

The following remove-role-from-instance-profile command removes the role named Test-Role from the instance profile named ExampleInstanceProfile.

```bash
aws iam remove-role-from-instance-profile \
   --instance-profile-name ExampleInstanceProfile \
   --role-name Test-Role
```

For more information, see Using instance profiles in the AWS IAM User Guide.

• For API details, see RemoveRoleFromInstanceProfile in AWS CLI Command Reference.

reset-service-specific-credential

The following code example shows how to use reset-service-specific-credential.

AWS CLI

Example 1: Reset the password for a service-specific credential attached to the user making the request

The following reset-service-specific-credential example generates a new cryptographically strong password for the specified service-specific credential attached to the user making the request.

```bash
aws iam reset-service-specific-credential \
   --service-specific-credential-id ACCAEXAMPLE123EXAMPLE
```
Example 2: Reset the password for a service-specific credential attached to a specified user

The following `reset-service-specific-credential` example generates a new cryptographically strong password for a service-specific credential attached to the specified user.

```
aws iam reset-service-specific-credential \
    --user-name sofia \
    --service-specific-credential-id ACCAEXAMPLE123EXAMPLE
```

Output:

```
{
    "ServiceSpecificCredential": {
        "CreateDate": "2019-04-18T20:45:36+00:00",
        "ServiceName": "codecommit.amazonaws.com",
        "ServiceUserName": "sofia-at-123456789012",
        "ServicePassword": "+oaFsNk7tLco+C/obP9GhhcOzGcKOayTmE3LnAmAmH4=",
        "ServiceSpecificCredentialId": "ACCAEXAMPLE123EXAMPLE",
        "UserName": "sofia",
        "Status": "Active"
    }
}
```

For more information, see Create Git credentials for HTTPS connections to CodeCommit in the AWS CodeCommit User Guide.

- For API details, see ResetServiceSpecificCredential in AWS CLI Command Reference.
**resync-mfa-device**

The following code example shows how to use `resync-mfa-device`.

**AWS CLI**

**To synchronize an MFA device**

The following `resync-mfa-device` example synchronizes the MFA device that is associated with the IAM user Bob and whose ARN is `arn:aws:iam::123456789012:mfa/BobsMFADevice` with an authenticator program that provided the two authentication codes.

```bash
aws iam resync-mfa-device \
    --user-name Bob \
    --serial-number arn:aws:iam::210987654321:mfa/BobsMFADevice \
    --authentication-code1 123456 \
    --authentication-code2 987654
```

This command produces no output.

For more information, see Using multi-factor authentication (MFA) in AWS in the AWS IAM User Guide.

- For API details, see `ResyncMfaDevice` in AWS CLI Command Reference.

**set-default-policy-version**

The following code example shows how to use `set-default-policy-version`.

**AWS CLI**

**To set the specified version of the specified policy as the policy's default version.**

This example sets the v2 version of the policy whose ARN is `arn:aws:iam::123456789012:policy/MyPolicy` as the default active version.

```bash
aws iam set-default-policy-version \
    --policy-arn arn:aws:iam::123456789012:policy/MyPolicy \
    --version-id v2
```

For more information, see Policies and permissions in IAM in the AWS IAM User Guide.
For API details, see `SetDefaultPolicyVersion` in *AWS CLI Command Reference*.

**set-security-token-service-preferences**

The following code example shows how to use `set-security-token-service-preferences`.

**AWS CLI**

To set the global endpoint token version

The following `set-security-token-service-preferences` example configures Amazon STS to use version 2 tokens when you authenticate against the global endpoint.

```bash
aws iam set-security-token-service-preferences \
  --global-endpoint-token-version v2Token
```

This command produces no output.

For more information, see *Managing AWS STS in an AWS Region* in the *AWS IAM User Guide*.

For API details, see `SetSecurityTokenServicePreferences` in *AWS CLI Command Reference*.

**simulate-custom-policy**

The following code example shows how to use `simulate-custom-policy`.

**AWS CLI**

**Example 1: To simulate the effects of all IAM policies associated with an IAM user or role**

The following `simulate-custom-policy` shows how to provide both the policy and define variable values and simulate an API call to see if it is allowed or denied. The following example shows a policy that enables database access only after a specified date and time. The simulation succeeds because the simulated actions and the specified `aws:CurrentTime` variable all match the requirements of the policy.

```bash
aws iam simulate-custom-policy \
  --policy-input-list '{"Version":"2012-10-17","Statement":\n  {"Effect":"Allow","Action":"dynamodb:*","Resource":"*","Condition":\n  {"DateGreaterThan":{"aws:CurrentTime":"2018-08-16T12:00:00Z"}}}\n  --action-names dynamodb:CreateBackup \n```
Example 2: To simulate a command that is prohibited by the policy

The following simulate-custom-policy example shows the results of simulating a command that is prohibited by the policy. In this example, the provided date is before that required by the policy's condition.

```
aws iam simulate-custom-policy
   --policy-input-list '{"Version":"2012-10-17","Statement":
   {"Effect":"Allow","Action":"dynamodb:*","Resource":"*","Condition":
   {"DateGreaterThanOrEqual":{"aws:CurrentTime":"2018-08-16T12:00:00Z"}}}}'
   --action-names dynamodb:CreateBackup
   --context-entries
   "ContextKeyName='aws:CurrentTime',ContextKeyValues='2014-04-25T11:00:00Z',ContextKeyType=date"
```

Output:

```json
{
   "EvaluationResults": [
      {
         "EvalActionName": "dynamodb:CreateBackup",
         "EvalResourceName": "*",
         "EvalDecision": "implicitDeny",
         "MatchedStatements": [],
         "MissingContextValues": []
      }
   ]
}
```

For more information, see Testing IAM policies with the IAM policy simulator in the AWS IAM User Guide.

- For API details, see SimulateCustomPolicy in AWS CLI Command Reference.

**simulate-principal-policy**

The following code example shows how to use simulate-principal-policy.

**AWS CLI**

**Example 1: To simulate the effects of an arbitrary IAM policy**

The following simulate-principal-policy shows how to simulate a user calling an API action and determining whether the policies associated with that user allow or deny the action. In the following example, the user has a policy that allows only the codecommit:ListRepositories action.

```bash
aws iam simulate-principal-policy \
   --policy-source-arn arn:aws:iam::123456789012:user/alejandro \
   --action-names codecommit:ListRepositories
```

Output:

```json
{
   "EvaluationResults": [
      {
         "EvalActionName": "codecommit:ListRepositories",
         "EvalResourceName": "*",
         "EvalDecision": "allow",
         "MatchedStatements": [],
         "MissingContextValues": []
      }
   ]
}
```
"EvalResourceName": "*",
"EvalDecision": "allowed",
"MatchedStatements": [
  {
    "SourcePolicyId": "Grant-Access-To-CodeCommit-ListRepo",
    "StartPosition": {
      "Line": 3,
      "Column": 19
    },
    "EndPosition": {
      "Line": 9,
      "Column": 10
    }
  }
],
"MissingContextValues": []
]

Example 2: To simulate the effects of a prohibited command

The following simulate-custom-policy example shows the results of simulating a command that is prohibited by one of the user's policies. In the following example, the user has a policy that permits access to a DynamoDB database only after a certain date and time. The simulation has the user attempting to access the database with an `aws:CurrentTime` value that is earlier than the policy's condition permits.

```bash
aws iam simulate-principal-policy \
  --policy-source-arn arn:aws:iam::123456789012:user/alejandro \
  --action-names dynamodb:CreateBackup \
  --context-entries
  "ContextKeyName='aws:CurrentTime',ContextKeyValues='2018-04-25T11:00:00Z',ContextKeyType=date"
```

Output:

```json
{
  "EvaluationResults": [
    {
      "EvalActionName": "dynamodb:CreateBackup",
      "EvalResourceName": "*",
      "EvalDecision": "implicitDeny",
```
For more information, see Testing IAM policies with the IAM policy simulator in the AWS IAM User Guide.

- For API details, see SimulatePrincipalPolicy in AWS CLI Command Reference.

**tag-instance-profile**

The following code example shows how to use tag-instance-profile.

**AWS CLI**

To add a tag to an instance profile

The following tag-instance-profile command adds a tag with a Department name to the specified instance profile.

```
aws iam tag-instance-profile \
   --instance-profile-name deployment-role \
   --tags '[["Key": "Department", "Value": "Accounting"]]'
```

This command produces no output.

For more information, see Tagging IAM resources in the AWS IAM User Guide.

- For API details, see TagInstanceProfile in AWS CLI Command Reference.

**tag-mfa-device**

The following code example shows how to use tag-mfa-device.

**AWS CLI**

To add a tag to an MFA device

The following tag-mfa-device command adds a tag with a Department name to the specified MFA device.
aws iam tag-mfa-device  
   --serial-number arn:aws:iam::123456789012:mfa/alice 
   --tags '[["Key": "Department", "Value": "Accounting"]]'  

This command produces no output.

For more information, see Tagging IAM resources in the AWS IAM User Guide.

• For API details, see TagMfaDevice in AWS CLI Command Reference.

tag-open-id-connect-provider

The following code example shows how to use tag-open-id-connect-provider.

AWS CLI

To add a tag to an OpenID Connect (OIDC)-compatible identity provider

The following tag-open-id-connect-provider command adds a tag with a Department name to the specified OIDC identity provider.

aws iam tag-open-id-connect-provider  
   --open-id-connect-provider-arn arn:aws:iam::123456789012:oidc-provider/server.example.com 
   --tags '[["Key": "Department", "Value": "Accounting"]]'  

This command produces no output.

For more information, see Tagging IAM resources in the AWS IAM User Guide.

• For API details, see TagOpenIdConnectProvider in AWS CLI Command Reference.

tag-policy

The following code example shows how to use tag-policy.

AWS CLI

To add a tag to a customer managed policy

The following tag-policy command adds a tag with a Department name to the specified customer managed policy.
This command produces no output.

For more information, see Tagging IAM resources in the AWS IAM User Guide.

- For API details, see TagPolicy in AWS CLI Command Reference.

tag-role

The following code example shows how to use tag-role.

AWS CLI

To add a tag to a role

The following tag-role command adds a tag with a Department name to the specified role.

```
aws iam tag-role --role-name my-role
   --tags '{"Key": "Department", "Value": "Accounting"}"
```

This command produces no output.

For more information, see Tagging IAM resources in the AWS IAM User Guide.

- For API details, see TagRole in AWS CLI Command Reference.

tag-saml-provider

The following code example shows how to use tag-saml-provider.

AWS CLI

To add a tag to a SAML provider

The following tag-saml-provider command adds a tag with a Department name to the specified SAML provider.

```
aws iam tag-saml-provider \
   --saml-provider-arn arn:aws:iam::123456789012:saml-provider/ADFS \
```

This command produces no output.

For more information, see Tagging IAM resources in the AWS IAM User Guide.

• For API details, see TagSamlProvider in AWS CLI Command Reference.

tag-server-certificate

The following code example shows how to use tag-server-certificate.

AWS CLI

To add a tag to a server certificate

The following tag-saml-provider command adds a tag with a Department name to the specified server certificate.

```
aws iam tag-server-certificate \
  --server-certificate-name ExampleCertificate \
  --tags '[["Key": "Department", "Value": "Accounting"]]
```

This command produces no output.

For more information, see Tagging IAM resources in the AWS IAM User Guide.

• For API details, see TagServerCertificate in AWS CLI Command Reference.

tag-user

The following code example shows how to use tag-user.

AWS CLI

To add a tag to a user

The following tag-user command adds a tag with the associated Department to the specified user.

```
aws iam tag-user \
  --user-name alice \
  --tags '{"Key": "Department", "Value": "Accounting"}'}
```
This command produces no output.

For more information, see Tagging IAM resources in the AWS IAM User Guide.

- For API details, see TagUser in AWS CLI Command Reference.

untag-instance-profile

The following code example shows how to use untag-instance-profile.

AWS CLI

**To remove a tag from an instance profile**

The following untag-instance-profile command removes any tag with the key name 'Department' from the specified instance profile.

```bash
aws iam untag-instance-profile \
    --instance-profile-name deployment-role \
    --tag-keys Department
```

This command produces no output.

For more information, see Tagging IAM resources in the AWS IAM User Guide.

- For API details, see UntagInstanceProfile in AWS CLI Command Reference.

untag-mfa-device

The following code example shows how to use untag-mfa-device.

AWS CLI

**To remove a tag from an MFA device**

The following untag-mfa-device command removes any tag with the key name 'Department' from the specified MFA device.

```bash
aws iam untag-mfa-device \
    --serial-number arn:aws:iam::123456789012:mfa/alice \
    --tag-keys Department
```

This command produces no output.


**untag-open-id-connect-provider**

The following code example shows how to use `untag-open-id-connect-provider`.

**AWS CLI**

To remove a tag from an OIDC identity provider

The following `untag-open-id-connect-provider` command removes any tag with the key name 'Department' from the specified OIDC identity provider.

```bash
aws iam untag-open-id-connect-provider \
   --open-id-connect-provider-arn arn:aws:iam::123456789012:oidc-provider/server.example.com \
   --tag-keys Department
```

This command produces no output.


**untag-policy**

The following code example shows how to use `untag-policy`.

**AWS CLI**

To remove a tag from a customer managed policy

The following `untag-policy` command removes any tag with the key name 'Department' from the specified customer managed policy.

```bash
aws iam untag-policy \
   --policy-arn arn:aws:iam::452925170507:policy/billing-access \
   --tag-keys Department
```

This command produces no output.
For more information, see Tagging IAM resources in the AWS IAM User Guide.

- For API details, see UntagPolicy in AWS CLI Command Reference.

untag-role

The following code example shows how to use untag-role.

AWS CLI

To remove a tag from a role

The following untag-role command removes any tag with the key name 'Department' from the specified role.

```bash
aws iam untag-role \
   --role-name my-role \
   --tag-keys Department
```

This command produces no output.

For more information, see Tagging IAM resources in the AWS IAM User Guide.

- For API details, see UntagRole in AWS CLI Command Reference.

untag-saml-provider

The following code example shows how to use untag-saml-provider.

AWS CLI

To remove a tag from a SAML provider

The following untag-saml-provider command removes any tag with the key name 'Department' from the specified instance profile.

```bash
aws iam untag-saml-provider \
   --saml-provider-arn arn:aws:iam::123456789012:saml-provider/ADFS \
   --tag-keys Department
```

This command produces no output.

For more information, see Tagging IAM resources in the AWS IAM User Guide.
untag-server-certificate

The following code example shows how to use untag-server-certificate.

AWS CLI

To remove a tag from a server certificate

The following untag-server-certificate command removes any tag with the key name 'Department' from the specified server certificate.

```bash
aws iam untag-server-certificate \
   --server-certificate-name ExampleCertificate \
   --tag-keys Department
```

This command produces no output.

For more information, see Tagging IAM resources in the AWS IAM User Guide.

• For API details, see UntagServerCertificate in AWS CLI Command Reference.

untag-user

The following code example shows how to use untag-user.

AWS CLI

To remove a tag from a user

The following untag-user command removes any tag with the key name 'Department' from the specified user.

```bash
aws iam untag-user \
   --user-name alice \
   --tag-keys Department
```

This command produces no output.

For more information, see Tagging IAM resources in the AWS IAM User Guide.

• For API details, see UntagUser in AWS CLI Command Reference.
**update-account-password-policy**

The following code example shows how to use `update-account-password-policy`.

**AWS CLI**

To set or change the current account password policy

The following `update-account-password-policy` command sets the password policy to require a minimum length of eight characters and to require one or more numbers in the password.

```bash
aws iam update-account-password-policy \
   --minimum-password-length 8 \
   --require-numbers
```

This command produces no output.

Changes to an account's password policy affect any new passwords that are created for IAM users in the account. Password policy changes do not affect existing passwords.

For more information, see [Setting an account password policy for IAM users](https://docs.aws.amazon.com/IAM/latest/UserGuide/id interrupted_password.html) in the *AWS IAM User Guide*.

- For API details, see [UpdateAccountPasswordPolicy](https://docs.aws.amazon.com/cli/latest/reference/iam/update-account-password-policy.html) in *AWS CLI Command Reference*.

**update-assume-role-policy**

The following code example shows how to use `update-assume-role-policy`.

**AWS CLI**

To update the trust policy for an IAM role

The following `update-assume-role-policy` command updates the trust policy for the role named Test-Role.

```bash
aws iam update-assume-role-policy \
   --role-name Test-Role \
   --policy-document file://Test-Role-Trust-Policy.json
```

This command produces no output.
The trust policy is defined as a JSON document in the `Test-Role-Trust-Policy.json` file. (The file name and extension do not have significance.) The trust policy must specify a principal.

To update the permissions policy for a role, use the `put-role-policy` command.

For more information, see [Creating IAM roles](https://docs.aws.amazon.com/IAM/latest/UserGuide/index.html) in the *AWS IAM User Guide*.

- For API details, see [UpdateAssumeRolePolicy](https://docs.aws.amazon.com/cli/latest/reference/iam/update-assume-role-policy.html) in *AWS CLI Command Reference*.

**update-group**

The following code example shows how to use `update-group`.

**AWS CLI**

**To rename an IAM group**

The following `update-group` command changes the name of the IAM group `Test` to `Test-1`.

```
aws iam update-group \ 
  --group-name Test \ 
  --new-group-name Test-1
```

This command produces no output.

For more information, see [Renaming an IAM user group](https://docs.aws.amazon.com/IAM/latest/UserGuide/index.html) in the *AWS IAM User Guide*.

- For API details, see [UpdateGroup](https://docs.aws.amazon.com/cli/latest/reference/iam/update-group.html) in *AWS CLI Command Reference*.

**update-login-profile**

The following code example shows how to use `update-login-profile`.

**AWS CLI**

**To update the password for an IAM user**

The following `update-login-profile` command creates a new password for the IAM user named Bob.

```
aws iam update-login-profile \ 
  --user-name Bob \ 
  --password <password>
```
This command produces no output.

To set a password policy for the account, use the `update-account-password-policy` command. If the new password violates the account password policy, the command returns a `PasswordPolicyViolation` error.

If the account password policy allows them to, IAM users can change their own passwords using the `change-password` command.

Store the password in a secure place. If the password is lost, it cannot be recovered, and you must create a new one using the `create-login-profile` command.

For more information, see Managing passwords for IAM users in the AWS IAM User Guide.

- For API details, see UpdateLoginProfile in AWS CLI Command Reference.

**update-open-id-connect-provider-thumbprint**

The following code example shows how to use `update-open-id-connect-provider-thumbprint`.

**AWS CLI**

To replace the existing list of server certificate thumbprints with a new list

This example updates the certificate thumbprint list for the OIDC provider whose ARN is `arn:aws:iam::123456789012:oidc-provider/example.oidcprovider.com` to use a new thumbprint.

```
aws iam update-open-id-connect-provider-thumbprint \
    --open-id-connect-provider-arn arn:aws:iam::123456789012:oidc-provider/example.oidcprovider.com \
    --thumbprint-list 7359755EXAMPLEabc3060bce3EXAMPLEec4542a3
```

This command produces no output.

For more information, see Creating OpenID Connect (OIDC) identity providers in the AWS IAM User Guide.

- For API details, see UpdateOpenIdConnectProviderThumbprint in AWS CLI Command Reference.
update-role

The following code example shows how to use update-role.

AWS CLI

To change an IAM role's description or session duration

The following update-role command changes the description of the IAM role production-role to Main production role and sets the maximum session duration to 12 hours.

```
aws iam update-role \
    --role-name production-role \
    --description 'Main production role' \
    --max-session-duration 43200
```

This command produces no output.

For more information, see Modifying a role in the AWS IAM User Guide.

- For API details, see UpdateRole in AWS CLI Command Reference.

update-role-description

The following code example shows how to use update-role-description.

AWS CLI

To change an IAM role's description

The following update-role command changes the description of the IAM role production-role to Main production role.

```
aws iam update-role-description \
    --role-name production-role \n    --description 'Main production role'
```

Output:

```
{
    "Role": {
        "Path": "/",
    }
}
For more information, see Modifying a role in the AWS IAM User Guide.

- For API details, see UpdateRoleDescription in AWS CLI Command Reference.

**update-saml-provider**

The following code example shows how to use update-saml-provider.

**AWS CLI**

**To update the metadata document for an existing SAML provider**

This example updates the SAML provider in IAM whose ARN is `arn:aws:iam::123456789012:saml-provider/SAMLADFS` with a new SAML metadata document from the file `SAMLMetaData.xml`.

```
aws iam update-saml-provider \ 
  --saml-metadata-document file://SAMLMetaData.xml \ 
  --saml-provider-arn arn:aws:iam::123456789012:saml-provider/SAMLADFS
```

**Output:**

---

"RoleName": "production-role",
"RoleId": "AROA1234567890EXAMPLE",
"Arn": "arn:aws:iam::123456789012:role/production-role",
"CreateDate": "2017-12-06T17:16:37+00:00",
"AssumeRolePolicyDocument": {
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Principal": {
        "AWS": "arn:aws:iam::123456789012:root"
      },
      "Action": "sts:AssumeRole",
      "Condition": {}
    }
  ],
  "Description": "Main production role"
}

---

Actions and scenarios 3400
For more information, see Creating IAM SAML identity providers in the AWS IAM User Guide.

- For API details, see UpdateSamlProvider in AWS CLI Command Reference.

**update-service-specific-credential**

The following code example shows how to use update-service-specific-credential.

**AWS CLI**

**Example 1: To update the status of the requesting user's service-specific credential**

The following update-service-specific-credential example changes the status for the specified credential for the user making the request to Inactive.

```
aws iam update-service-specific-credential \
  --service-specific-credential-id ACCAEXAMPLE123EXAMPLE \
  --status Inactive
```

This command produces no output.

**Example 2: To update the status of a specified user's service-specific credential**

The following update-service-specific-credential example changes the status for the credential of the specified user to Inactive.

```
aws iam update-service-specific-credential \
  --user-name sofia \
  --service-specific-credential-id ACCAEXAMPLE123EXAMPLE \
  --status Inactive
```

This command produces no output.

For more information, see Create Git Credentials for HTTPS Connections to CodeCommit in the AWS CodeCommit User Guide.

- For API details, see UpdateServiceSpecificCredential in AWS CLI Command Reference.
update-signing-certificate

The following code example shows how to use update-signing-certificate.

AWS CLI

**To activate or deactivate a signing certificate for an IAM user**

The following update-signing-certificate command deactivates the specified signing certificate for the IAM user named Bob.

```
aws iam update-signing-certificate \\
  --certificate-id TA7SMP42TDN5Z260BPJE7EXAMPLE \\
  --status Inactive \\
  --user-name Bob
```

To get the ID for a signing certificate, use the list-signing-certificates command.


update-ssh-public-key

The following code example shows how to use update-ssh-public-key.

AWS CLI

**To change the status of an SSH public key**

The following update-ssh-public-key command changes the status of the specified public key to Inactive.

```
aws iam update-ssh-public-key \\
  --user-name sofia \\
  --ssh-public-key-id APKA1234567890EXAMPLE \\
  --status Inactive
```

This command produces no output.

For more information, see [Use SSH keys and SSH with CodeCommit](https://docs.aws.amazon.com/IAM/latest/UserGuide/id_users_sshkeys.html) in the AWS IAM User Guide.
· For API details, see `UpdateSshPublicKey` in *AWS CLI Command Reference*.

**upload-signing-certificate**

The following code example shows how to use `upload-signing-certificate`.

**AWS CLI**

**To upload a signing certificate for an IAM user**

The following `upload-signing-certificate` command uploads a signing certificate for the IAM user named Bob.

```
aws iam upload-signing-certificate
   --user-name Bob \
   --certificate-body file://certificate.pem
```

Output:

```
{
   "Certificate": {
      "UserName": "Bob",
      "Status": "Active",
      "CertificateBody": "-----BEGIN CERTIFICATE-----<certificate-body>-----END CERTIFICATE-----",
      "CertificateId": "TA7SMP42TDN5Z26OBPJE7EXAMPLE",
      "UploadDate": "2013-06-06T21:40:08.121Z"
   }
}
```

The certificate is in a file named `certificate.pem` in PEM format.

For more information, see Creating and Uploading a User Signing Certificate in the *Using IAM* guide.

· For API details, see `UploadSigningCertificate` in *AWS CLI Command Reference*.

**upload-ssh-public-key**

The following code example shows how to use `upload-ssh-public-key`.

```
AWS CLI

To upload an SSH public key and associate it with a user

The following `upload-ssh-public-key` command uploads the public key found in the file `sshkey.pub` and attaches it to the user `sofia`.

```bash
aws iam upload-ssh-public-key \
   --user-name sofia \
   --ssh-public-key-body file://sshkey.pub
```

Output:

```
{
   "SSHPublicKey": {
      "UserName": "sofia",
      "SSHPublicKeyId": "APKA1234567890EXAMPLE",
      "SSHPublicKeyBody": "ssh-rsa <<long string generated by ssh-keygen command>>",
      "Status": "Active",
      "UploadDate": "2019-04-18T17:04:49+00:00"
   }
}
```

For more information about how to generate keys in a format suitable for this command, see [SSH and Linux, macOS, or Unix: Set up the public and private keys for Git and CodeCommit](https://docs.aws.amazon.com/codecommit/latest/userguide/ssh-keys.html) or [SSH and Windows: Set up the public and private keys for Git and CodeCommit](https://docs.aws.amazon.com/codecommit/latest/userguide/ssh-keys.html) in the AWS CodeCommit User Guide.

- For API details, see [UploadSshPublicKey](https://docs.aws.amazon.com/cli/latest/reference/iam/upload-ssh-public-key.html) in AWS CLI Command Reference.

Image Builder examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Image Builder.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.
Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics

- Actions

Actions

create-component

The following code example shows how to use create-component.

AWS CLI

To create a component

The following create-component example creates a component that uses a JSON document file and references a component document in YAML format that is uploaded to an Amazon S3 bucket.

```
aws imagebuilder create-component
    --cli-input-json file://create-component.json
```

Contents of create-component.json:

```json
{
    "name": "MyExampleComponent",
    "semanticVersion": "2019.12.02",
    "description": "An example component that builds, validates and tests an image",
    "changeDescription": "Initial version.",
    "platform": "Windows",
    "uri": "s3://s3-bucket-name/s3-bucket-path/component.yaml"
}
```

Output:

```json
{
```
For more information, see Setting Up and Managing an EC2 Image Builder Image Pipeline Using the AWS CLI in the EC2 Image Builder Users Guide.

- For API details, see CreateComponent in AWS CLI Command Reference.

create-distribution-configuration

The following code example shows how to use create-distribution-configuration.

AWS CLI

To create a distribution configuration

The following create-distribution-configuration example creates a distribution configuration using a JSON file.

```bash
aws imagebuilder create-distribution-configuration 
   --cli-input-json file:/create-distribution-configuration.json
```

Contents of create-distribution-configuration.json:

```json
{
   "name": "MyExampleDistribution",
   "description": "Copies AMI to eu-west-1",
   "distributions": [
      {
         "region": "us-west-2",
         "amiDistributionConfiguration": {
            "name": "Name {{imagebuilder:buildDate}}",
            "description": "An example image name with parameter references",
            "amiTags": {
               "KeyName": "{{ssm:parameter_name}}"
            },
            "launchPermission": {
               "userIds": [
               "123456789012"
            ]
         }
      }
   ]
}```
The following code example shows how to use create-image.

AWS CLI

To create an image
The following `create-image` example creates an image.

```bash
aws imagebuilder create-image \
```

Output:

```
{
  "requestId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
  "clientToken": "a1b2c3d4-5678-90ab-cdef-EXAMPLE22222",
}
```

For more information, see [Setting Up and Managing an EC2 Image Builder Image Pipeline Using the AWS CLI](https://docs.aws.amazon.com/AWSEC2/latest/userguide/EC2-image-builder-manage-pipelines.html) in the *EC2 Image Builder Users Guide*.

- For API details, see [CreateImage](https://docs.aws.amazon.com/AWSEC2/latest/userguide/EC2-image-builder-manage-pipelines.html) in *AWS CLI Command Reference*.

### create-image-pipeline

The following code example shows how to use `create-image-pipeline`.

**AWS CLI**

**To create an image pipeline**

The following `create-image-pipeline` example creates an image pipeline using a JSON file.

```bash
aws imagebuilder create-image-pipeline \
  --cli-input-json file://create-image-pipeline.json
```

Contents of `create-image-pipeline.json`:

```json
{
  "name": "MyWindows2016Pipeline",
  "description": "Builds Windows 2016 Images",
}
"imageTestsConfiguration": {
  "imageTestsEnabled": true,
  "timeoutMinutes": 60
},
"schedule": {
  "scheduleExpression": "cron(0 0 * * SUN)",
  "pipelineExecutionStartCondition": "EXPRESSION_MATCH_AND_DEPENDENCY_UPDATES_AVAILABLE"
},
"status": "ENABLED"
}

Output:

{
  "requestId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
  "clientToken": "a1b2c3d4-5678-90ab-cdef-EXAMPLE22222",
}

For more information, see Setting Up and Managing an EC2 Image Builder Image Pipeline Using the AWS CLI in the EC2 Image Builder Users Guide.

- For API details, see CreatImagePipeline in AWS CLI Command Reference.

create-image-recipe

The following code example shows how to use create-image-recipe.

AWS CLI

To create a recipe

The following create-image-recipe example creates an image recipe using a JSON file. Components are installed in the order in which they are specified.
aws imagebuilder create-image-recipe \
   --cli-input-json file://create-image-recipe.json

Contents of create-image-recipe.json:

```json
{
    "name": "MyBasicRecipe",
    "description": "This example image recipe creates a Windows 2016 image.",
    "semanticVersion": "2019.12.03",
    "components": [
        {
            "componentArn": "arn:aws:imagebuilder:us-west-2:123456789012:component/myexamplecomponent/2019.12.02/1"
        },
        {
            "componentArn": "arn:aws:imagebuilder:us-west-2:123456789012:component/myimportedcomponent/1.0.0/1"
        }
    ],
    "parentImage": "arn:aws:imagebuilder:us-west-2:aws:image/windows-server-2016-english-full-base-x86/xxxx.x.x"
}
```

Output:

```json
{
    "requestId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
    "clientToken": "a1b2c3d4-5678-90ab-cdef-EXAMPLE22222",
}
```

For more information, see Setting Up and Managing an EC2 Image Builder Image Pipeline Using the AWS CLI in the EC2 Image Builder Users Guide.

- For API details, see CreateImageRecipe in AWS CLI Command Reference.

create-infrastructure-configuration

The following code example shows how to use create-infrastructure-configuration.
AWS CLI

To create an infrastructure configuration

The following `create-infrastructure-configuration` example creates an infrastructure configuration using a JSON file.

```
aws imagebuilder create-infrastructure-configuration \
   --cli-input-json file://create-infrastructure-configuration.json
```

Contents of `create-infrastructure-configuration.json`:

```
{
    "name": "MyExampleInfrastructure",
    "description": "An example that will retain instances of failed builds",
    "instanceTypes": ["
        "m5.large", "m5.xlarge"
    ],
    "instanceProfileName": "EC2InstanceProfileForImageBuilder",
    "securityGroupIds": ["
        "sg-a1b2c3d4"
    ],
    "subnetId": "subnet-a1b2c3d4",
    "logging": {"s3Logs": {"
        "s3BucketName": "bucket-name",
        "s3KeyPrefix": "bucket-path"
    }}
    ",
    "keyPair": "key-pair-name",
    "terminateInstanceOnFailure": false,
}
```

Output:

```
{
    "requestId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
    "clientToken": "a1b2c3d4-5678-90ab-cdef-EXAMPLE22222",
}
```
For more information, see Setting Up and Managing an EC2 Image Builder Image Pipeline Using the AWS CLI in the EC2 Image Builder Users Guide.

- For API details, see CreateInfrastructureConfiguration in AWS CLI Command Reference.

**delete-component**

The following code example shows how to use delete-component.

**AWS CLI**

**To delete a component**

The following delete-component example deletes a component build version by specifying its ARN.

```
aws imagebuilder delete-component \
```

Output:

```
{
   "requestId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
}
```

For more information, see Setting Up and Managing an EC2 Image Builder Image Pipeline Using the AWS CLI in the EC2 Image Builder Users Guide.

- For API details, see DeleteComponent in AWS CLI Command Reference.

**delete-image**

The following code example shows how to use delete-image.

**AWS CLI**

**To delete an image**
The following delete-image example deletes an image build version by specifying its ARN.

```
aws imagebuilder delete-image \\
```

Output:

```
{
   "requestId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
}
```

For more information, see Setting Up and Managing an EC2 Image Builder Image Pipeline Using the AWS CLI in the EC2 Image Builder Users Guide.

- For API details, see DeleteImage in AWS CLI Command Reference.

**delete-image-pipeline**

The following code example shows how to use delete-image-pipeline.

**AWS CLI**

**To delete an image pipeline**

The following delete-image-pipeline example deletes an image pipeline by specifying its ARN.

```
aws imagebuilder delete-image-pipeline \\
```

Output:

```
{
   "requestId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
}
```
For more information, see Setting Up and Managing an EC2 Image Builder Image Pipeline Using the AWS CLI in the EC2 Image Builder Users Guide.

- For API details, see DeletedImagePipeline in AWS CLI Command Reference.

**delete-image-recipe**

The following code example shows how to use delete-image-recipe.

**AWS CLI**

**To delete an image recipe**

The following delete-image-recipe example deletes an image recipe by specifying its ARN.

```bash
aws imagebuilder delete-image-recipe \
```

Output:

```json
{
   "requestId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
}
```

For more information, see Setting Up and Managing an EC2 Image Builder Image Pipeline Using the AWS CLI in the EC2 Image Builder Users Guide.

- For API details, see DeleteImageRecipe in AWS CLI Command Reference.

**delete-infrastructure-configuration**

The following code example shows how to use delete-infrastructure-configuration.

**AWS CLI**

**To delete an infrastructure configuration**
The following delete-infrastructure-configuration example deletes an image pipeline by specifying its ARN.

```bash
```

Output:

```
{
  "requestId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
}
```

For more information, see Setting Up and Managing an EC2 Image Builder Image Pipeline Using the AWS CLI in the EC2 Image Builder Users Guide.

- For API details, see DeleteInfrastructureConfiguration in AWS CLI Command Reference.

get-component

The following code example shows how to use get-component.

AWS CLI

**To get component details**

The following get-component example lists the details of a component by specifying its ARN.

```bash
aws imagebuilder get-component --component-build-version-arn arn:aws:imagebuilder:us-west-2:123456789012:component/component-name/1.0.0/1
```

Output:

```
{
  "requestId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
  "component": {
    "arn": "arn:aws:imagebuilder:us-west-2:123456789012:component/component-name/1.0.0/1",
    "name": "component-name",
```

Actions and scenarios
For more information, see Setting Up and Managing an EC2 Image Builder Image Pipeline Using the AWS CLI in the EC2 Image Builder Users Guide.

- For API details, see GetComponent in AWS CLI Command Reference.

get-component-policy

The following code example shows how to use get-component-policy.

AWS CLI

To get component policy details

The following get-component-policy example lists the details of a component policy by specifying its ARN.

```bash
aws imagebuilder get-component-policy \
   --component-arn arn:aws:imagebuilder:us-west-2:123456789012:component/my-example-component/2019.12.03/1
```

Output:

```json
{
   "Policy": "{
   "Version": "2012-10-17",
   "Statement": [
      {
         "Effect": "Allow",
         "Principal": {
            "AWS": ["123456789012"]
         },
         "Action": [
            "imagebuilder:GetComponent",
            "imagebuilder:ListComponents"
         ],
         "Resource": [
         ]
      }
   ]
}
```
For more information, see Setting Up and Managing an EC2 Image Builder Image Pipeline Using the AWS CLI <https://docs.aws.amazon.com/imagebuilder/latest/userguide/managing-image-builder-cli.html>`__ in the EC2 Image Builder Users Guide.

- For API details, see `GetComponentPolicy` in AWS CLI Command Reference.

get-distribution-configuration

The following code example shows how to use get-distribution-configuration.

AWS CLI

**To get the details of a distribution configuration**

The following get-distribution-configuration example displays the details of a distribution configuration by specifying its ARN.

```
aws imagebuilder get-distribution-configuration \
```

Output:

```json
{
    "requestId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
    "distributionConfiguration": {
        "name": "MyExampleDistribution",
        "description": "Copies AMI to eu-west-1 and exports to S3",
        "distributions": [
            {
                "region": "us-west-2",
                "amiDistributionConfiguration": {
                    "name": "Name {{imagebuilder:buildDate}}",
                    "description": "An example image name with parameter references",
                    "amiTags": {
                        "KeyName": "{{ssm:parameter_name}}"
                    }
                }
            }
        ]
    }
}
```
For more information, see Setting Up and Managing an EC2 Image Builder Image Pipeline Using the AWS CLI in the EC2 Image Builder Users Guide.

- For API details, see GetDistributionConfiguration in AWS CLI Command Reference.

get-image

The following code example shows how to use get-image.

AWS CLI

To get image details

The following get-image example lists the details of an image by specifying its ARN.
aws imagebuilder get-image \

Output:

```json
{
   "requestId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
   "image": {
      "name": "MyBasicRecipe",
      "version": "2019.12.03/1",
      "platform": "Windows",
      "state": {
         "status": "BUILDING"
      },
      "imageRecipe": {
         "name": "MyBasicRecipe",
         "description": "This example image recipe creates a Windows 2016 image.",
         "platform": "Windows",
         "version": "2019.12.03",
         "components": [
            {
               "componentArn": "arn:aws:imagebuilder:us-west-2:123456789012:component/myexamplecomponent/2019.12.02/1"
            },
            {
               "componentArn": "arn:aws:imagebuilder:us-west-2:123456789012:component/myimportedcomponent/1.0.0/1"
            }
         ],
         "dateCreated": "2020-02-14T19:46:16.904Z",
         "tags": {}
      },
      "infrastructureConfiguration": {
         "dateCreated": "2020-02-14T19:46:16.904Z",
         "tags": {}
      }
   }
}
```
"name": "MyExampleInfrastructure",
"description": "An example that will retain instances of failed builds",
"instanceTypes": [
  "m5.large",
  "m5.xlarge"
],
"instanceProfileName": "EC2InstanceProfileForImageFactory",
"securityGroupIds": [
  "sg-a1b2c3d4"
],
"subnetId": "subnet-a1b2c3d4",
"logging": {
  "s3Logs": {
    "s3BucketName": "bucket-name",
    "s3KeyPrefix": "bucket-path"
  }
},
"keyPair": "Sam",
"terminateInstanceOnFailure": false,
"dateCreated": "2020-02-14T21:21:05.098Z",
"tags": {}
},
"imageTestsConfiguration": {
  "imageTestsEnabled": true,
  "timeoutMinutes": 720
},
"dateCreated": "2020-02-14T23:14:13.597Z",
"outputResources": {
  "amis": []
},
"tags": {}
}

For more information, see Setting Up and Managing an EC2 Image Builder Image Pipeline Using the AWS CLI in the EC2 Image Builder Users Guide.

- For API details, see GetImage in AWS CLI Command Reference.

get-image-pipeline

The following code example shows how to use get-image-pipeline.
AWS CLI

To get image pipeline details

The following get-image-pipeline example lists the details of an image pipeline by specifying its ARN.

```
aws imagebuilder get-image-pipeline \
```

Output:

```
{
   "requestId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
   "imagePipeline": {
      "name": "MyWindows2016Pipeline",
      "description": "Builds Windows 2016 Images",
      "platform": "Windows",
      "imageTestsConfiguration": {
         "imageTestsEnabled": true,
         "timeoutMinutes": 60
      },
      "schedule": {
         "scheduleExpression": "cron(0 0 * * SUN)",
         "pipelineExecutionStartCondition": "EXPRESSION_MATCH_AND_DEPENDENCY_UPDATES_AVAILABLE"
      },
      "status": "ENABLED",
      "dateCreated": "2020-02-19T19:04:01.253Z",
      "dateUpdated": "2020-02-19T19:04:01.253Z",
      "tags": {}
   }
}
```
For more information, see Setting Up and Managing an EC2 Image Builder Image Pipeline Using the AWS CLI in the EC2 Image Builder Users Guide.

- For API details, see GetImagePipeline in AWS CLI Command Reference.

get-image-policy

The following code example shows how to use get-image-policy.

AWS CLI

To get image policy details

The following get-image-policy example lists the details of an image policy by specifying its ARN.

```bash
aws imagebuilder get-image-policy \
```

Output:

```json
{
    "Policy": {
        "Version": "2012-10-17",
        "Statement": [
            {
                "Effect": "Allow",
                "Principal": {
                    "AWS": [ "123456789012" ]
                },
                "Action": [ "imagebuilder:GetImage", "imagebuilder:ListImages" ],
            }
        ]
    }
}
```

For more information, see Setting Up and Managing an EC2 Image Builder Image Pipeline Using the AWS CLI in the EC2 Image Builder Users Guide.

- For API details, see GetImagePolicy in AWS CLI Command Reference.

get-image-recipe-policy

The following code example shows how to use get-image-recipe-policy.

AWS CLI

To get image recipe policy details
The following `get-image-recipe-policy` example lists the details of an image recipe policy by specifying its ARN.

```bash
aws imagebuilder get-image-recipe-policy \
```

Output:

```json
{
}
```

For more information, see [Setting Up and Managing an EC2 Image Builder Image Pipeline Using the AWS CLI](https://docs.aws.amazon.com/AmazonS3/latest/API/v2/GetImageRecipePolicy.html) in the *EC2 Image Builder Users Guide*.

- For API details, see [GetImageRecipePolicy](https://docs.aws.amazon.com/AmazonS3/latest/API/v2/GetImageRecipePolicy.html) in *AWS CLI Command Reference*.

---

get-infrastructure-configuration

The following code example shows how to use `get-infrastructure-configuration`.

AWS CLI

**To get infrastructure configuration details**

The following `get-infrastructure-configuration` example lists the details of an infrastructure configuration by specifying its ARN.

```bash
aws imagebuilder get-infrastructure-configuration \
```

Output:

```json
{
    "requestId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
    "infrastructureConfiguration": {
...
```
"name": "MyExampleInfrastructure",
"description": "An example that will retain instances of failed builds",
"instanceTypes": [
  "m5.large",
  "m5.xlarge"
],
"instanceProfileName": "EC2InstanceProfileForImageBuilder",
"securityGroupIds": [
  "sg-a48c95ef"
],
"subnetId": "subnet-a48c95ef",
"logging": {
  "s3Logs": {
    "s3BucketName": "bucket-name",
    "s3KeyPrefix": "bucket-path"
  }
},
"keyPair": "Name",
"terminateInstanceOnFailure": false,
"dateCreated": "2020-02-19T19:11:51.858Z",
"tags": {}
}
}

For more information, see Setting Up and Managing an EC2 Image Builder Image Pipeline Using the AWS CLI in the EC2 Image Builder Users Guide.

- For API details, see GetInfrastructureConfiguration in AWS CLI Command Reference.

**import-component**

The following code example shows how to use import-component.

**AWS CLI**

**To import a component**

The following import-component example imports a preexisting script using a JSON file.

```bash
aws imagebuilder import-component \
```
--cli-input-json file://import-component.json

Contents of import-component.json:

```
{
    "name": "MyImportedComponent",
    "semanticVersion": "1.0.0",
    "description": "An example of how to import a component",
    "changeDescription": "First commit message.",
    "format": "SHELL",
    "platform": "Windows",
    "type": "BUILD",
    "uri": "s3://s3-bucket-name/s3-bucket-path/component.yaml"
}
```

Output:

```
{
    "requestId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
    "clientToken": "a1b2c3d4-5678-90ab-cdef-EXAMPLE22222",
    "componentBuildVersionArn": "arn:aws:imagebuilder:us-west-2:123456789012:component/myimportedcomponent/1.0.0/1"
}
```

For more information, see Setting Up and Managing an EC2 Image Builder Image Pipeline Using the AWS CLI in the EC2 Image Builder Users Guide.

- For API details, see ImportComponent in AWS CLI Command Reference.

list-component-build-versions

The following code example shows how to use list-component-build-versions.

AWS CLI

To list component build versions

The following list-component-build-versions example lists the component build versions with a specific semantic version.

```
```
Output:

```json
{
    "requestId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
    "componentSummaryList": [
    {
        "name": "MyExampleComponent",
        "version": "2019.12.02",
        "platform": "Windows",
        "type": "BUILD",
        "owner": "123456789012",
        "description": "An example component that builds, validates and tests an image",
        "changeDescription": "Initial version.",
        "dateCreated": "2020-02-19T18:53:45.940Z",
        "tags": {
            "KeyName": "KeyValue"
        }
    }
    ]
}
```

For more information, see [Setting Up and Managing an EC2 Image Builder Image Pipeline Using the AWS CLI](EC2 Image Builder Users Guide) in the EC2 Image Builder Users Guide.

• For API details, see [ListComponentBuildVersions](AWS CLI Command Reference) in AWS CLI Command Reference.

list-components

The following code example shows how to use list-components.

**AWS CLI**

**To list all of the component semantic versions**

The following list-components example lists all of the component semantic versions to which you have access. You can optionally filter on whether to list components owned by you, by Amazon, or that have been shared with you by other accounts.

```bash
code
aws imagebuilder list-components
```
For more information, see Setting Up and Managing an EC2 Image Builder Image Pipeline Using the AWS CLI in the EC2 Image Builder Users Guide.

- For API details, see ListComponents in AWS CLI Command Reference.

**list-distribution-configurations**

The following code example shows how to use list-distribution-configurations.

**AWS CLI**

**To list distributions**

The following list-distribution-configurations example lists all of your distributions.

```
aws imagebuilder list-distribution-configurations
```

**Output:**

```
{
    "requestId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
    "distributionConfigurationSummaryList": [
        {
            "name": "myexampledistribution",
            "dateCreated": "2020-01-27T20:43:30.306Z"
        }
    ]
}
```
For more information, see [Setting Up and Managing an EC2 Image Builder Image Pipeline Using the AWS CLI](https://docs.aws.amazon.com/ec2/imagebuilder/latest/userguide/image-builder-cli-setting-up-managing.html) in the [EC2 Image Builder Users Guide](https://docs.aws.amazon.com/ec2/imagebuilder/latest/userguide/).  

- For API details, see [ListDistributionConfigurations](https://awscli.amazonaws.com/#list-distribution-configurations) in [AWS CLI Command Reference](https://docs.aws.amazon.com/cli/latest/reference/imagebuilder/list-distribution-configurations.html).

### list-image-build-versions

The following code example shows how to use `list-image-build-versions`.

**AWS CLI**

**To list image build versions**

The following `list-image-build-versions` example lists all of the image build versions with a semantic version.

```bash
aws imagebuilder list-image-build-versions \
```

**Output:**

```json
{
   "requestId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE111111",
   "imageSummaryList": [
      {
         "name": "MyBasicRecipe",
         "version": "2019.12.03/7",
         "platform": "Windows",
         "state": {
            "status": "FAILED",
            "reason": "Some Reason"
         }
      }
   ]
}
```
}
"owner": "123456789012",
"dateCreated": "2020-02-19T18:56:11.511Z",
"outputResources": {
 "amis": []
},
"tags": {}},
{
 "name": "MyBasicRecipe",
 "version": "2019.12.03/6",
 "platform": "Windows",
 "state": {
 "status": "FAILED",
 "reason": "An internal error has occurred."
 },
 "owner": "123456789012",
 "dateCreated": "2020-02-18T22:49:08.142Z",
 "outputResources": {
 "amis": [
 {
 "region": "us-west-2",
 "image": "ami-a1b2c3d4567890ab",
 "name": "MyBasicRecipe 2020-02-18T22-49-38.704Z",
 "description": "This example image recipe creates a Windows 2016 image."
 },
 {
 "region": "us-west-2",
 "image": "ami-a1b2c3d4567890ab",
 "name": "Name 2020-02-18T22-49-08.131Z",
 "description": "Copies AMI to eu-west-2 and exports to S3"
 },
 {
 "region": "eu-west-2",
 "image": "ami-a1b2c3d4567890ab",
 "name": "My 6 image 2020-02-18T22-49-08.131Z",
 "description": "Copies AMI to eu-west-2 and exports to S3"
 }
Actions and scenarios

2016 image.


"name": "MyBasicRecipe 2020-02-18T16-50-32.280Z",
"description": "This example image recipe creates a Windows
2016 image."
}

}
,"tags": {}
},
{
"name": "MyBasicRecipe",
"version": "2019.12.03/3",
"platform": "Windows",
"state": {
  "status": "AVAILABLE"
},
"owner": "123456789012",
"dateCreated": "2020-02-14T23:14:13.597Z",
"outputResources": {
  "amis": [
    {
      "region": "us-west-2",
      "image": "ami-a1b2c3d4567890ab",
      "name": "MyBasicRecipe 2020-02-14T23:14:44.243Z",
      "description": "This example image recipe creates a Windows
2016 image."
    }
  ],
  "tags": {}
},
{
"name": "MyBasicRecipe",
"version": "2019.12.03/2",
"platform": "Windows",
"state": {
  "status": "FAILED",
  "reason": "SSM execution 'a1b2c3d4-5678-90ab-cdef-EXAMPLE11111' failed with status = 'Failed' and failure message = 'Step fails when it is verifying the command has completed. Command a1b2c3d4-5678-90ab-cdef-EXAMPLE11111 returns unexpected invocation result: \n{Status=[Failed], ResponseCode=[1],
Actions and scenarios
3431
For more information, see Setting Up and Managing an EC2 Image Builder Image Pipeline Using the AWS CLI in the EC2 Image Builder Users Guide.

- For API details, see ListImageBuildVersions in AWS CLI Command Reference.

list-image-pipeline-images

The following code example shows how to use list-image-pipeline-images.

AWS CLI

To list image pipeline pipeline images

The following list-image-pipeline-images example lists all images that were created by a specific image pipeline.

```
aws imagebuilder list-image-pipeline-images \\
```

Output:

```
{
  "requestId": "a1b2c3d4-5678-90ab-cdef-EFAMaQI11111111",
  "imagePipelineList": [
  
  ]
}
```
  "name": "MyWindows2016Pipeline",
  "description": "Builds Windows 2016 Images",
  "platform": "Windows",
  "imageTestsConfiguration": {
    "imageTestsEnabled": true,
    "timeoutMinutes": 60
  },
  "schedule": {
    "scheduleExpression": "cron(0 0 * * SUN)",
    "pipelineExecutionStartCondition": "EXPRESSION_MATCH_AND_DEPENDENCY_UPDATES_AVAILABLE"
  },
  "status": "ENABLED",
  "dateCreated": "2020-02-19T19:04:01.253Z",
  "dateUpdated": "2020-02-19T19:04:01.253Z",
  "tags": {
    "KeyName": "KeyValue"
  }
},
{
  "name": "PipelineName",
  "platform": "Linux",
  "imageRecipeArn": "arn:aws:imagebuilder:us-west-2:123456789012:image-recipe/recipe-name-a1b2c3d45678/1.0.0",
  "infrastructureConfigurationArn": "arn:aws:imagebuilder:us-west-2:123456789012:infrastructure-configuration/infrastructureconfiguration-name-a1b2c3d45678",
  "imageTestsConfiguration": {
    "imageTestsEnabled": true,
    "timeoutMinutes": 720
  },
  "status": "ENABLED",
  "dateCreated": "2019-12-16T18:19:02.068Z",
  "dateUpdated": "2019-12-16T18:19:02.068Z",
  "tags": {
    "KeyName": "KeyValue"
  }
}
For more information, see Setting Up and Managing an EC2 Image Builder Image Pipeline Using the AWS CLI in the EC2 Image Builder Users Guide.

- For API details, see ListImagePipelineImages in AWS CLI Command Reference.

**list-image-recipes**

The following code example shows how to use list-image-recipes.

**AWS CLI**

**To list image recipes**

The following list-image-recipes example lists all of your image recipes.

```bash
aws imagebuilder list-image-recipes
```

Output:

```json
{
  "requestId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
  "imageRecipeSummaryList": [
    {
      "name": "MyBasicRecipe",
      "platform": "Windows",
      "owner": "123456789012",
      "dateCreated": "2020-02-19T18:54:25.975Z",
      "tags": {
        "KeyName": "KeyValue"
      }
    },
    {
      "requestId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
    }
  ]
}
```
For more information, see Setting Up and Managing an EC2 Image Builder Image Pipeline Using the AWS CLI in the EC2 Image Builder Users Guide.

- For API details, see ListImageRecipes in AWS CLI Command Reference.

**list-images**

The following code example shows how to use `list-images`.

**AWS CLI**

**To list images**

The following `list-images` example lists all of the semantic versions you have access to.

```
aws imagebuilder list-images
```

**Output:**

```
{
   "requestId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE111111",
   "imageVersionList": [
      {
         "name": "MyBasicRecipe",
         "version": "2019.12.03",
         "platform": "Windows",
      }]
}
```
For more information, see Setting Up and Managing an EC2 Image Builder Image Pipeline Using the AWS CLI in the EC2 Image Builder Users Guide.

- For API details, see ListImages in AWS CLI Command Reference.

list-infrastructure-configurations

The following code example shows how to use list-infrastructure-configurations.

AWS CLI

To list infrastructure configurations

The following list-infrastructure-configurations example lists all of your infrastructure configurations.

aws imagebuilder list-infrastructure-configurations

Output:

```json
{
   "requestId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
   "infrastructureConfigurationSummaryList": [
      {
         "name": "MyExampleInfrastructure",
         "description": "An example that will retain instances of failed builds",
         "dateCreated": "2020-02-19T19:11:51.858Z",
         "tags": {}
      },
      {
         "arn": "arn:aws:imagebuilder:us-west-2:123456789012:infrastructure-configuration/infrastructureconfiguration-name-a1b2c3d45678",
         "name": "infrastructureConfiguration-name-a1b2c3d45678",
         "dateCreated": "2019-12-16T19:01:03.858Z",
         "tags": {}
      }
   ]
}
```
For more information, see Setting Up and Managing an EC2 Image Builder Image Pipeline Using the AWS CLI in the EC2 Image Builder Users Guide.

- For API details, see ListInfrastructureConfigurations in AWS CLI Command Reference.

**list-tags-for-resource**

The following code example shows how to use `list-tags-for-resource`.

**AWS CLI**

**To list tags for a specific resource**

The following `list-tags-for-resource` example lists all of the tags for a specific resource.

```bash
aws imagebuilder list-tags-for-resource \
```

Output:

```json
{
   "tags": {
      "KeyName": "KeyValue"
   }
}
```

For more information, see Setting Up and Managing an EC2 Image Builder Image Pipeline Using the AWS CLI in the EC2 Image Builder Users Guide.

- For API details, see ListTagsForResource in AWS CLI Command Reference.

**put-component-policy**

The following code example shows how to use `put-component-policy`.
AWS CLI

To apply a resource policy to a component

The following put-component-policy command applies a resource policy to a build component to enable cross-account sharing of build components. We recommend you use the RAM CLI command create-resource-share. If you use the EC2 Image Builder CLI command put-component-policy, you must also use the RAM CLI command promote-resource-share-create-from-policy in order for the resource to be visible to all principals with whom the resource is shared.

```bash
aws imagebuilder put-component-policy \
   --image-arn arn:aws:imagebuilder:us-west-2:123456789012:component/\n   examplecomponent/2019.12.02/1 \
```

Output:

```json
{
   "requestId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
   "componentArn": "arn:aws:imagebuilder:us-west-2:123456789012:component/\n   examplecomponent/2019.12.02/1"
}
```

For more information, see Setting Up and Managing an EC2 Image Builder Image Pipeline Using the AWS CLI in the EC2 Image Builder Users Guide.

- For API details, see PutComponentPolicy in AWS CLI Command Reference.

put-image-policy

The following code example shows how to use put-image-policy.

AWS CLI

To apply a resource policy to an image
The following `put-image-policy` command applies a resource policy to an image to enable cross-account sharing of images. We recommend you use the RAM CLI command create-resource-share. If you use the EC2 Image Builder CLI command `put-image-policy`, you must also use the RAM CLI command `promote-resource-share-create-from-policy` in order for the resource to be visible to all principals with whom the resource is shared.

```
aws imagebuilder put-image-policy
```

Output:

```
{
   "requestId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
   "imageArn": "arn:aws:imagebuilder:us-west-2:123456789012:image/example-image/2019.12.02/1"
}
```

For more information, see Setting Up and Managing an EC2 Image Builder Image Pipeline Using the AWS CLI in the EC2 Image Builder Users Guide.

- For API details, see PutImagePolicy in AWS CLI Command Reference.

`put-image-recipe-policy`

The following code example shows how to use `put-image-recipe-policy`.

**AWS CLI**

**To apply a resource policy to an image recipe**

The following `put-image-recipe-policy` command applies a resource policy to an image recipe to enable cross-account sharing of image recipes. We recommend that you use the RAM CLI command create-resource-share. If you use the EC2 Image Builder CLI command `put-image-recipe-policy`, you must also use the RAM CLI command `promote-resource-share-create-from-policy` in order for the resource to be visible to all principals with whom the resource is shared.
aws imagebuilder put-image-recipe-policy \
   --image-recipe-arn arn:aws:imagebuilder:us-west-2:123456789012:image-recipe/example-image-recipe/2019.12.02/1 \

Output:

```json
{
   "requestId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
   "imageRecipeArn": "arn:aws:imagebuilder:us-west-2:123456789012:image-recipe/example-image-recipe/2019.12.02/1"
}
```

For more information, see Setting Up and Managing an EC2 Image Builder Image Pipeline Using the AWS CLI in the EC2 Image Builder Users Guide.

- For API details, see PutImageRecipePolicy in AWS CLI Command Reference.

## start-image-pipeline-execution

The following code example shows how to use start-image-pipeline-execution.

### AWS CLI

To start an image pipeline manually

The following start-image-pipeline-execution example manually starts an image pipeline.

```sh
aws imagebuilder start-image-pipeline-execution \
```

Output:

```json
{
}
```
"requestId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE1111", "clientToken": "a1b2c3d4-5678-90ab-cdef-EXAMPLE22222", "imageBuildVersionArn": "arn:aws:imagebuilder:us-west-2:123456789012:image/mybasicrecipe/2019.12.03/1" }

For more information, see Setting Up and Managing an EC2 Image Builder Image Pipeline Using the AWS CLI in the EC2 Image Builder Users Guide.

- For API details, see StartImagePipelineExecution in AWS CLI Command Reference.

tag-resource

The following code example shows how to use tag-resource.

AWS CLI

To tag a resource

The following tag-resource example adds and tags a resource to EC2 Image Builder using a JSON file.

```bash
aws imagebuilder tag-resource \
   --cli-input-json file://tag-resource.json
```

Contents of tag-resource.json:

```json
{
   "tags": {
      "KeyName": "KeyValue"
   }
}
```

This command produces no output.

For more information, see Setting Up and Managing an EC2 Image Builder Image Pipeline Using the AWS CLI in the EC2 Image Builder Users Guide.

- For API details, see TagResource in AWS CLI Command Reference.
untag-resource

The following code example shows how to use untag-resource.

**AWS CLI**

To remove a tag from a resource

The following untag-resource example removes a tag from a resource using a JSON file.

```
aws imagebuilder untag-resource \\n   --cli-input-json file://tag-resource.json
```

Contents of `untag-resource.json`:

```json
{
   "tagKeys": [
      "KeyName"
   ]
}
```

This command produces no output.

For more information, see [Setting Up and Managing an EC2 Image Builder Image Pipeline Using the AWS CLI](https://docs.aws.amazon.com/elasticbeanstalk/latest/dg/eb-cli-resource.html) in the EC2 Image Builder Users Guide.


update-distribution-configuration

The following code example shows how to use update-distribution-configuration.

**AWS CLI**

To update a distribution configuration

The following update-distribution-configuration example updates a distribution configuration using a JSON file.

```
aws imagebuilder update-distribution-configuration \
```

Actions and scenarios
Contents of `update-distribution-configuration.json`:

```json
{
    "description": "Copies AMI to eu-west-2 and exports to S3",
    "distributions": [
        { 
            "region": "us-west-2",
            "amiDistributionConfiguration": { 
                "name": "Name {{imagebuilder:buildDate}}",
                "description": "An example image name with parameter references"
            }
        },
        {
            "region": "eu-west-2",
            "amiDistributionConfiguration": { 
                "name": "My {{imagebuilder:buildVersion}} image  
                {{imagebuilder:buildDate}}"
            }
        }
    ]
}
```

Output:

```json
{
    "requestId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111"
}
```

For more information, see Setting Up and Managing an EC2 Image Builder Image Pipeline Using the AWS CLI in the EC2 Image Builder Users Guide.

- For API details, see `UpdateDistributionConfiguration` in AWS CLI Command Reference.

**update-image-pipeline**

The following code example shows how to use `update-image-pipeline`.
AWS CLI

To update an image pipeline

The following update-image-pipeline example updates an image pipeline using a JSON file.

```bash
aws imagebuilder update-image-pipeline \
   --cli-input-json file://update-image-pipeline.json
```

Contents of `update-image-pipeline.json`:

```json
{
   "imageTestsConfiguration": {
      "imageTestsEnabled": true,
      "timeoutMinutes": 120
   },
   "schedule": {
      "scheduleExpression": "cron(0 0 * * MON)",
      "pipelineExecutionStartCondition": "EXPRESSION_MATCH_AND_DEPENDENCY_UPDATES_AVAILABLE"
   },
   "status": "DISABLED"
}
```

Output:

```json
{
   "requestId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111"
}
```

For more information, see Setting Up and Managing an EC2 Image Builder Image Pipeline Using the AWS CLI in the EC2 Image Builder Users Guide.

- For API details, see UpdateImagePipeline in AWS CLI Command Reference.
update-infrastructure-configuration

The following code example shows how to use update-infrastructure-configuration.

AWS CLI

To update an infrastructure configuration

The following update-infrastructure-configuration example updates an infrastructure configuration using a JSON file.

```bash
aws imagebuilder update-infrastructure-configuration \
    --cli-input-json file:/update-infrastructure-configuration.json
```

Contents of update-infrastructure-configuration.json:

```json
{
    "description": "An example that will terminate instances of failed builds",
    "instanceTypes": [
        "m5.large",
        "m5.2xlarge"
    ],
    "instanceProfileName": "EC2InstanceProfileForImageFactory",
    "securityGroupIds": [
        "sg-a48c95ef"
    ],
    "subnetId": "subnet-a48c95ef",
    "logging": {
        "s3Logs": {
            "s3BucketName": "bucket-name",
            "s3KeyPrefix": "bucket-path"
        }
    },
    "terminateInstanceOnFailure": true,
    "snsTopicArn": "arn:aws:sns:us-west-2:123456789012:sns-name"
}
```

Output:

```json
{
    "requestId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE111111"
}
```
Incident Manager examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Incident Manager.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics

• Actions

Actions

create-replication-set

The following code example shows how to use create-replication-set.

AWS CLI

To create the replication set

The following create-replication-set example creates the replication set Incident Manager uses to replicate and encrypt data in your Amazon Web Services account. This example uses the us-east-1 and us-east-2 Regions while creating the replication set.

```bash
aws ssm-incidents create-replication-set
```
Output:

```
{
    "replicationSetArns": [
        "arn:aws:ssm-incidents::111122223333:replication-set/c4bcb603-4bf9-bb3f-413c-08df53673b57"
    ]
}
```

For more information, see Using the Incident Manager replication set in the Incident Manager User Guide.

- For API details, see CreateReplicationSet in AWS CLI Command Reference.

create-response-plan

The following code example shows how to use create-response-plan.

AWS CLI

To create a response plan

The following create-response-plan example creates a response plan with the specified details.

```
aws ssm-incidents create-response-plan
   --display-name "Example response plan"
   --incident-template '{"impact": 5, "title": "example-incident"}'
   --name "example-response"
   --actions '[{"ssmAutomation": {"documentName": "AWSIncidents-CriticalIncidentRunbookTemplate", "documentVersion": "$DEFAULT", "roleArn": "arn:aws:iam::111122223333:role/aws-service-role/ssm-incidents.amazonaws.com/AWSServiceRoleForIncidentManager", "targetAccount": "RESPONSE_PLAN_OWNER_ACCOUNT"}]}]
   --engagements '["arn:aws:ssm-contacts:us-east-1:111122223333:contact/example"]'
```
create-timeline-event

The following code example shows how to use create-timeline-event.

AWS CLI

**Example 1: To create a custom timeline event**

The following create-timeline-event example creates a custom timeline event at the specified time on the specified incident.

```bash
aws ssm-incidents create-timeline-event \
   --event-data ""example timeline event"" \
   --event-time 2022-10-01T20:30:00.000 \
   --event-type "Custom Event" \
   --incident-record-arn "arn:aws:ssm-incidents::111122223333:incident-record/Example-Response-Plan/6ebcc812-85f5-b7eb-8b2f-283e4EXAMPLE"
```

Output:

```json
{
    "eventId": "c0bcc885-a41d-eb01-b4ab-9d2deEXAMPLE",
    "incidentRecordArn": "arn:aws:ssm-incidents::111122223333:incident-record/Example-Response-Plan/6ebcc812-85f5-b7eb-8b2f-283e4EXAMPLE"
}
```

**Example 2: To create a timeline event with an incident note**

The following create-timeline-event example creates a timeline event that is listed in the 'Incident notes' panel.

```bash
aws ssm-incidents create-timeline-event \
   --event-data ""example timeline event""
```

Output:

```json
{
    "eventId": "c0bcc885-a41d-eb01-b4ab-9d2deEXAMPLE",
    "incidentRecordArn": "arn:aws:ssm-incidents::111122223333:incident-record/Example-Response-Plan/6ebcc812-85f5-b7eb-8b2f-283e4EXAMPLE"
}
```
Output:

```json
{
  "eventId": "a41dc885-c0bc-b4ab-eb01-de9d2EXAMPLE",
  "incidentRecordArn": "arn:aws:ssm-incidents::111122223333:incident-record/Example-Response-Plan/6ebcc812-85f5-b7eb-8b2f-283e4EXAMPLE"
}
```

For more information, see [Incident details](#) in the *Incident Manager User Guide*.

- For API details, see [CreateTimelineEvent](#) in *AWS CLI Command Reference*.

---

**delete-incident-record**

The following code example shows how to use `delete-incident-record`.

**AWS CLI**

**To delete an incident record**

The following `delete-incident-record` example deletes the specified incident record.

```
aws ssm-incidents delete-incident-record \
   --arn "arn:aws:ssm-incidents::111122223333:incident-record/Example-Response-Plan/6ebcc812-85f5-b7eb-8b2f-283e4d84308"
```

This command produces no output.

For more information, see [Incident tracking](#) in the *Incident Manager User Guide*.

- For API details, see [DeleteIncidentRecord](#) in *AWS CLI Command Reference*.

---

**delete-replication-set**

The following code example shows how to use `delete-replication-set`.
AWS CLI

To delete the replication set

The following delete-replication-set example deletes the replication set from your Amazon Web Services account. Deleting the replication set also deletes all Incident Manager data. This can't be undone.

```
aws ssm-incidents delete-replication-set \
    --arn "arn:aws:ssm-incidents::111122223333:replication-set/c4bcb603-4bf9-bb3f-413c-08df53673b57"
```

This command produces no output.

For more information, see Using the Incident Manager replication set in the Incident Manager User Guide.

- For API details, see DeleteReplicationSet in AWS CLI Command Reference.

delete-resource-policy

The following code example shows how to use delete-resource-policy.

AWS CLI

To delete a resource policy

The following delete-resource-policy example deletes a resource policy from a response plan. This will revoke access from the principal or organization that the response plan was shared with.

```
aws ssm-incidents delete-resource-policy \
    --policy-id "be8b57191f0371f1c6827341aa3f0a3" \
    --resource-arn "arn:aws:ssm-incidents::111122223333:response-plan/Example-Response-Plan"
```

This command produces no output.

For more information, see Working with shared contacts and response plans in the Incident Manager User Guide.
- For API details, see `DeleteResourcePolicy` in AWS CLI Command Reference.

**delete-response-plan**

The following code example shows how to use `delete-response-plan`.

**AWS CLI**

**To delete a response plan**

The following `delete-response-plan` example deletes the specified response plan.

```bash
aws ssm-incidents delete-response-plan \
  --arn "arn:aws:ssm-incidents::111122223333:response-plan/example-response"
```

This command produces no output.

For more information, see Incident preparation in the Incident Manager User Guide.

- For API details, see `DeleteResponsePlan` in AWS CLI Command Reference.

**delete-timeline-event**

The following code example shows how to use `delete-timeline-event`.

**AWS CLI**

**To delete a timeline event**

The following `delete-timeline-event` example deletes a custom timeline event from the specified incident record.

```bash
aws ssm-incidents delete-timeline-event \
  --event-id "c0bccc885-a41d-eb01-b4ab-9d2de193643c" \
  --incident-record-arn "arn:aws:ssm-incidents::111122223333:incident-record/Example-Response-Plan/6ebccc812-85f5-b7eb-8b2f-283e4d844308"
```

This command produces no output.

For more information, see Incident details in the Incident Manager User Guide.
For API details, see DeleteTimelineEvent in AWS CLI Command Reference.

### get-incident-record

The following code example shows how to use get-incident-record.

#### AWS CLI

**To get an incident record**

The following get-incident-record example gets details about the specified incident record.

```bash
aws ssm-incidents get-incident-record \
   --arn "arn:aws:ssm-incidents::111122223333:incident-record/Example-Response-Plan/6ebcc812-85f5-b7eb-8b2f-283e4d844308"
```

**Output:**

```json
{
   "incidentRecord": {
      "arn": "arn:aws:ssm-incidents::111122223333:incident-record/Example-Response-Plan/6ebcc812-85f5-b7eb-8b2f-283e4d844308",
      "automationExecutions": [],
      "creationTime": "2021-05-21T18:16:57.579000+00:00",
      "dedupeString": "c4bcc812-85e7-938d-2b78-17181176ee1a",
      "impact": 5,
      "incidentRecordSource": {
         "createdBy": "arn:aws:iam::111122223333:user/draliatp",
         "invokedBy": "arn:aws:iam::111122223333:user/draliatp",
         "source": "aws.ssm-incidents.custom"
      },
      "lastModifiedBy": "arn:aws:iam::111122223333:user/draliatp",
      "lastModifiedTime": "2021-05-21T18:16:59.149000+00:00",
      "notificationTargets": [],
      "status": "OPEN",
      "title": "Example-Incident"
   }
}
```

For more information, see Incident details in the Incident Manager User Guide.

- For API details, see GetIncidentRecord in AWS CLI Command Reference.
get-replication-set

The following code example shows how to use get-replication-set.

AWS CLI

To get the replication set

The following get-replication-set example gets the details of the replication set Incident Manager uses to replicate and encrypt data in your Amazon Web Services account.

```bash
aws ssm-incidents get-replication-set \
   --arn "arn:aws:ssm-incidents::111122223333:replication-set/c4bcb603-4bf9-bb3f-413c-08df53673b57"
```

Output:

```json
{
   "replicationSet": {
      "createdBy": "arn:aws:sts::111122223333:assumed-role/Admin/username",
      "createdTime": "2021-05-14T17:57:22.010000+00:00",
      "deletionProtected": false,
      "lastModifiedBy": "arn:aws:sts::111122223333:assumed-role/Admin/username",
      "lastModifiedTime": "2021-05-14T17:57:22.010000+00:00",
      "regionMap": {
         "us-east-1": {
            "sseKmsKeyId": "DefaultKey",
            "status": "ACTIVE"
         },
         "us-east-2": {
            "sseKmsKeyId": "DefaultKey",
            "status": "ACTIVE",
            "statusMessage": "Tagging inaccessible"
         }
      },
      "status": "ACTIVE"
   }
}
```

For more information, see Using the Incident Manager replication set in the Incident Manager User Guide.

- For API details, see GetReplicationSet in AWS CLI Command Reference.
**get-resource-policies**

The following code example shows how to use `get-resource-policies`.

**AWS CLI**

**To list resource policies for a response plan**

The following command-name example lists the resource policies associated with the specified response plan.

```
aws ssm-incidents get-resource-policies 
--resource-arn "arn:aws:ssm-incidents::111122223333:response-plan/Example-Response-Plan"
```

**Output:**

```
{
   "resourcePolicies": [
   {
      "policyId": "be8b57191f0371f1c6827341aa3f0a03",
      "ramResourceShareRegion": "us-east-1"
   }
   ]
}
```

For more information, see [Working with shared contacts and response plans](#) in the *Incident Manager User Guide*.

- For API details, see [GetResourcePolicies](#) in *AWS CLI Command Reference*. 

Actions and scenarios
get-response-plan

The following code example shows how to use get-response-plan.

AWS CLI

To get details of a response plan

The following command-name example gets details about a specified response plan in your AWS account.

```
aws ssm-incidents get-response-plan \
--arn "arn:aws:ssm-incidents::111122223333:response-plan/Example-Response-Plan"
```

Output:

```
{
    "actions": [
        {
            "ssmAutomation": {
                "documentName": "AWSIncidents-CriticalIncidentRunbookTemplate",
                "documentVersion": "$DEFAULT",
                "roleArn": "arn:aws:iam::111122223333:role/aws-service-role/ssm-incidents.amazonaws.com/AWSServiceRoleForIncidentManager",
                "targetAccount": "RESPONSE_PLAN_OWNER_ACCOUNT"
            }
        },
        "arn": "arn:aws:ssm-incidents::111122223333:response-plan/Example-Response-Plan",
        "chatChannel": {
            "chatbotSns": [
            ]
        },
        "displayName": "Example response plan",
        "engagements": [
            "arn:aws:ssm-contacts:us-east-1:111122223333:contact/example"
        ],
        "incidentTemplate": {
            "impact": 5,
            "title": "Example-Incident"
        }
    ],
```

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get-timeline-event

The following code example shows how to use get-timeline-event.

AWS CLI

To get details of a timeline event

The following get-timeline-event example returns details of the specified timeline event.

```bash
aws ssm-incidents get-timeline-event \
--event-id 20bcc812-8a94-4cd7-520c-0ff742111424 \
--incident-record-arn "arn:aws:ssm-incidents::111122223333:incident-record/Example-Response-Plan/6ebcc812-85f5-b7eb-8b2f-283e4d844308"
```

Output:

```json
{
   "event": {
      "eventData": "Incident Started",
      "eventId": "20bcc812-8a94-4cd7-520c-0ff742111424",
      "eventTime": "2021-05-21T18:16:57+00:00",
      "eventType": "Custom Event",
      "eventUpdatedTime": "2021-05-21T18:16:59.944000+00:00",
      "incidentRecordArn": "arn:aws:ssm-incidents::111122223333:incident-record/Example-Response-Plan/6ebcc812-85f5-b7eb-8b2f-283e4d844308"
   }
}
```

For more information, see Incident details in the Incident Manager User Guide.

• For API details, see GetTimelineEvent in AWS CLI Command Reference.

list-incident-records

The following code example shows how to use list-incident-records.
AWS CLI

To list incident records

The following command-name example lists the incident records in your Amazon Web Services account.

```bash
aws ssm-incidents list-incident-records
```

Output:

```json
{
    "incidentRecordSummaries": [
        {
            "arn": "arn:aws:ssm-incidents::111122223333:incident-record/Example-
Response-Plan/6ebcc812-85f5-b7eb-8b2f-283e4d844308",
            "creationTime": "2021-05-21T18:16:57.579000+00:00",
            "impact": 5,
            "incidentRecordSource": {
                "createdBy": "arn:aws:iam::111122223333:user/draliatp",
                "invokedBy": "arn:aws:iam::111122223333:user/draliatp",
                "source": "aws.ssm-incidents.custom"
            },
            "status": "OPEN",
            "title": "Example-Incident"
        }
    ]
}
```

For more information, see Incident list in the Incident Manager User Guide.

- For API details, see ListIncidentRecords in AWS CLI Command Reference.

list-related-items

The following code example shows how to use list-related-items.

AWS CLI

To list related items

The following list-related-items example lists the related items of the specified incident.
aws ssm-incidents list-related-items \
   --incident-record-arn "arn:aws:ssm-incidents::111122223333:incident-record/Example-Response-Plan/6ebcc812-85f5-b7eb-8b2f-283e4d844308"

Output:

```json
{
   "relatedItems": [
      {
         "identifier": {
            "type": "OTHER",
            "value": {
               "url": "https://console.aws.amazon.com/systems-manager/opsitems/oi-8ef82158e190/workbench?region=us-east-1"
            }
         },
         "title": "Example related item"
      },
      {
         "identifier": {
            "type": "PARENT",
            "value": {
               "arn": "arn:aws:ssm:us-east-1:111122223333:opsitem/oi-8084126392ac"
            }
         },
         "title": "parentItem"
      }
   ]
}
```

For more information, see Incident details in the Incident Manager User Guide.

- For API details, see ListRelatedItems in AWS CLI Command Reference.

list-replication-sets

The following code example shows how to use list-replication-sets.

AWS CLI

To list the replication set
The following `list-replication-set` example lists the replication set Incident Manager uses to replicate and encrypt data in your AWS account.

```bash
aws ssm-incidents list-replication-sets
```

Output:

```
{
    "replicationSetArns": [
        "arn:aws:ssm-incidents::111122223333:replication-set/c4bcb603-4bf9-bb3f-413c-08df53673b57"
    ]
}
```

For more information, see Using the Incident Manager replication set in the Incident Manager User Guide.

- For API details, see `ListReplicationSets` in AWS CLI Command Reference.

### list-response-plans

The following code example shows how to use `list-response-plans`.

**AWS CLI**

**To list the available response plans**

The following `list-response-plans` example lists the available response plans in your Amazon Web Services account.

```bash
aws ssm-incidents list-response-plans
```

Output:

```
{
    "responsePlanSummaries": [
        {
            "arn": "arn:aws:ssm-incidents::111122223333:response-plan/Example-Response-Plan",
            "displayName": "Example response plan",
            "name": "Example-Response-Plan"
        }
    ]
}
```
For more information, see Incident preparation in the Incident Manager User Guide.

- For API details, see ListResponsePlans in AWS CLI Command Reference.

list-tags-for-resource

The following code example shows how to use list-tags-for-resource.

AWS CLI

To list tags for a response plan

The following list-tags-for-resource example lists the tags associated with the specified response plan.

```bash
aws ssm-incidents list-tags-for-resource \
    --resource-arn "arn:aws:ssm-incidents::111122223333:response-plan/Example-Response-Plan"
```

Output:

```json
{
    "tags": {
        "group1": "1"
    }
}
```

For more information, see Tagging in the Incident Manager User Guide.

- For API details, see ListTagsForResource in AWS CLI Command Reference.

list-timeline-events

The following code example shows how to use list-timeline-events.

AWS CLI

To list timeline events of an incident
The following command-name example lists the timeline events of the specified incident.

aws ssm-incidents list-timeline-events \
   --incident-record-arn "arn:aws:ssm-incidents::111122223333:incident-record/Example-Response-Plan/6ebcc812-85f5-b7eb-8b2f-283e4d844308"

Output:

```json
{
  "eventSummaries": [
    {
      "eventId": "8cbcc889-35e1-a42d-2429-d6f100799915",
      "eventTime": "2021-05-21T22:36:13.766000+00:00",
      "eventType": "SSM Incident Record Update",
      "eventUpdatedTime": "2021-05-21T22:36:13.766000+00:00",
      "incidentRecordArn": "arn:aws:ssm-incidents::111122223333:incident-record/Example-Response-Plan/6ebcc812-85f5-b7eb-8b2f-283e4d844308"
    },
    {
      "eventId": "a2bcc825-aab5-1787-c605-f9bb2640d85b",
      "eventTime": "2021-05-21T18:58:46.443000+00:00",
      "eventType": "SSM Incident Record Update",
      "eventUpdatedTime": "2021-05-21T18:58:46.443000+00:00",
      "incidentRecordArn": "arn:aws:ssm-incidents::111122223333:incident-record/Example-Response-Plan/6ebcc812-85f5-b7eb-8b2f-283e4d844308"
    },
    {
      "eventId": "5abcc812-89c0-b0a8-9437-1c74223d4685",
      "eventTime": "2021-05-21T18:16:59.149000+00:00",
      "eventType": "SSM Incident Record Update",
      "eventUpdatedTime": "2021-05-21T18:16:59.149000+00:00",
      "incidentRecordArn": "arn:aws:ssm-incidents::111122223333:incident-record/Example-Response-Plan/6ebcc812-85f5-b7eb-8b2f-283e4d844308"
    },
    {
      "eventId": "06bcc812-8820-405e-4065-8d2b14d29b92",
      "eventTime": "2021-05-21T18:16:58+00:00",
      "eventType": "SSM Automation Execution Start Failure for Incident",
      "eventUpdatedTime": "2021-05-21T18:16:58.689000+00:00",
      "incidentRecordArn": "arn:aws:ssm-incidents::111122223333:incident-record/Example-Response-Plan/6ebcc812-85f5-b7eb-8b2f-283e4d844308"
    }
  ]
}
```
The following code example shows how to use `put-resource-policy`.

**AWS CLI**

To share a response plan and incidents

The following command-name example adds a resource policy to the Example-Response-Plan that shares the response plan and associated incidents with the specified principal.

```bash
aws ssm-incidents put-resource-policy \
    --resource-arn "arn:aws:ssm-incidents::111122223333:response-plan/Example-Response-Plan" \
    --policy \\
```
Output:

```
{
    "policyId": "be8b57191f0371f1c6827341aa3f0a03"
}
```

For more information, see Working with shared contacts and response plans in the Incident Manager User Guide.

- For API details, see PutResourcePolicy in AWS CLI Command Reference.

**start-incident**

The following code example shows how to use start-incident.

**AWS CLI**

To start an incident

The following start-incident example starts an incident using the specified response plan.

```
aws ssm-incidents start-incident \
```

Output:

```
{
    "incidentRecordArn": "arn:aws:ssm-incidents::682428703967:incident-record/Example-Response-Plan/6ebcc812-85f5-b7eb-8b2f-283e4d844308"
}
```

For more information, see Incident creation in the Incident Manager User Guide.

- For API details, see StartIncident in AWS CLI Command Reference.
tag-resource

The following code example shows how to use tag-resource.

AWS CLI

To tag a response plan

The following tag-resource example tags a specified response plan with the provided tag key-value pair.

```
aws ssm-incidents tag-resource \
  --resource-arn "arn:aws:ssm-incidents::111122223333:response-plan/Example-Response-Plan" \
  --tags '{"group1":1}"
```

This command produces no output.

For more information, see Tagging in the Incident Manager User Guide.

- For API details, see TagResource in AWS CLI Command Reference.

untag-resource

The following code example shows how to use untag-resource.

AWS CLI

To remove tags from a response plan

The following untag-resource example removes the specified tags from the response plan.

```
aws ssm-incidents untag-resource \
  --resource-arn "arn:aws:ssm-incidents::111122223333:response-plan/Example-Response-Plan" \
  --tag-keys '["group1"]'
```

This command produces no output.

For more information, see Tagging in the Incident Manager User Guide.

- For API details, see UntagResource in AWS CLI Command Reference.
update-deletion-protection

The following code example shows how to use update-deletion-protection.

AWS CLI

To update replication set deletion protection

The following update-deletion-protection example updates the deletion protection in your account to protect you from deleting the last Region in your replication set.

```shell
aws ssm-incidents update-deletion-protection \
  --arn "arn:aws:ssm-incidents::111122223333:replication-set/a2bcc5c9-0f53-8047-7fef-c20749989b40" \
  --deletion-protected
```

This command produces no output.

For more information, see Using the Incident Manager replication set in the Incident Manager User Guide.

- For API details, see UpdateDeletionProtection in AWS CLI Command Reference.

update-incident-record

The following code example shows how to use update-incident-record.

AWS CLI

To update an incident record

The following command-name example resolves the specified incident.

```shell
aws ssm-incidents update-incident-record \
  --arn "arn:aws:ssm-incidents::111122223333:incident-record/Example-Response-Plan/6ebcc812-85f5-b7eb-8b2f-283e4d844308" \
  --status "RESOLVED"
```

This command produces no output.

For more information, see Incident details in the Incident Manager User Guide.
update-related-items

The following code example shows how to use update-related-items.

AWS CLI

To update an incidents related item

The following update-related-item example removes a related item from the specified incident record.

```bash
aws ssm-incidents update-related-items \
   --incident-record-arn "arn:aws:ssm-incidents::111122223333:incident-record/Example-Response-Plan/6ebcc812-85f5-b7eb-8b2f-283e4d844308" \
   --related-items-update '{"itemToRemove": {"type": "OTHER", "value": {"url": "https://console.aws.amazon.com/systems-manager/opsitems/oi-8ef82158e190/workbench?region=us-east-1"}}}'
```

This command produces no output.

For more information, see Incident details in the Incident Manager User Guide.

For API details, see UpdateRelatedItems in AWS CLI Command Reference.

update-replication-set

The following code example shows how to use update-replication-set.

AWS CLI

To update a replication set

The following command-name example deletes the us-east-2 Region from the replication set.

```bash
aws ssm-incidents update-replication-set \
   --arn "arn:aws:ssm-incidents::111122223333:replication-set/a2bcc5c9-0f53-8047-7fef-c20749989b40" \
   --actions '[["deleteRegionAction": {"regionName": "us-east-2"}]']'
```

This command produces no output.
For more information, see Using the Incident Manager replication set in the Incident Manager User Guide.

- For API details, see UpdateReplicationSet in AWS CLI Command Reference.

**update-response-plan**

The following code example shows how to use update-response-plan.

**AWS CLI**

To update a response plan

The following update-response-plan example removes a chat channel from the specified response plan.

```bash
aws ssm-incidents update-response-plan \
  --arn "arn:aws:ssm-incidents::111122223333:response-plan/Example-Response-Plan" \
  --chat-channel '{"empty":{}}'
```

This command produces no output.

For more information, see Incident preparation in the Incident Manager User Guide.

- For API details, see UpdateResponsePlan in AWS CLI Command Reference.

**update-timeline-event**

The following code example shows how to use update-timeline-event.

**AWS CLI**

To update a timeline event

The following update-timeline-event example updates the time that the event occurred.

```bash
aws ssm-incidents update-timeline-event \
  --event-id 20bcc812-8a94-4cd7-520c-0ff742111424 \
  --incident-record-arn "arn:aws:ssm-incidents::111122223333:incident-record/Example-Response-Plan/6ebcc812-85f5-b7eb-8b2f-283e4d844308" \
  --event-time "2021-05-21T18:10:57+00:00"
```
This command produces no output.

For more information, see Incident details in the Incident Manager User Guide.

- For API details, see UpdateTimelineEvent in AWS CLI Command Reference.

Incident Manager Contacts examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Incident Manager Contacts.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics
- Actions

Actions

accept-page

The following code example shows how to use accept-page.

AWS CLI

To accept a page during and engagement

The following accept-page example uses an accept code sent to the contact channel to accept a page.

```
aws ssm-contacts accept-page
   akuam/94ea0c7b-56d9-46c3-b84a-a37c8b067ad3"
```
This command produces no output.

For more information, see Contacts in the Incident Manager User Guide.

- For API details, see AcceptPage in AWS CLI Command Reference.

activate-contact-channel

The following code example shows how to use activate-contact-channel.

AWS CLI

Activate a contact's contact channel

The following activate-contact-channel example activates a contact channel and makes it usable as part of an incident.

```
aws ssm-contacts activate-contact-channel \
 --contact-channel-id "arn:aws:ssm-contacts:us-east-2:111122223333:contact-channel/akuam/fc7405c4-46b2-48b7-87b2-93e2f225b90d" \ 
 --activation-code "466136"
```

This command produces no output.

For more information, see Contacts in the Incident Manager User Guide.

- For API details, see ActivateContactChannel in AWS CLI Command Reference.

command-name

The following code example shows how to use command-name.

AWS CLI

To delete a contact

The following command-name example deletes a contact. The contact will no longer be reachable from any escalation plan that refers to them.
aws ssm-contacts delete-contact \
   --contact-id "arn:aws:ssm-contacts:us-east-1:682428703967:contact/alejr"

This command produces no output.

For more information, see Contacts in the Incident Manager User Guide.
• For API details, see CommandName in AWS CLI Command Reference.

create-contact

The following code example shows how to use create-contact.

AWS CLI

To create a contact

The following create-contact example creates a contact in your environment with a blank plan. The plan can be updated after creating contact channels. Use the create-contact-channel command with the output ARN of this command. After you have created contact channels for this contact use update-contact to update the plan.

aws ssm-contacts create-contact \
   --alias "akuam" \
   --display-name "Akua Mansa" \
   --type PERSONAL \
   --plan '{"Stages": []}'

Output:

{
   "ContactArn": "arn:aws:ssm-contacts:us-east-2:111122223333:contact/akuam"
}

For more information, see Contacts in the Incident Manager User Guide.
• For API details, see CreateContact in AWS CLI Command Reference.

create-contact-channel

The following code example shows how to use create-contact-channel.
**AWS CLI**

**To create a contact channel**

Creates a contact channel of type SMS for the contact Akua Mansa. Contact channels can be created of type SMS, EMAIL, or VOICE.

```bash
aws ssm-contacts create-contact-channel 
    --contact-id "arn:aws:ssm-contacts:us-east-1:111122223333:contact/akuam" 
    --name "akuas sms-test" 
    --type SMS 
    --delivery-address '{"SimpleAddress": "+15005550199"}'
```

Output:

```
{
    "ContactChannelArn": "arn:aws:ssm-contacts:us-east-1:111122223333:contact-channel/akuam/02f506b9-ea5d-4764-af89-2daa793ff024"
}
```

For more information, see [Contacts](#) in the *Incident Manager User Guide*.

- For API details, see [CreateContactChannel](#) in *AWS CLI Command Reference*.

**deactivate-contact-channel**

The following code example shows how to use deactivate-contact-channel.

**AWS CLI**

**To deactivate a contact channel**

The following deactivate-contact-channel example deactivates a contact channel. Deactivating a contact channel means the contact channel will no longer be paged during an incident. You can also reactivate a contact channel at any time using the activate-contact-channel command.

```bash
aws ssm-contacts deactivate-contact-channel 
    --contact-channel-id "arn:aws:ssm-contacts:us-east-2:111122223333:contact-channel/akuam/fc7405c4-46b2-48b7-87b2-93e2f225b90d"
```
This command produces no output.

For more information, see Contacts in the Incident Manager User Guide.

- For API details, see DeactivateContactChannel in AWS CLI Command Reference.

delete-contact

The following code example shows how to use delete-contact.

AWS CLI

To delete a contact

The following delete-contact example deletes a contact. The contact will no longer be reachable from any escalation plan that refers to them.

```bash
aws ssm-contacts delete-contact \
   --contact-id "arn:aws:ssm-contacts:us-east-1:111122223333:contact/alejr"
```

This command produces no output.

For more information, see Contacts in the Incident Manager User Guide.

- For API details, see DeleteContact in AWS CLI Command Reference.

delete-contact-channel

The following code example shows how to use delete-contact-channel.

AWS CLI

To delete a contact channel

The following delete-contact-channel example deletes a contact channel. Deleting a contact channel ensures the contact channel will not be paged during an incident.

```bash
aws ssm-contacts delete-contact-channel \
   --contact-channel-id "arn:aws:ssm-contacts:us-east-1:111122223333:contact-channel/akuam/13149bad-52ee-45ea-ae1e-45857f78f9b2"
```

This command produces no output.
For more information, see [Contacts](#) in the *Incident Manager User Guide*.

- For API details, see [DeleteContactChannel](#) in *AWS CLI Command Reference*.

**describe-engagement**

The following code example shows how to use `describe-engagement`.

**AWS CLI**

**To describe the details of an engagement**

The following `describe-engagement` example lists the details of an engagement to a contact or escalation plan. The subject and content are sent to the contact channels.

```bash
aws ssm-contacts describe-engagement \
  --engagement-id "arn:aws:ssm-contacts:us-east-2:111122223333:engagement/example_escalation/69e40ce1-8dbb-4d57-8962-5fbe7fc53356"
```

Output:

```json
{
  "ContactArn": "arn:aws:ssm-contacts:us-east-2:111122223333:contact/example_escalation",
  "Sender": "cli",
  "Subject": "cli-test",
  "Content": "Testing engagements via CLI",
  "PublicSubject": "cli-test",
  "PublicContent": "Testing engagements via CLI",
  "StartTime": "2021-05-18T18:25:41.151000+00:00"
}
```

For more information, see [Contacts](#) in the *Incident Manager User Guide*.

- For API details, see [DescribeEngagement](#) in *AWS CLI Command Reference*.

**describe-page**

The following code example shows how to use `describe-page`.
AWS CLI

To list the details of a page to a contact channel

The following describe-page example lists details of a page to a contact channel. The page will include the subject and content provided.

```
aws ssm-contacts describe-page \
  --page-id \n  "arn:aws:ssm-contacts:us-east-2:111122223333:page/akuam/ad0052bd-e606-498a-861b-25726292eb93"
```

Output:

```
{
  "EngagementArn": "arn:aws:ssm-contacts:us-east-2:111122223333:engagement/akuam/78a29753-3674-4ac5-9f83-0468563567f0",
  "ContactArn": "arn:aws:ssm-contacts:us-east-2:111122223333:contact/akuam",
  "Sender": "cli",
  "Subject": "cli-test",
  "Content": "Testing engagements via CLI",
  "PublicSubject": "cli-test",
  "PublicContent": "Testing engagements via CLI",
  "SentTime": "2021-05-18T18:43:29.301000+00:00",
  "ReadTime": "2021-05-18T18:43:55.708000+00:00",
  "DeliveryTime": "2021-05-18T18:43:55.265000+00:00"
}
```

For more information, see Contacts in the Incident Manager User Guide.

- For API details, see DescribePage in AWS CLI Command Reference.

get-contact

The following code example shows how to use get-contact.

AWS CLI

Example 1: To describe a contact plan

The following get-contact example describes a contact.
aws ssm-contacts get-contact \
   --contact-id "arn:aws:ssm-contacts:us-east-2:111122223333:contact/akuam"

Output:

```json
{
   "ContactArn": "arn:aws:ssm-contacts:us-east-2:111122223333:contact/akuam",
   "Alias": "akuam",
   "DisplayName": "Akua Mansa",
   "Type": "PERSONAL",
   "Plan": {
      "Stages": [
      {
         "DurationInMinutes": 5,
         "Targets": [
         {
            "ChannelTargetInfo": {
               "ContactChannelId": "arn:aws:ssm-contacts:us-east-2:111122223333:contact-channel/akuam/beb25840-5ac8-4644-95cc-7a8de390fa65",
               "RetryIntervalInMinutes": 1
            }
         }
      },
      {
         "DurationInMinutes": 5,
         "Targets": [
         {
            "ChannelTargetInfo": {
               "ContactChannelId": "arn:aws:ssm-contacts:us-east-2:111122223333:contact-channel/akuam/49f3c24d-5f9f-4638-ae25-3f49e04229ad",
               "RetryIntervalInMinutes": 1
            }
         }
      },
      {
         "DurationInMinutes": 5,
         "Targets": [
         {
            "ChannelTargetInfo": {
               "ContactChannelId": "arn:aws:ssm-contacts:us-east-2:111122223333:contact-channel/akuam/77d4f447-f619-4954-afff-85551e369c2a",
               "RetryIntervalInMinutes": 1
            }
         }
      }
      ],
      "PlanType": "PARTIAL"
   }
}
```
Example 2: To describe an escalation plan

The following `get-contact` example describes an escalation plan.

```
aws ssm-contacts get-contact \
--contact-id "arn:aws:ssm-contacts:us-east-2:111122223333:contact/example_escalation"
```

Output:

```
{
    "ContactArn": "arn:aws:ssm-contacts:us-east-2:111122223333:contact/example_escalation",
    "Alias": "example_escalation",
    "DisplayName": "Example Escalation",
    "Type": "ESCALATION",
    "Plan": {
        "Stages": [
            {
                "DurationInMinutes": 5,
                "Targets": [
                    {
                        "ContactTargetInfo": {
                            "ContactId": "arn:aws:ssm-contacts:us-east-2:111122223333:contact/akuam",
                            "IsEssential": true
                        }
                    }
                ]
            },
            {
                "DurationInMinutes": 5,
                "Targets": [
                    
                ]
            }
        ]
    }
}
```
"ContactTargetInfo": {
    "ContactId": "arn:aws:ssm-contacts:us-east-2:111122223333:contact/alejr",
    "IsEssential": false
}
},
{
    "DurationInMinutes": 0,
    "Targets": [
        {
            "ContactTargetInfo": {
                "ContactId": "arn:aws:ssm-contacts:us-east-2:111122223333:contact/anasi",
                "IsEssential": false
            }
        }
    ]
}
]

For more information, see Contacts in the Incident Manager User Guide.

- For API details, see GetContact in AWS CLI Command Reference.

get-contact-channel

The following code example shows how to use get-contact-channel.

AWS CLI

To list the details of a contact channel

The following get-contact-channel example lists the details of a contact channel.

```bash
aws ssm-contacts get-contact-channel \
    --contact-channel-id "arn:aws:ssm-contacts:us-east-2:111122223333:contact-channel/akuam/fc7405c4-46b2-48b7-87b2-93e2f225b90d"
```

Output:
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For more information, see Contacts in the Incident Manager User Guide.

- For API details, see GetContactChannel in AWS CLI Command Reference.

**get-contact-policy**

The following code example shows how to use `get-contact-policy`.

**AWS CLI**

To list the resource policies of a contact

The following `get-contact-policy` example lists the resource policies associated with the specified contact.

```
aws ssm-contacts get-contact-policy \
    --contact-arn "arn:aws:ssm-contacts:us-east-1:111122223333:contact/akuam"
```

Output:

```
{
    "ContactArn": "arn:aws:ssm-contacts:us-east-1:111122223333:contact/akuam",
}
```
For more information, see Working with shared contacts and response plans in the Incident Manager User Guide.

- For API details, see GetContactPolicy in AWS CLI Command Reference.

list-contact-channels

The following code example shows how to use list-contact-channels.

AWS CLI

To list the contact channels of a contact

The following list-contact-channels example lists the available contact channels of the specified contact.

```
aws ssm-contacts list-contact-channels \
    --contact-id "arn:aws:ssm-contacts:us-east-2:111122223333:contact/akuam"
```

Output:

```
{
    [
        {
            "ContactArn": "arn:aws:ssm-contacts:us-east-2:111122223333:contact/akuam",
            "Name": "akuas email",
            "Type": "EMAIL",
            "DeliveryAddress": {
                "SimpleAddress": "akuam@example.com"
            },
            "ActivationStatus": "NOT_ACTIVATED"
        },
        {
            "ContactChannelArn": "arn:aws:ssm-contacts:us-east-2:111122223333:contact-channel/akuam/fc7405c4-46b2-48b7-87b2-93e2f225b90d",
            "ContactArn": "arn:aws:ssm-contacts:us-east-2:111122223333:contact/akuam",
            "Name": "akuas sms",
            "Type": "SMS",
            "DeliveryAddress": {
                "SimpleAddress": "+15005550100"
            }
        }
    ]
}```
For more information, see [Contacts](Incident Manager User Guide) in the *Incident Manager User Guide*.

- For API details, see [ListContactChannels](AWS CLI Command Reference) in *AWS CLI Command Reference*.

### list-contacts

The following code example shows how to use `list-contacts`.

**AWS CLI**

**To list all escalation plans and contacts**

The following `list-contacts` example lists the contacts and escalation plans in your account.

```
aws ssm-contacts list-contacts
```

**Output:**

```
{
  "Contacts": [
    {
      "ContactArn": "arn:aws:ssm-contacts:us-east-2:111122223333:contact/akuam",
      "Alias": "akuam",
      "DisplayName": "Akua Mansa",
      "Type": "PERSONAL"
    },
    {
      "ContactArn": "arn:aws:ssm-contacts:us-east-2:111122223333:contact/alejr",
      "Alias": "alejr",
      "DisplayName": "Alejandro Rosalez",
      "Type": "PERSONAL"
    },
    {
      "ContactArn": "arn:aws:ssm-contacts:us-east-2:111122223333:contact/anasi",
      "Alias": "anasi",
      "DisplayName": "Anas Ismail",
      "Type": "PERSONAL"
    }
  ]
}
```
For more information, see [Contacts](#) in the *Incident Manager User Guide*.

- For API details, see [ListContacts](#) in *AWS CLI Command Reference*.

### list-engagements

The following code example shows how to use `list-engagements`.

**AWS CLI**

**To list all engagements**

The following `list-engagements` example lists engagements to escalation plans and contacts. You can also list engagements for a single incident.

```
aws ssm-contacts list-engagements
```

**Output:**

```
{
  "Engagements": [  
    {
      "ContactArn": "arn:aws:ssm-contacts:us-east-2:111122223333:contact/akuam",  
      "Sender": "cli",  
      "StartTime": "2021-05-18T20:37:50.300000+00:00"
    },
  ]
}
```
For more information, see [Contacts](#) in the *Incident Manager User Guide*.

- For API details, see [ListEngagements](#) in *AWS CLI Command Reference*.

### list-page-receipts

The following code example shows how to use `list-page-receipts`.

**AWS CLI**

**To list page receipts**

The following command-name example lists whether a page was received or not by a contact.

```plaintext
aws ssm-contacts list-page-receipts \
```
Output:

```json
{
   "Receipts": [
      {
         "ContactChannelArn": "arn:aws:ssm-contacts:us-east-2:111122223333:contact-channel/akuam/fc7405c4-46b2-48b7-87b2-93e2f225b90d",
         "ReceiptType": "DELETED",
         "ReceiptInfo": "425440",
         "ReceiptTime": "2021-05-18T20:42:57.485000+00:00"
      },
      {
         "ContactChannelArn": "arn:aws:ssm-contacts:us-east-2:111122223333:contact-channel/akuam/fc7405c4-46b2-48b7-87b2-93e2f225b90d",
         "ReceiptType": "READ",
         "ReceiptInfo": "425440",
         "ReceiptTime": "2021-05-18T20:42:57.907000+00:00"
      },
      {
         "ContactChannelArn": "arn:aws:ssm-contacts:us-east-2:111122223333:contact-channel/akuam/fc7405c4-46b2-48b7-87b2-93e2f225b90d",
         "ReceiptType": "SENT",
         "ReceiptInfo": "SM6656c19132f1465f9c9c1123a5dde7c9",
         "ReceiptTime": "2021-05-18T20:40:52.962000+00:00"
      }
   ]
}
```

For more information, see [Contacts](#) in the *Incident Manager User Guide*.

- For API details, see [ListPageReceipts](#) in *AWS CLI Command Reference*.

### list-pages-by-contact

The following code example shows how to use `list-pages-by-contact`.

#### AWS CLI

To list pages by contact
The following list-pages-by-contact example lists all pages to the specified contact.

```
aws ssm-contacts list-pages-by-contact \
   --contact-id "arn:aws:ssm-contacts:us-east-2:111122223333:contact/akuam"
```

Output:

```
{
   "Pages": [
       {
           "EngagementArn": "arn:aws:ssm-contacts:us-east-2:111122223333:engagement/akuam/78a29753-3674-4ac5-9f83-0468563567f0",
           "ContactArn": "arn:aws:ssm-contacts:us-east-2:111122223333:contact/akuam",
           "Sender": "cli",
           "SentTime": "2021-05-18T18:43:29.301000+00:00",
           "DeliveryTime": "2021-05-18T18:43:55.265000+00:00",
           "ReadTime": "2021-05-18T18:43:55.708000+00:00"
       }
   ]
}
```

For more information, see Contacts in the Incident Manager User Guide.

- For API details, see ListPagesByContact in AWS CLI Command Reference.

**list-pages-by-engagement**

The following code example shows how to use list-pages-by-engagement.

**AWS CLI**

To list pages to contact channels started from an engagement.

The following list-pages-by-engagement example lists the pages that occurred while engaging the defined engagement plan.

```
aws ssm-contacts list-pages-by-engagement \
   --engagement-id "arn:aws:ssm-contacts:us-east-2:111122223333:engagement/akuam/78a29753-3674-4ac5-9f83-0468563567f0"
```
For more information, see [Contacts](#) in the *Incident Manager User Guide*.

- For API details, see [ListPagesByEngagement](#) in *AWS CLI Command Reference*.

### list-tags-for-resource

The following code example shows how to use `list-tags-for-resource`.

**AWS CLI**

**To list tags for a contact**

The following `list-tags-for-resource` example lists the tags of the specified contact.

```bash
aws ssm-contacts list-tags-for-resource 
   --resource-arn "arn:aws:ssm-contacts:us-east-1:111122223333:contact/akuam"
```

**Output:**

```json
{
   "Tags": [
      {
         "Key": "group1",
         "Value": "1"
      }
   ]
}
```
For more information, see Tagging in the Incident Manager User Guide.

- For API details, see ListTagsForResource in AWS CLI Command Reference.

**put-contact-policy**

The following code example shows how to use put-contact-policy.

**AWS CLI**

**To share a contact and engagements**

The following put-contact-policy example adds a resource policy to the contact Akua that shares the contact and related engagements with the principal.

```
aws ssm-contacts put-contact-policy 
    --contact-arn "arn:aws:ssm-contacts:us-east-1:111122223333:contact/akuam" 
```

This command produces no output.

For more information, see Working with shared contacts and response plans in the Incident Manager User Guide.

- For API details, see PutContactPolicy in AWS CLI Command Reference.

**send-activation-code**

The following code example shows how to use send-activation-code.

**AWS CLI**

**To send an activation code**
The following `send-activation-code` example sends an activation code and message to the specified contact channel.

```bash
aws ssm-contacts send-activation-code \
   --contact-channel-id "arn:aws:ssm-contacts:us-east-1:111122223333:contact-channel/akuam/8ddae2d1-12c8-4e45-b852-c8587266c400"
```

This command produces no output.

For more information, see [Contacts](https://aws.amazon.com) in the *Incident Manager User Guide*.
- For API details, see [SendActivationCode](https://aws.amazon.com) in *AWS CLI Command Reference*.

### start-engagement

The following code example shows how to use `start-engagement`.

**AWS CLI**

#### Example 1: To page a contact's contact channels

The following `start-engagement` pages contact's contact channels. Sender, subject, public-subject, and public-content are all free from fields. Incident Manager sends the subject and content to the provided VOICE or EMAIL contact channels. Incident Manager sends the public-subject and public-content to the provided SMS contact channels. Sender is used to track who started the engagement.

```bash
aws ssm-contacts start-engagement \
   --contact-id  "arn:aws:ssm-contacts:us-east-2:111122223333:contact/akuam" \
   --sender "cli" \ 
   --subject "cli-test" \ 
   --content "Testing engagements via CLI" \ 
   --public-subject "cli-test" \ 
   --public-content "Testing engagements via CLI"
```

Output:

```
{
   "EngagementArn": "arn:aws:ssm-contacts:us-east-2:111122223333:engagement/akuam/607ced0e-e8fa-4ea7-8958-a237b8803f8f"
}
```
Example 2: To page a contact in the provided escalation plan.

The following `start-engagement` engages contact's through an escalation plan. Each contact is paged according to their engagement plan.

```bash
aws ssm-contacts start-engagement 
    --contact-id "arn:aws:ssm-contacts:us-east-2:111122223333:contact/example_escalation" 
    --sender "cli" 
    --subject "cli-test" 
    --content "Testing engagements via CLI" 
    --public-subject "cli-test" 
    --public-content "Testing engagements via CLI"
```

Output:

```json
{
    "EngagementArn": "arn:aws:ssm-contacts:us-east-2:111122223333:engagement/example_escalation/69e40ce1-8dbb-4d57-8962-5fbe7fc53356"
}
```

For more information, see [Contacts](#) in the *Incident Manager User Guide*.

- For API details, see [StartEngagement](#) in *AWS CLI Command Reference*.

**stop-engagement**

The following code example shows how to use `stop-engagement`.

**AWS CLI**

**To stop an engagement**

The following `stop-engagement` example stops an engagement from paging further contacts and contact channels.

```bash
aws ssm-contacts stop-engagement 
```
--engagement-id "arn:aws:ssm-contacts:us-east-2:111122223333:engagement/example_escalation/69e40ce1-8dbb-4d57-8962-5fbe7fc53356"

This command produces no output.

For more information, see Contacts in the Incident Manager User Guide.
• For API details, see StopEngagement in AWS CLI Command Reference.

tag-resource

The following code example shows how to use tag-resource.

AWS CLI

To tag a contact

The following tag-resource example tags a specified contact with the provided tag key value pair.

```
aws ssm-contacts tag-resource 
    --resource-arn "arn:aws:ssm-contacts:us-east-1:111122223333:contact/akuam" 
    --tags '[["Key":"group1","Value":"1"]]'
```

This command produces no output.

For more information, see Tagging in the Incident Manager User Guide.
• For API details, see TagResource in AWS CLI Command Reference.

untag-resource

The following code example shows how to use untag-resource.

AWS CLI

To remove tags from a contact

The following untag-resource example removes the group1 tag from the specified contact.

```
aws ssm-contacts untag-resource 
    --resource-arn "arn:aws:ssm-contacts:us-east-1:111122223333:contact/akuam" 
    --tag-keys "group1"
```
This command produces no output.

For more information, see Tagging in the Incident Manager User Guide.

- For API details, see UntagResource in AWS CLI Command Reference.

**update-contact**

The following code example shows how to use update-contact.

**AWS CLI**

**To update the engagement plan of contact**

The following update-contact example updates the engagement plan of the contact Akua to include the three types of contacts channels. This is done after creating contact channels for Akua.

```
aws ssm-contacts update-contact \
   --contact-id "arn:aws:ssm-contacts:us-east-2:111122223333:contact/akuam" \
   --plan '{"Stages": [{"DurationInMinutes": 5, "Targets": [{"ChannelTargetInfo": 
   {"ContactChannelId": "arn:aws:ssm-contacts:us-east-2:111122223333:contact-
   channel/akuam/beb25840-5ac8-4644-95cc-7a8de390fa65","RetryIntervalInMinutes": 
   1 } }]}}, {"DurationInMinutes": 5, "Targets": [{"ChannelTargetInfo": 
   {"ContactChannelId": "arn:aws:ssm-contacts:us-east-2:111122223333:contact-channel/ 
   akum/49f3c24d-5f9f-4638-ae25-3f49e04229ad", "RetryIntervalInMinutes": 1 } }]}, 
   {"DurationInMinutes": 5, "Targets": [{"ChannelTargetInfo": 
   {"ContactChannelId": "arn:aws:ssm-contacts:us-east-2:111122223333:contact-channel/ 
   akum/77d4f447-f619-4954-afff-85551e369c2a","RetryIntervalInMinutes": 1 } }]}]
'
```

This command produces no output.

For more information, see Contacts in the Incident Manager User Guide.

- For API details, see UpdateContact in AWS CLI Command Reference.

**update-contact-channel**

The following code example shows how to use update-contact-channel.

**AWS CLI**

**To update a contact channel**

```
```
The following `update-contact-channel` example updates the name and delivery address of a contact channel.

```bash
aws ssm-contacts update-contact-channel \
    --contact-channel-id "arn:aws:ssm-contacts:us-east-2:111122223333:contact-channel/akuam/49f3c24d-5f9f-4638-ae25-3f49e04229ad" \
    --name "akuas voice channel" \
    --delivery-address '{"SimpleAddress": "+15005550198"}'
```

This command produces no output.

For more information, see Contacts in the Incident Manager User Guide.

- For API details, see `UpdateContactChannel` in AWS CLI Command Reference.

### Amazon Inspector examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon Inspector.

**Actions** are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

**Scenarios** are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- **Actions**

**Actions**

**add-attributes-to-findings**

The following code example shows how to use `add-attributes-to-findings`.

**AWS CLI**

**To add attributes to findings**
The following add-attribute-to-finding command assigns an attribute with the key of Example and value of example to the finding with the ARN of `arn:aws:inspector:us-west-2:123456789012:target/0-0kFIPusq/template/0-8l1VIE0D/run/0-Z02cjjug/finding/0-T8yM9mEU:

```
aws inspector add-attributes-to-findings --finding-arns arn:aws:inspector:us-west-2:123456789012:target/0-0kFIPusq/template/0-8l1VIE0D/run/0-Z02cjjug/finding/0-T8yM9mEU --attributes key=Example,value=example
```

Output:

```
{
   "failedItems": {}
}
```

For more information, see Amazon Inspector Findings in the Amazon Inspector guide.

- For API details, see [AddAttributesToFindings](aws_cli_command_reference) in [AWS CLI Command Reference](aws_cli_command_reference).

**create-assessment-target**

The following code example shows how to use `create-assessment-target`.

**AWS CLI**

**To create an assessment target**

The following `create-assessment-target` command creates an assessment target named `ExampleAssessmentTarget` using the resource group with the ARN of `arn:aws:inspector:us-west-2:123456789012:resourcegroup/0-AB6DMKnv`:

```
```

Output:

```
{
   "assessmentTargetArn": "arn:aws:inspector:us-west-2:123456789012:target/0-nvgVhaxX"
}
```
For more information, see Amazon Inspector Assessment Targets in the Amazon Inspector guide.

- For API details, see [CreateAssessmentTarget](#) in AWS CLI Command Reference.

### create-assessment-template

The following code example shows how to use `create-assessment-template`.

**AWS CLI**

**To create an assessment template**

The following `create-assessment-template` command creates an assessment template called `ExampleAssessmentTemplate` for the assessment target with the ARN of `arn:aws:inspector:us-west-2:123456789012:target/0-nvgVhaxX`:

```bash
```

**Output:**

```json
{
    "assessmentTemplateArn": "arn:aws:inspector:us-west-2:123456789012:target/0-nvgVhaxX/template/0-it5r2S4T"
}
```

For more information, see Amazon Inspector Assessment Templates and Assessment Runs in the Amazon Inspector guide.
- For API details, see [CreateAssessmentTemplate](#) in AWS CLI Command Reference.

### create-resource-group

The following code example shows how to use `create-resource-group`.

**AWS CLI**

**To create a resource group**
The following `create-resource-group` command creates a resource group using the tag key of `Name` and value of `example`:

```bash
aws inspector create-resource-group --resource-group-tags key=Name,value=example
```

Output:

```json
{
   "resourceGroupArn": "arn:aws:inspector:us-west-2:123456789012:resourcegroup/0-AB6DMKnv"
}
```

For more information, see Amazon Inspector Assessment Targets in the *Amazon Inspector* guide.

- For API details, see [CreateResourceGroup](https://docs.aws.amazon.com/cli/latest/reference/inspector/create-resource-group.html) in *AWS CLI Command Reference*.

### delete-assessment-run

The following code example shows how to use `delete-assessment-run`.

**AWS CLI**

**To delete an assessment run**

The following `delete-assessment-run` command deletes the assessment run with the ARN of `arn:aws:inspector:us-west-2:123456789012:target/0-nvgVhaxX/template/0-it5r2S4T/run/0-11LMTAVe`:

```bash
```

For more information, see Amazon Inspector Assessment Templates and Assessment Runs in the *Amazon Inspector* guide.

- For API details, see [DeleteAssessmentRun](https://docs.aws.amazon.com/cli/latest/reference/inspector/delete-assessment-run.html) in *AWS CLI Command Reference*.

### delete-assessment-target

The following code example shows how to use `delete-assessment-target`.
AWS CLI

**To delete an assessment target**

The following `delete-assessment-target` command deletes the assessment target with the ARN of `arn:aws:inspector:us-west-2:123456789012:target/0-0kFIPusq`:

```
```

For more information, see Amazon Inspector Assessment Targets in the *Amazon Inspector* guide.

- For API details, see `DeleteAssessmentTarget` in *AWS CLI Command Reference*.

**delete-assessment-template**

The following code example shows how to use `delete-assessment-template`.

AWS CLI

**To delete an assessment template**

The following `delete-assessment-template` command deletes the assessment template with the ARN of `arn:aws:inspector:us-west-2:123456789012:target/0-nvgVhaxX/template/0-it5r2S4T`:

```
```

For more information, see Amazon Inspector Assessment Templates and Assessment Runs in the *Amazon Inspector* guide.

- For API details, see `DeleteAssessmentTemplate` in *AWS CLI Command Reference*.

**describe-assessment-runs**

The following code example shows how to use `describe-assessment-runs`.

AWS CLI

**To describe assessment runs**
The following `describe-assessment-run` command describes an assessment run with the ARN of `arn:aws:inspector:us-west-2:123456789012:target/0-0kFIPusq/template/0-4r1V2mAw/run/0-MKkpXXPE`:

```
aws inspector describe-assessment-runs --assessment-run-arns arn:aws:inspector:us-west-2:123456789012:target/0-0kFIPusq/template/0-4r1V2mAw/run/0-MKkpXXPE
```

Output:

```
{
   "assessmentRuns": [
      {
         "arn": "arn:aws:inspector:us-west-2:123456789012:target/0-0kFIPusq/template/0-4r1V2mAw/arn/0-MKkpXXPE",
         "assessmentTemplateArn": "arn:aws:inspector:us-west-2:123456789012:target/0-0kFIPusq/template/0-4r1V2mAw",
         "createdAt": 1458680170.035,
         "dataCollected": true,
         "durationInSeconds": 3600,
         "name": "Run 1 for ExampleAssessmentTemplate",
         "notifications": [],
         "rulesPackageArns": [
         ],
         "startedAt": 1458680170.161,
         "state": "COMPLETED",
         "stateChangedAt": 1458680301.4,
         "stateChanges": [
            {
               "state": "CREATED",
               "stateChangedAt": 1458680170.035
            },
            {
               "state": "START_DATA_COLLECTION_PENDING",
               "stateChangedAt": 1458680170.065
            },
            {
               "state": "START_DATA_COLLECTION_IN_PROGRESS",
               "stateChangedAt": 1458680170.096
            },
            {
               "state": "COLLECTING_DATA",
               "stateChangedAt": 1458680301.4
            }
         ]
      }
   ]
}
```
For more information, see Amazon Inspector Assessment Templates and Assessment Runs in the Amazon Inspector guide.

- For API details, see DescribeAssessmentRuns in AWS CLI Command Reference.

### describe-assessment-targets

The following code example shows how to use describe-assessment-targets.

#### AWS CLI

**To describe assessment targets**

The following describe-assessment-targets command describes the assessment target with the ARN of arn:aws:inspector:us-west-2:123456789012:target/0-0kFIPusq:

```
```
Output:

```json
{
    "assessmentTargets": [
        {
            "arn": "arn:aws:inspector:us-west-2:123456789012:target/0-0kFIPusq",
            "createdAt": 1458074191.459,
            "name": "ExampleAssessmentTarget",
            "updatedAt": 1458074191.459
        }
    ],
    "failedItems": {}
}
```

For more information, see Amazon Inspector Assessment Targets in the Amazon Inspector guide.

- For API details, see [DescribeAssessmentTargets](aws cli command reference) in AWS CLI Command Reference.

**describe-assessment-templates**

The following code example shows how to use describe-assessment-templates.

**AWS CLI**

**To describe assessment templates**

The following describe-assessment-templates command describes the assessment template with the ARN of `arn:aws:inspector:us-west-2:123456789012:target/0-0kFIPusq/template/0-4r1V2mAw`:

```
aws inspector describe-assessment-templates --assessment-template-arns
    arn:aws:inspector:us-west-2:123456789012:target/0-0kFIPusq/template/0-4r1V2mAw
```

Output:

```json
{
    "assessmentTemplates": [
        {
            "arn": "arn:aws:inspector:us-west-2:123456789012:target/0-0kFIPusq/template/0-4r1V2mAw",
        }
    ]
}
```
"createdAt": 1458074191.844,
"durationInSeconds": 3600,
"name": "ExampleAssessmentTemplate",
"rulesPackageArns": [
],
"userAttributesForFindings": []
}
"failedItems": {} }

For more information, see Amazon Inspector Assessment Templates and Assessment Runs in the Amazon Inspector guide.

- For API details, see DescribeAssessmentTemplates in AWS CLI Command Reference.

describe-cross-account-access-role

The following code example shows how to use describe-cross-account-access-role.

AWS CLI

To describe the cross account access role

The following describe-cross-account-access-role command describes the IAM role that enables Amazon Inspector to access your AWS account:

aws inspector describe-cross-account-access-role

Output:

{} 
   "registeredAt": 1458069182.826, 
   "roleArn": "arn:aws:iam::123456789012:role/inspector", 
   "valid": true
}

For more information, see Setting up Amazon Inspector in the Amazon Inspector guide.

- For API details, see DescribeCrossAccountAccessRole in AWS CLI Command Reference.
describe-findings

The following code example shows how to use describe-findings.

AWS CLI

To describe findings

The following describe-findings command describes the finding with the ARN of arn:aws:inspector:us-west-2:123456789012:target/0-0kFIPusq/template/0-4r1V2mAw/run/0-MKkpXXPE/finding/0-HwPnsDm4:

```
aws inspector describe-findings --finding-arns arn:aws:inspector:us-west-2:123456789012:target/0-0kFIPusq/template/0-4r1V2mAw/run/0-MKkpXXPE/finding/0-HwPnsDm4
```

Output:

```
{
    "failedItems": {},
    "findings": [
        {
            "arn": "arn:aws:inspector:us-west-2:123456789012:target/0-0kFIPusq/template/0-4r1V2mAw/run/0-MKkpXXPE/finding/0-HwPnsDm4",
            "assetAttributes": {
                "ipv4Addresses": [],
                "schemaVersion": 1
            },
            "assetType": "ec2-instance",
            "attributes": [],
            "confidence": 10,
            "createdAt": 1458680301.37,
            "description": "Amazon Inspector did not find any potential security issues during this assessment.",
            "indicatorOfCompromise": false,
            "numericSeverity": 0,
            "recommendation": "No remediation needed.",
            "schemaVersion": 1,
            "service": "Inspector",
            "serviceAttributes": {
                "assessmentRunArn": "arn:aws:inspector:us-west-2:123456789012:target/0-0kFIPusq/template/0-4r1V2mAw/run/0-MKkpXXPE",
            
```
  "schemaVersion": 1
},
  "severity": "Informational",
  "title": "No potential security issues found",
  "updatedAt": 1458680301.37,
  "userAttributes": []

}
]
}

For more information, see Amazon Inspector Findings in the Amazon Inspector guide.

- For API details, see DescribeFindings in AWS CLI Command Reference.

**describe-resource-groups**

The following code example shows how to use describe-resource-groups.

**AWS CLI**

**To describe resource groups**

The following describe-resource-groups command describes the resource group with the ARN of `arn:aws:inspector:us-west-2:123456789012:resourcegroup/0-PyGXopAI`:

```
aws inspector describe-resource-groups --resource-group-arns arn:aws:inspector:us-west-2:123456789012:resourcegroup/0-PyGXopAI
```

Output:

```json
{
  "failedItems": {},
  "resourceGroups": [
  {
    "createdAt": 1458074191.098,
    "tags": [
    {
      "key": "Name",
```
For more information, see Amazon Inspector Assessment Targets in the *Amazon Inspector* guide.  
- For API details, see [DescribeResourceGroups](https://docs.aws.amazon.com/cli/latest/reference/inspector/describe-resource-groups.html) in *AWS CLI Command Reference*.

### describe-rules-packages

The following code example shows how to use `describe-rules-packages`.

#### AWS CLI

**To describe rules packages**

The following `describe-rules-packages` command describes the rules package with the ARN of `arn:aws:inspector:us-west-2:758058086616:rulespackage/0-9hgA516p`:

```bash
```

**Output:**

```json
{
   "failedItems": {},
   "rulesPackages": [
   {
    "description": "The rules in this package help verify whether the EC2 instances in your application are exposed to Common Vulnerabilities and Exposures (CVEs). Attacks can exploit unpatched vulnerabilities to compromise the confidentiality, integrity, or availability of your service or data. The CVE system provides a reference for publicly known information security vulnerabilities and exposures. For more information, see [https://cve.mitre.org/](https://cve.mitre.org/). If a particular CVE appears in one of the produced Findings at the end of a completed Inspector assessment, you can search [https://cve.mitre.org/](https://cve.mitre.org/) using the CVE's ID (for example, "CVE-2009-0021") to
```
For more information, see Amazon Inspector Rules Packages and Rules in the Amazon Inspector guide.

- For API details, see `DescribeRulesPackages` in AWS CLI Command Reference.

### get-telemetry-metadata

The following code example shows how to use `get-telemetry-metadata`.

**AWS CLI**

**To get the telemetry metadata**

The following `get-telemetry-metadata` command generates information about the data that is collected for the assessment run with the ARN of `arn:aws:inspector:us-west-2:123456789012:target/0-0kFIPusq/template/0-4r1V2mAw/run/0-MKkpXXPE`:

```
aws inspector get-telemetry-metadata --assessment-run-arn arn:aws:inspector:us-west-2:123456789012:target/0-0kFIPusq/template/0-4r1V2mAw/run/0-MKkpXXPE
```

**Output:**

```json
{
    "telemetryMetadata": [
        {
            "count": 2,
            "dataSize": 345,
            "messageType": "InspectorDuplicateProcess"
        },
        {
            "count": 3,
            "dataSize": 255,
            "messageType": "InspectorTimeEventMsg"
        }
    ]
}
```


},
{
  "count": 4,
  "dataSize": 1082,
  "messageType": "InspectorNetworkInterface"
},
{
  "count": 2,
  "dataSize": 349,
  "messageType": "InspectorDnsEntry"
},
{
  "count": 11,
  "dataSize": 2514,
  "messageType": "InspectorDirectoryInfoMsg"
},
{
  "count": 1,
  "dataSize": 179,
  "messageType": "InspectorTcpV6ListeningPort"
},
{
  "count": 101,
  "dataSize": 10949,
  "messageType": "InspectorTerminal"
},
{
  "count": 26,
  "dataSize": 5916,
  "messageType": "InspectorUser"
},
{
  "count": 282,
  "dataSize": 32148,
  "messageType": "InspectorDynamicallyLoadedCodeModule"
},
{
  "count": 18,
  "dataSize": 10172,
  "messageType": "InspectorCreateProcess"
},
{
  "count": 3,
  "dataSize": 8001,
  "messageType": "InspectorUser"}
"messageType": "InspectorProcessPerformance",

},
{
  "count": 1,
  "dataSize": 360,
  "messageType": "InspectorOperatingSystem"
},
{
  "count": 6,
  "dataSize": 546,
  "messageType": "InspectorStopProcess"
},
{
  "count": 1,
  "dataSize": 1553,
  "messageType": "InspectorInstanceMetaData"
},
{
  "count": 2,
  "dataSize": 434,
  "messageType": "InspectorTcpV4Connection"
},
{
  "count": 474,
  "dataSize": 2960322,
  "messageType": "InspectorPackageInfo"
},
{
  "count": 3,
  "dataSize": 2235,
  "messageType": "InspectorSystemPerformance"
},
{
  "count": 105,
  "dataSize": 46048,
  "messageType": "InspectorCodeModule"
},
{
  "count": 1,
  "dataSize": 182,
  "messageType": "InspectorUdpV6ListeningPort"
},
{
  "count": 2,
"dataSize": 371,
  "messageType": "InspectorUdpV4ListeningPort"
},
{
  "count": 18,
  "dataSize": 8362,
  "messageType": "InspectorKernelModule"
},
{
  "count": 29,
  "dataSize": 48788,
  "messageType": "InspectorConfigurationInfo"
},
{
  "count": 1,
  "dataSize": 79,
  "messageType": "InspectorMonitoringStart"
},
{
  "count": 5,
  "dataSize": 0,
  "messageType": "InspectorSplitMsgBegin"
},
{
  "count": 51,
  "dataSize": 4593,
  "messageType": "InspectorGroup"
},
{
  "count": 1,
  "dataSize": 184,
  "messageType": "InspectorTcpV4ListeningPort"
},
{
  "count": 1159,
  "dataSize": 3146579,
  "messageType": "Total"
},
{
  "count": 5,
  "dataSize": 0,
  "messageType": "InspectorSplitMsgEnd"
},
### list-assessment-run-agents

The following code example shows how to use `list-assessment-run-agents`.

**AWS CLI**

To list assessment run agents

The following `list-assessment-run-agents` command lists the agents of the assessment run with the specified ARN.

```
aws inspector list-assessment-run-agents \\
  --assessment-run-arn arn:aws:inspector:us-west-2:123456789012:target/0-0kFIPusq/template/0-4r1V2mAw/run/0-MKkpXXPE
```

Output:

```
{
  "assessmentRunAgents": [
    {
      "agentHealth": "HEALTHY",
      "agentHealthCode": "HEALTHY",
      "agentId": "i-49113b93",
      "assessmentRunArn": "arn:aws:inspector:us-west-2:123456789012:target/0-0kFIPusq/template/0-4r1V2mAw/run/0-MKkpXXPE",
      "telemetryMetadata": [
        {
          "count": 2,
          "dataSize": 345,
          "messageType": "InspectorDuplicateProcess"
        },
        {
          "count": 3,
          "messageType": "InspectorLoadImageInProcess"
        }
      ]
    }
  ]
}
```

- For API details, see [GetTelemetryMetadata](#) in AWS CLI Command Reference.
"dataSize": 255,
"messageType": "InspectorTimeEventMsg"
},
{
  "count": 4,
  "dataSize": 1082,
  "messageType": "InspectorNetworkInterface"
},
{
  "count": 2,
  "dataSize": 349,
  "messageType": "InspectorDnsEntry"
},
{
  "count": 11,
  "dataSize": 2514,
  "messageType": "InspectorDirectoryInfoMsg"
},
{
  "count": 1,
  "dataSize": 179,
  "messageType": "InspectorTcpV6ListeningPort"
},
{
  "count": 101,
  "dataSize": 10949,
  "messageType": "InspectorTerminal"
},
{
  "count": 26,
  "dataSize": 5916,
  "messageType": "InspectorUser"
},
{
  "count": 282,
  "dataSize": 32148,
  "messageType": "InspectorDynamicallyLoadedCodeModule"
},
{
  "count": 18,
  "dataSize": 10172,
  "messageType": "InspectorCreateProcess"
}
,
"count": 3,
"dataSize": 8001,
"messageType": "InspectorProcessPerformance"
},
{
  "count": 1,
  "dataSize": 360,
  "messageType": "InspectorOperatingSystem"
},
{
  "count": 6,
  "dataSize": 546,
  "messageType": "InspectorStopProcess"
},
{
  "count": 1,
  "dataSize": 1553,
  "messageType": "InspectorInstanceMetaData"
},
{
  "count": 2,
  "dataSize": 434,
  "messageType": "InspectorTcpV4Connection"
},
{
  "count": 474,
  "dataSize": 2960322,
  "messageType": "InspectorPackageInfo"
},
{
  "count": 3,
  "dataSize": 2235,
  "messageType": "InspectorSystemPerformance"
},
{
  "count": 105,
  "dataSize": 46048,
  "messageType": "InspectorCodeModule"
},
{
  "count": 1,
  "dataSize": 182,
  "messageType": "InspectorUdpV6ListeningPort"
},
Actions and scenarios
For more information, see [AWS Agents](#) in the *Amazon Inspector User Guide*.

- For API details, see [ListAssessmentRunAgents](#) in *AWS CLI Command Reference*.

### list-assessment-runs

The following code example shows how to use `list-assessment-runs`.

**AWS CLI**

#### To list assessment runs

The following `list-assessment-runs` command lists all existing assessment runs.

```bash
aws inspector list-assessment-runs
```

**Output:**

```
{
  "assessmentRunArns": [
    "arn:aws:inspector:us-west-2:123456789012:target/0-0kFIPusq/template/0-4r1V2mAw/run/0-MKkpXXPE",
    "arn:aws:inspector:us-west-2:123456789012:target/0-0kFIPusq/template/0-4r1V2mAw/run/0-v5D6fI3v"
  ]
}
```

For more information, see [Amazon Inspector Assessment Templates and Assessment Runs](#) in the *Amazon Inspector User Guide*.

- For API details, see [ListAssessmentRuns](#) in *AWS CLI Command Reference*.  

---

**Actions and scenarios**

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### list-assessment-targets

The following code example shows how to use `list-assessment-targets`.

#### AWS CLI

**To list assessment targets**

The following `list-assessment-targets` command lists all existing assessment targets:

```bash
aws inspector list-assessment-targets
```

**Output:**

```json
{
    "assessmentTargetArns": [
        "arn:aws:inspector:us-west-2:123456789012:target/0-0kFIPusq"
    ]
}
```

For more information, see Amazon Inspector Assessment Targets in the *Amazon Inspector* guide.
- For API details, see [ListAssessmentTargets](https://docs.aws.amazon.com/cli/latest/reference/inspector/list-assessment-targets.html) in *AWS CLI Command Reference*.

### list-assessment-templates

The following code example shows how to use `list-assessment-templates`.

#### AWS CLI

**To list assessment templates**

The following `list-assessment-templates` command lists all existing assessment templates:

```bash
aws inspector list-assessment-templates
```

**Output:**

```json
{
    "assessmentTemplateArns": [

    ]
}
```
For more information, see Amazon Inspector Assessment Templates and Assessment Runs in the Amazon Inspector guide.

- For API details, see `ListAssessmentTemplates` in AWS CLI Command Reference.

**list-event-subscriptions**

The following code example shows how to use `list-event-subscriptions`.

**AWS CLI**

**To list event subscriptions**

The following `list-event-subscriptions` command lists all the event subscriptions for the assessment template with the ARN of `arn:aws:inspector:us-west-2:123456789012:target/0-nvgVhaxX/template/0-7sbz2Kz0`:

```
aws inspector list-event-subscriptions --resource-arn arn:aws:inspector:us-west-2:123456789012:target/0-nvgVhaxX/template/0-7sbz2Kz0
```

**Output:**

```
{
    "subscriptions": [
    {
        "eventSubscriptions": [
        {
            "event": "ASSESSMENT_RUN_COMPLETED",
            "subscribedAt": 1459455440.867
        }
        ],
        "resourceArn": "arn:aws:inspector:us-west-2:123456789012:target/0-nvgVhaxX/template/0-7sbz2Kz0",
        "topicArn": "arn:aws:sns:us-west-2:123456789012:exampletopic"
    }
    ]
}
```
For more information, see Amazon Inspector Assessment Templates and Assessment Runs in the Amazon Inspector guide.

- For API details, see ListEventSubscriptions in AWS CLI Command Reference.

list-findings

The following code example shows how to use list-findings.

AWS CLI

To list findings

The following list-findings command lists all of the generated findings:

```
aws inspector list-findings
```

Output:

```
{
    "findingArns": [
        "arn:aws:inspector:us-west-2:123456789012:target/0-0kFIPusq/template/0-4r1V2mAw/run/0-MKkpXXPE/finding/0-HwPnsDm4",
        "arn:aws:inspector:us-west-2:123456789012:target/0-0kFIPusq/template/0-4r1V2mAw/run/0-v5D6fI3v/finding/0-tyvmqBLy"
    ]
}
```

For more information, see Amazon Inspector Findings in the Amazon Inspector guide.

- For API details, see ListFindings in AWS CLI Command Reference.

list-rules-packages

The following code example shows how to use list-rules-packages.

AWS CLI

To list rules packages
The following `list-rules-packages` command lists all available Inspector rules packages:

```
aws inspector list-rules-packages
```

Output:

```
{
  "rulesPackageArns": [
  ]
}
```

For more information, see Amazon Inspector Rules Packages and Rules in the Amazon Inspector guide.

- For API details, see `ListRulesPackages` in AWS CLI Command Reference.

**list-tags-for-resource**

The following code example shows how to use `list-tags-for-resource`.

**AWS CLI**

**To list tags for resource**

The following `list-tags-for-resource` command lists all tags associated with the assessment template with the ARN of `arn:aws:inspector:us-west-2:123456789012:target/0-0kFIPusq/template/0-gcwFliYu`:

```
```

Output:

```
{
  "tags": [
    {
      "key": "Name",
      "value": "example_value"
    }]
}
```
For more information, see Amazon Inspector Assessment Templates and Assessment Runs in the *Amazon Inspector* guide.

- For API details, see [ListTagsForResource](https://docs.aws.amazon.com/cli/latest/reference/inspector/) in *AWS CLI Command Reference*.

**preview-agents**

The following code example shows how to use `preview-agents`.

**AWS CLI**

**To preview agents**

The following `preview-agents` command previews the agents installed on the EC2 instances that are part of the assessment target with the ARN of arn:aws:inspector:us-west-2:123456789012:target/0-0kFIPusq:

```bash
```

**Output:**

```json
{
   "agentPreviews": [
      {
         "agentId": "i-49113b93"
      }
   ]
}
```

For more information, see Amazon Inspector Assessment Targets in the *Amazon Inspector* guide.

- For API details, see [PreviewAgents](https://docs.aws.amazon.com/cli/latest/reference/inspector/) in *AWS CLI Command Reference*.

**register-cross-account-access-role**

The following code example shows how to use `register-cross-account-access-role`.

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AWS CLI

To register the cross account access role

The following register-cross-account-access-role command registers the IAM role with the ARN of arn:aws:iam::123456789012:role/inspector that Amazon Inspector uses to list your EC2 instances at the start of the assessment run of when you call the preview-agents command:

```
aws inspector register-cross-account-access-role --role-arn arn:aws:iam::123456789012:role/inspector
```

For more information, see Setting up Amazon Inspector in the Amazon Inspector guide.

- For API details, see RegisterCrossAccountAccessRole in AWS CLI Command Reference.

remove-attributes-from-findings

The following code example shows how to use remove-attributes-from-findings.

AWS CLI

To remove attributes from findings

The following remove-attributes-from-finding command removes the attribute with the key of Example and value of example from the finding with the ARN of arn:aws:inspector:us-west-2:123456789012:target/0-0kFIPusq/template/0-8l1VIE0D/run/0-Z02cjjug/finding/0-T8yM9mEU:

```
aws inspector remove-attributes-from-findings --finding-arns arn:aws:inspector:us-west-2:123456789012:target/0-0kFIPusq/template/0-8l1VIE0D/run/0-Z02cjjug/finding/0-T8yM9mEU --attribute-keys key=Example,value=example
```

Output:

```
{
   "failedItems": {}
}
```

For more information, see Amazon Inspector Findings in the Amazon Inspector guide.
• For API details, see RemoveAttributesFromFindings in AWS CLI Command Reference.

**set-tags-for-resource**

The following code example shows how to use set-tags-for-resource.

**AWS CLI**

**To set tags for a resource**

The following set-tags-for-resource command sets the tag with the key of Example and value of example to the assessment template with the ARN of arn:aws:inspector:us-west-2:123456789012:target/0-nvgVhaxX/template/0-7sbz2Kz0:

```bash
aws inspector set-tags-for-resource --resource-arn arn:aws:inspector:us-west-2:123456789012:target/0-nvgVhaxX/template/0-7sbz2Kz0 --tags key=Example,value=example
```

For more information, see Amazon Inspector Assessment Templates and Assessment Runs in the Amazon Inspector guide.

• For API details, see SetTagsForResource in AWS CLI Command Reference.

**start-assessment-run**

The following code example shows how to use start-assessment-run.

**AWS CLI**

**To start an assessment run**

The following start-assessment-run command starts the assessment run named examplerun using the assessment template with the ARN of arn:aws:inspector:us-west-2:123456789012:target/0-nvgVhaxX/template/0-it5r2S4T:

```bash
```

Output:
For more information, see Amazon Inspector Assessment Templates and Assessment Runs in the Amazon Inspector guide.

- For API details, see StartAssessmentRun in AWS CLI Command Reference.

**stop-assessment-run**

The following code example shows how to use stop-assessment-run.

**AWS CLI**

To stop an assessment run

The following stop-assessment-run command stops the assessment run with the ARN of arn:aws:inspector:us-west-2:123456789012:target/0-nvgVhaxX/template/0-it5r2S4T/run/0-jOoroxyY:

```
```

For more information, see Amazon Inspector Assessment Templates and Assessment Runs in the Amazon Inspector guide.

- For API details, see StopAssessmentRun in AWS CLI Command Reference.

**subscribe-to-event**

The following code example shows how to use subscribe-to-event.

**AWS CLI**

To subscribe to an event

The following example enables the process of sending Amazon SNS notifications about the ASSESSMENT_RUN_COMPLETED event to the topic with the ARN of arn:aws:sns:us-west-2:123456789012:exampletopic
aws inspector subscribe-to-event \
  --event ASSESSMENT_RUN_COMPLETED \
  template/0-7sbz2Kz0 \

This command produces no output.

For more information, see Amazon Inspector Assessment Templates and Assessment Runs in the Amazon Inspector guide.

- For API details, see SubscribeToEvent in AWS CLI Command Reference.

unsubscribe-from-event

The following code example shows how to use unsubscribe-from-event.

AWS CLI

To unsubscribe from an event

The following unsubscribe-from-event command disables the process of sending Amazon SNS notifications about the ASSESSMENT_RUN_COMPLETED event to the topic with the ARN of arn:aws:sns:us-west-2:123456789012:exampletopic:

aws inspector unsubscribe-from-event --event ASSESSMENT_RUN_COMPLETED --resource-arn 
arn:aws:inspector:us-west-2:123456789012:target/0-nvgVhaxX/template/0-7sbz2Kz0 -- 

For more information, see Amazon Inspector Assessment Templates and Assessment Runs in the Amazon Inspector guide.

- For API details, see UnsubscribeFromEvent in AWS CLI Command Reference.

update-assessment-target

The following code example shows how to use update-assessment-target.

AWS CLI

To update an assessment target

```
```

For more information, see Amazon Inspector Assessment Targets in the *Amazon Inspector* guide.

- For API details, see [UpdateAssessmentTarget](#) in *AWS CLI Command Reference*.

## AWS IoT examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS IoT.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

### Topics

- Actions

### Actions

#### Attach a certificate

The following code example shows how to attach an AWS IoT certificate.

**AWS CLI**

To attach a certificate to your thing
The following `attach-thing-principal` example attaches a certificate to the `MyTemperatureSensor` thing. The certificate is identified by an ARN. You can find the ARN for a certificate in the AWS IoT console.

```bash
aws iot attach-thing-principal \
  --thing-name MyTemperatureSensor \
  --principal arn:aws:iot:us-west-2:123456789012:cert/2e1eb273792174ec2b9bf4e9b37e6c6c692345499506002a35159767055278e8
```

This command produces no output.

For more information, see How to Manage Things with the Registry in the AWS IoT Developers Guide.

- For API details, see `AttachThingPrincipal` in AWS CLI Command Reference.

Create a thing

The following code example shows how to create an AWS IoT thing.

**AWS CLI**

**Example 1: To create a thing record in the registry**

The following `create-thing` example creates an entry for a device in the AWS IoT thing registry.

```bash
aws iot create-thing \
  --thing-name SampleIoTThing
```

Output:

```json
{
  "thingName": "SampleIoTThing",
  "thingArn": "arn:aws:iot:us-west-2:123456789012:thing/SampleIoTThing",
  "thingId": "EXAMPLE1-90ab-cdef-fedc-ba987EXAMPLE"
}
```

**Example 2: To define a thing that is associated with a thing type**

The following `create-thing` example create a thing that has the specified thing type and its attributes.
aws iot create-thing \
   --thing-name "MyLightBulb" \
   --thing-type-name "LightBulb" \
   --attribute-payload "{"attributes": {"wattage":"75", "model":"123"}}"

Output:

```
{
   "thingName": "MyLightBulb",
   "thingArn": "arn:aws:iot:us-west-2:123456789012:thing/MyLightBulb",
   "thingId": "40da2e73-c6af-406e-b415-15acae538797"
}
```

For more information, see [How to Manage Things with the Registry](#) and [Thing Types](#) in the [AWS IoT Developers Guide](#).

- For API details, see [CreateThing](#) in [AWS CLI Command Reference](#).

---

**Delete a certificate**

The following code example shows how to delete an AWS IoT certificate.

**AWS CLI**

**To delete a device certificate**

The following delete-certificate example deletes the device certificate with the specified ID.

```
aws iot delete-certificate \
   --certificate-id \
   c0c57bbc8baaf4631a9a0345c957657f5e710473e3ddbee1428d216d54d53ac9
```

This command produces no output.

For more information, see [DeleteCertificate](#) in the [AWS IoT API Reference](#).

- For API details, see [DeleteCertificate](#) in [AWS CLI Command Reference](#).

---

**Delete a thing**

The following code example shows how to delete an AWS IoT thing.
AWS CLI

To display detailed information about a thing

The following delete-thing example deletes a thing from the AWS IoT registry for your AWS account.

aws iot delete-thing --thing-name "FourthBulb"

This command produces no output.

For more information, see How to Manage Things with the Registry in the AWS IoT Developers Guide.

- For API details, see DeleteThing in AWS CLI Command Reference.

Describe a thing

The following code example shows how to describe an AWS IoT thing.

AWS CLI

To display detailed information about a thing

The following describe-thing example display information about a thing (device) that is defined in the AWS IoT registry for your AWS account.

aws iot describe-thing --thing-name "MyLightBulb"

Output:

```json
{
  "defaultClientId": "MyLightBulb",
  "thingName": "MyLightBulb",
  "thingId": "40da2e73-c6af-406e-b415-15acae538797",
  "thingArn": "arn:aws:iot:us-west-2:123456789012:thing/MyLightBulb",
  "thingTypeName": "LightBulb",
  "attributes": {
    "model": "123",
    "wattage": "75"
  },
  "version": 1
}
```
For more information, see [How to Manage Things with the Registry](https://docs.aws.amazon.com/iot/latest/developerguide/how-to-manage-things-with-the-registry) in the *AWS IoT Developers Guide*.

- For API details, see [DescribeThing](https://docs.aws.amazon.com/cli/latest/reference/iot/describe-thing/) in *AWS CLI Command Reference*.

### Detach a certificate

The following code example shows how to detach an AWS IoT certificate.

**AWS CLI**

**To detach a certificate/principal from a thing**

The following `detach-thing-principal` example removes a certificate that represents a principal from the specified thing.

```
aws iot detach-thing-principal \
  --thing-name "MyLightBulb" \
  --principal "arn:aws:iot:us-west-2:123456789012:cert/604c48437a57b7d5fc5d137c5be75011c6ee67c9a6943683a1acb4b1626bac36"
```

This command produces no output.

For more information, see [How to Manage Things with the Registry](https://docs.aws.amazon.com/iot/latest/developerguide/how-to-manage-things-with-the-registry) in the *AWS IoT Developers Guide*.

- For API details, see [DetachThingPrincipal](https://docs.aws.amazon.com/cli/latest/reference/iot/detach-thing-principal/) in *AWS CLI Command Reference*.

### Get endpoint information

The following code example shows how to get AWS IoT endpoint information.

**AWS CLI**

**Example 1: To get your current AWS endpoint**

The following `describe-endpoint` example retrieves the default AWS endpoint to which all commands are applied.
aws iot describe-endpoint

Output:

```
{
    "endpointAddress": "abc123defghijk.iot.us-west-2.amazonaws.com"
}
```

For more information, see DescribeEndpoint in the AWS IoT Developer Guide.

**Example 2: To get your ATS endpoint**

The following describe-endpoint example retrieves the Amazon Trust Services (ATS) endpoint.

```
aws iot describe-endpoint \
    --endpoint-type iot:Data-ATS
```

Output:

```
{
    "endpointAddress": "abc123defghijk-ats.iot.us-west-2.amazonaws.com"
}
```

For more information, see X.509 Certificates and AWS IoT in the AWS IoT Developer Guide.

- For API details, see DescribeEndpoint in AWS CLI Command Reference.

**List your certificates**

The following code example shows how to list your AWS IoT certificates.

**AWS CLI**

**Example 1: To list the certificates registered in your AWS account**

The following list-certificates example lists all certificates registered in your account. If you have more than the default paging limit of 25, you can use the nextMarker response value from this command and supply it to the next command to get the next batch of results. Repeat until nextMarker returns without a value.
aws iot list-certificates

Output:

```
{
    "certificates": [
        {
            "certificateArn": "arn:aws:iot:us-west-2:123456789012:cert/604c48437a57b7d5fc5d137c5be75011c6ee67c9a6943683a1acb4b1626bac36",
            "certificateId": "604c48437a57b7d5fc5d137c5be75011c6ee67c9a6943683a1acb4b1626bac36",
            "status": "ACTIVE",
            "creationDate": 1556810537.617
        },
        {
            "certificateArn": "arn:aws:iot:us-west-2:123456789012:cert/262a1ac8a7d8a72f6e96e365480f7313aa9db74b8339ec65d34dc3074e1c31e",
            "certificateId": "262a1ac8a7d8a72f6e96e365480f7313aa9db74b8339ec65d34dc3074e1c31e",
            "status": "ACTIVE",
            "creationDate": 1546447050.885
        },
        {
            "certificateArn": "arn:aws:iot:us-west-2:123456789012:cert/b193ab7162c0fadca83246d24fa090300a1236fe58137e121b011804d8ac1d6b",
            "certificateId": "b193ab7162c0fadca83246d24fa090300a1236fe58137e121b011804d8ac1d6b",
            "status": "ACTIVE",
            "creationDate": 1546292258.322
        },
        {
            "certificateArn": "arn:aws:iot:us-west-2:123456789012:cert/7aeb3ea34d5d1a44ec80b06b8b78a89f3f8a706974b8b34d18f5ad0741db42",
            "certificateId": "7aeb3ea34d5d1a44ec80b06b8b78a89f3f8a706974b8b34d18f5ad0741db42",
            "status": "ACTIVE",
            "creationDate": 1541457693.453
        },
        {
            "certificateArn": "arn:aws:iot:us-west-2:123456789012:cert/54458aa39eb3eb39c91fbbbdcc3a6ca1c7c094d1644b889f735a6fc2cd9a7e3",
            "certificateId": "54458aa39eb3eb39c91fbbbdcc3a6ca1c7c094d1644b889f735a6fc2cd9a7e3",
        }
    ]
}
```
For API details, see ListCertificates in AWS CLI Command Reference.

List your things

The following code example shows how to list your AWS IoT things.

AWS CLI

Example 1: To list all things in the registry

The following list-things example lists the things (devices) that are defined in the AWS IoT registry for your AWS account.

```
aws iot list-things
```

Output:

```json
{
  "things": [
    {
      "thingName": "ThirdBulb",
      "thingTypeName": "LightBulb",
      "attributes": {
        "model": "123",
        "wattage": "75"
      },
      "version": 2
    }
  ]
}
```
Example 2: To list the defined things that have a specific attribute

The following list-things example displays a list of things that have an attribute named wattage.

```
aws iot list-things \
   --attribute-name wattage
```

Output:

```
{   "things": [
```
```json
{
    "thingName": "MyLightBulb",
    "thingTypeName": "LightBulb",
    "thingArn": "arn:aws:iot:us-west-2:123456789012:thing/MyLightBulb",
    "attributes": {
        "model": "123",
        "wattage": "75"
    },
    "version": 1
},
{
    "thingName": "MyOtherLightBulb",
    "thingTypeName": "LightBulb",
    "thingArn": "arn:aws:iot:us-west-2:123456789012:thing/MyOtherLightBulb",
    "attributes": {
        "model": "123",
        "wattage": "75"
    },
    "version": 3
}
}
```

For more information, see [How to Manage Things with the Registry](https://aws.amazon.com/iot-developers-guide/) in the *AWS IoT Developers Guide*.

- For API details, see [ListThings](https://aws.amazon.com/iot-cli-command-reference/) in *AWS CLI Command Reference*.

**Query the search index**

The following code example shows how to query the AWS IoT search index.

**AWS CLI**

**To query the thing index**

The following search-index example queries the AWS_Things index for things that have a type of LightBulb.

```
aws iot search-index \
  --index-name "AWS_Things" \
  --query-string "thingTypeName:LightBulb"
```
Output:

```json
{
  "things": [
    {
      "thingName": "MyLightBulb",
      "thingId": "40da2e73-c6af-406e-b415-15acae538797",
      "thingTypeName": "LightBulb",
      "thingGroupNames": [
        "LightBulbs",
        "DeadBulbs"
      ],
      "attributes": {
        "model": "123",
        "wattage": "75"
      },
      "connectivity": {
        "connected": false
      }
    },
    {
      "thingName": "ThirdBulb",
      "thingId": "615c8455-33d5-40e8-95fd-3ee8b24490af",
      "thingTypeName": "LightBulb",
      "attributes": {
        "model": "123",
        "wattage": "75"
      },
      "connectivity": {
        "connected": false
      }
    },
    {
      "thingName": "MyOtherLightBulb",
      "thingId": "6dae0d3f-40c1-476a-80c4-1ed24ba6aa11",
      "thingTypeName": "LightBulb",
      "attributes": {
        "model": "123",
        "wattage": "75"
      },
      "connectivity": {
        "connected": false
      }
    }
  ]
}
```
For more information, see Managing Thing Indexing in the AWS IoT Developer Guide.

- For API details, see SearchIndex in AWS CLI Command Reference.

### Update a thing

The following code example shows how to update an AWS IoT thing.

**AWS CLI**

**To associate a thing with a thing type**

The following update-thing example associates a thing in the AWS IoT registry with a thing type. When you make the association, you provide values for the attributes defined by the thing type.

```bash
aws iot update-thing
   --thing-name "MyOtherLightBulb" \
   --thing-type-name "LightBulb" \
   --attribute-payload "{"attributes": {"wattage":"75", "model":"123"}}"
```

This command does not produce output. Use the describe-thing command to see the result.

For more information, see Thing Types in the AWS IoT Developers Guide.

- For API details, see UpdateThing in AWS CLI Command Reference.

### Update the search configuration

The following code example shows how to update the AWS IoT search configuration.

**AWS CLI**

**To enable thing indexing**

The following update-indexing-configuration example enables thing indexing to support searching registry data, shadow data, and thing connectivity status using the AWS_Things index.

```bash
aws iot update-indexing-configuration
```
--thing-indexing-configuration
thingIndexingMode=REGISTRY_AND_SHADOW,thingConnectivityIndexingMode=STATUS

This command produces no output.

For more information, see Managing Thing Indexing in the AWS IoT Developers Guide.

• For API details, see UpdateIndexingConfiguration in AWS CLI Command Reference.

accept-certificate-transfer

The following code example shows how to use accept-certificate-transfer.

AWS CLI

To accept a device certificate transferred from a different AWS account

The following accept-certificate-transfer example accepts a device certificate transferred from another AWS account. The certificate is identified by its ID.

```
aws iot accept-certificate-transfer \
  --certificate-id 488b6a7f2acdeb00a77384e63c4e40b18bEXAMPLEe57b7272ba44c45e3448142
```

This command does not produce any output.

For more information, see Transfer a certificate to another account in the AWS IoT Core Developer Guide.

• For API details, see AcceptCertificateTransfer in AWS CLI Command Reference.

add-thing-to-billing-group

The following code example shows how to use add-thing-to-billing-group.

AWS CLI

Example 1: To add a thing by name to a billing group

The following add-thing-to-billing-group example adds the thing named MyLightBulb to the billing group named GroupOne.

```
aws iot add-thing-to-billing-group \
```
This command produces no output.

**Example 2: To add a thing by ARN to a billing group**

The following `add-thing-to-billing-group` example adds a thing with a specified ARN to a billing group with the specified ARN. Specifying an ARN is helpful if you work with multiple AWS Regions or accounts. It can help ensure that you are adding to the right Region and account.

```bash
aws iot add-thing-to-billing-group \
  --billing-group-arn "arn:aws:iot:us-west-2:123456789012:billinggroup/GroupOne" \
  --thing-arn "arn:aws:iot:us-west-2:123456789012:thing/MyOtherLightBulb"
```

This command produces no output.

For more information, see [Billing Groups](#) in the *AWS IoT Developers Guide*.
- For API details, see [AddThingToBillingGroup](#) in *AWS CLI Command Reference*.

---

### add-thing-to-thing-group

The following code example shows how to use `add-thing-to-thing-group`.

**AWS CLI**

**To add a thing to a group**

The following `add-thing-to-thing-group` example adds the specified thing to the specified thing group.

```bash
aws iot add-thing-to-thing-group \
  --thing-name MyLightBulb \
  --thing-group-name LightBulbs
```

This command produces no output.

For more information, see [Thing Groups](#) in the *AWS IoT Developers Guide*.
- For API details, see [AddThingToThingGroup](#) in *AWS CLI Command Reference*.
**associate-targets-with-job**

The following code example shows how to use `associate-targets-with-job`.

**AWS CLI**

**To associate a thing group with a continuous job**

The following `associate-targets-with-job` example associates the specified thing group with the specified continuous job.

```bash
aws iot associate-targets-with-job \
   --targets "arn:aws:iot:us-west-2:123456789012:thinggroup/LightBulbs" \
   --job-id "example-job-04"
```

Output:

```
{
   "jobId": "example-job-04",
   "description": "example continuous job"
}
```

For more information, see [Creating and Managing Jobs (CLI)](https://docs.aws.amazon.com/iot/latest/developerguide/cli-managing-jobs.html) in the *AWS IoT Developer Guide*.

- For API details, see [AssociateTargetsWithJob](https://docs.aws.amazon.com/iot/latest/developerguide/cli-managing-jobs.html) in *AWS CLI Command Reference*.

**attach-policy**

The following code example shows how to use `attach-policy`.

**AWS CLI**

**Example 1: To attach a policy to a thing group**

The following `attach-policy` example attaches the specified policy to a thing group identified by its ARN.

```bash
aws iot attach-policy \
   --target "arn:aws:iot:us-west-2:123456789012:thinggroup/LightBulbs" \
   --policy-name "UpdateDeviceCertPolicy"
```
This command does not produce any output.

For more information, see [Thing Groups](#) in the *AWS IoT Developers Guide*.

**Example 2: To attach a policy to a certificate**

The following `attach-policy` example attaches the policy `UpdateDeviceCertPolicy` to the principal specified by a certificate.

```
aws iot attach-policy \
   --policy-name UpdateDeviceCertPolicy \
   --target "arn:aws:iot:us-west-2:123456789012:cert/4f0ba725787aa94d67d2fca420eca022242532e8b3c58e7465c7778b443fd65e"
```

This command does not produce any output.

For more information, see [Attach an AWS IoT Policy to a Device Certificate](#) in the *AWS IoT Developers Guide*.

- For API details, see [AttachPolicy](#) in *AWS CLI Command Reference*.

**attach-security-profile**

The following code example shows how to use `attach-security-profile`.

**AWS CLI**

**To associate a security profile with all unregistered devices**

The following `attach-security-profile` example associates the AWS IoT Device Defender security profile named `Testprofile` with all unregistered devices in the `us-west-2` region for this AWS account.

```
aws iot attach-security-profile \
   --security-profile-name Testprofile \
```

This command produces no output.

For more information, see [Detect Commands](#) in the *AWS IoT Developer Guide*. 
For API details, see AttachSecurityProfile in AWS CLI Command Reference.

cancel-audit-mitigation-actions-task

The following code example shows how to use cancel-audit-mitigation-actions-task.

AWS CLI

To cancel an audit mitigation actions task

The following cancel-audit-mitigations-action-task example cancels the application of mitigation actions for the specified task. You cannot cancel tasks that are already completed.

```bash
aws iot cancel-audit-mitigation-actions-task
   --task-id "myActionsTaskId"
```

This command produces no output.

For more information, see CancelAuditMitigationActionsTask (Mitigation Action Commands) in the AWS IoT Developer Guide.

For API details, see CancelAuditMitigationActionsTask in AWS CLI Command Reference.

cancel-audit-task

The following code example shows how to use cancel-audit-task.

AWS CLI

To cancel an audit task

The following cancel-audit-task example cancels an audit task with the specified task ID. You cannot cancel a task that is complete.

```bash
aws iot cancel-audit-task \
   --task-id a3aea09955e501a31b764abe1bebd3d
```

This command produces no output.

For more information, see Audit Commands in the AWS IoT Developer Guide.

For API details, see CancelAuditTask in AWS CLI Command Reference.
cancel-certificate-transfer

The following code example shows how to use cancel-certificate-transfer.

AWS CLI

**To cancel the transfer a certificate to a different AWS account**

The following cancel-certificate-transfer example cancels the transfer of the specified certificate transfer. The certificate is identified by a certificate ID. You can find the ID for a certificate in the AWS IoT console.

```bash
aws iot cancel-certificate-transfer \
    --certificate-id
    f0f33678c7c9a046e5cc87b2b1a58dfa0beec26db78add5e605d630e05c7fc8
```

This command produces no output.

For more information, see [Transfer a certificate to another account](https://docs.aws.amazon.com/IoT/latest/thriftydocs/transfer-certificate.html) in the *AWS IoT Core Developer Guide*.

- For API details, see [CancelCertificateTransfer](https://docs.aws.amazon.com/cli/latest/reference/iot/cancel-certificate-transfer.html) in *AWS CLI Command Reference*.

cancel-job

The following code example shows how to use cancel-job.

AWS CLI

**To cancel a job**

The following cancel-job example cancels the specified job.

```bash
aws iot cancel-job \
    --job-job "example-job-03"
```

Output:

```json
{
    "jobArn": "arn:aws:iot:us-west-2:123456789012:job/example-job-03",
    "jobId": "example-job-03",
    "description": "example job test"
}
```
For more information, see Creating and Managing Jobs (CLI) in the AWS IoT Developer Guide.

• For API details, see CancelJob in AWS CLI Command Reference.

cancel-job-execution

The following code example shows how to use cancel-job-execution.

AWS CLI

To cancel a job execution on a device

The following cancel-job-execution example cancels the execution of the specified job on a device. If the job is not in the QUEUED state, you must add the --force parameter.

```
aws iot cancel-job-execution \\
   --job-id "example-job-03" \\
   --thing-name "MyRPi"
```

This command produces no output.

For more information, see Creating and Managing Jobs (CLI) in the AWS IoT Developer Guide.

• For API details, see CancelJobExecution in AWS CLI Command Reference.

clear-default-authorizer

The following code example shows how to use clear-default-authorizer.

AWS CLI

To clear the default authorizer

The following clear-default-authorizer example clears the currently configured default custom authorizer. After you run this command, there is no default authorizer. When you use a custom authorizer, you must specify it by name in the HTTP request headers.

```
aws iot clear-default-authorizer
```

This command produces no output.
confirm-topic-rule-destination

The following code example shows how to use confirm-topic-rule-destination.

AWS CLI

To confirm a topic rule destination

The following confirm-topic-rule-destination example confirms a topic rule destination with a confirmation token received at an HTTP endpoint.

```
aws iot confirm-topic-rule-destination \
--confirmation-token "AYADeIcmtq-ZxkxfpiWlQqHWM5ucAXwABABVhd3MtY3J5cHRvLXB1YmxpYy1izZkAREFxY1E0Um1GeDg0V21BZWZ1VjZtZWFRVUJJktaywpQg8YealD4b40aJ2s1wEHKMybiF1RoOZzYis10IvslzQ5UmCKqq3tv-3f7-nKfogIAAAAAADAAAAAAAABAAAAAAAAAAIA9RMgy-V19V9m6Iw2x8bw____wAAAAAABBBABBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBB
```

This command produces no output.

For more information, see Confirming a topic rule destination in the AWS IoT Developer Guide.

• For API details, see ConfirmTopicRuleDestination in AWS CLI Command Reference.

create-audit-suppression

The following code example shows how to use create-audit-suppression.

AWS CLI

To create an audit finding suppression

The following create-audit-suppression example creates an audit finding suppression for a policy named "virtualMachinePolicy" that has been flagged for being overly permissive.

```
aws iot create-audit-suppression \
```

The following code example shows how to use create-authorizer.

AWS CLI

To create a custom authorizer

The following create-authorizer example creates a custom authorizer that uses the specified Lambda function as part of a custom authentication service.

```bash
aws iot create-authorizer \
   --authorizer-name "CustomAuthorizer" \
   --authorizer-function-arn "arn:aws:lambda:us-west-2:123456789012:function:CustomAuthorizerFunction" \
   --token-key-name "MyAuthToken" \
   --status ACTIVE \
   --token-signing-public-keys FIRST_KEY="-----BEGIN PUBLIC KEY-----MIIBIjANBgkqhkiG9w0BAQEFAAOCQ8AMIIBCgKCAQEA1uJOB4lQPgG/lM6ZfIwoZ+7EnxAio9q6Qd4FFqjGZsvjtYwjoerK0U8Eq9xb503kRSmyIwTzwzm/f4Gf0YZUloj+t3PUUwHmblbYTA6TrCu6gVygjgVwGCps5ZAX4Etqt5cr+AIHIiUDbxSa7pzwOBKPeic0asNjpvT8PkJBbRaKy1eJh5oo81NDHhmVtbBm5a5YiJjqYXLaVawKzZ+GqsNvAQ9jylwI2Vre10fl8f1DB/BJIm7jzpPOHDJQgID0XnzwA1NNz0hCwIx50g2LW2o99r/dmqtDmJiVP97Z46ytkPww1YHrUXY0iW1R3AR/Ac1NhlCGZMwVDB1QIDAQAB-----END PUBLIC KEY-----"
```

Output:

```json
{
```
"authorizerName": "CustomAuthorizer",
"authorizerArn": "arn:aws:iot:us-west-2:123456789012:authorizer/CustomAuthorizer2"
}

For more information, see CreateAuthorizer in the AWS IoT API Reference.

- For API details, see CreateAuthorizer in AWS CLI Command Reference.

create-billing-group

The following code example shows how to use create-billing-group.

AWS CLI

To create a billing group

The following create-billing-group example creates a simple billing group named GroupOne.

```
aws iot create-billing-group \
   --billing-group-name GroupOne
```

Output:

```
{
   "billingGroupName": "GroupOne",
   "billingGroupArn": "arn:aws:iot:us-west-2:123456789012:billinggroup/GroupOne",
   "billingGroupId": "103de383-114b-4f51-8266-18f209ef5562"
}
```

For more information, see Billing Groups in the AWS IoT Developers Guide.

- For API details, see CreateBillingGroup in AWS CLI Command Reference.

create-certificate-from-csr

The following code example shows how to use create-certificate-from-csr.

AWS CLI

To create a device certificate from a certificate signing request (CSR)
The following `create-certificate-from-csr` example creates a device certificate from a CSR. You can use the `openssl` command to create a CSR.

```
aws iot create-certificate-from-csr \
   --certificate-signing-request=file://certificate.csr
```

Output:

```
{
    "certificateArn": "arn:aws:iot:us-west-2:123456789012:cert/c0c57bb8baaf4631a9a0345c957657f5e710473e3dbee1428d216d54d53ac9",
    "certificateId": "c0c57bb8baaf4631a9a0345c957657f5e710473e3dbee1428d216d54d53ac9",
    "certificatePem": "<certificate-text>"
}
```

For more information, see [CreateCertificateFromCSR](#) in the *AWS IoT API Reference*.

- For API details, see [CreateCertificateFromCsr](#) in *AWS CLI Command Reference*.

### create-custom-metric

The following code example shows how to use `create-custom-metric`.

#### AWS CLI

**To create a custom metric published by your devices to Device Defender**

The following `create-custom-metric` example creates a custom metric that measures battery percentage.

```
aws iot create-custom-metric \
   --metric-name "batteryPercentage" \
   --metric-type "number" \
   --display-name "Remaining battery percentage." \
   --region us-east-1 \
   --client-request-token "02ccb92b-33e8-4dfa-a0c1-35b181ed26b0"
```

Output:

```
{
    "metricName": "batteryPercentage",
    "metricType": "number",
    "displayName": "Remaining battery percentage.",
    "unit": "percent",
    "value": 80,
    "context": "context1",
    "contextValues": ["value1"],
    "creationTime": "2023-01-01T12:00:00Z",
    "lastUpdatedTime": "2023-01-02T12:00:00Z",
    "published": true
}
```
"metricArn": "arn:aws:iot:us-east-1:1234564789012:custommetric/batteryPercentage"

For more information, see Custom metrics in the AWS IoT Core Developer Guide.
• For API details, see CreateCustomMetric in AWS CLI Command Reference.

create-dimension

The following code example shows how to use create-dimension.

AWS CLI

To create a dimension

The following create-dimension creates a dimension with a single topic filter called TopicFilterForAuthMessages.

aws iot create-dimension
   --name TopicFilterForAuthMessages
   --type TOPIC_FILTER
   --string-values device/+/auth

Output:

{
   "name": "TopicFilterForAuthMessages",
   "arn": "arn:aws:iot:eu-west-2:123456789012:dimension/TopicFilterForAuthMessages"
}

For more information, see Detect Commands in the AWS IoT Developer Guide.
• For API details, see CreateDimension in AWS CLI Command Reference.

create-domain-configuration

The following code example shows how to use create-domain-configuration.

AWS CLI

To create a domain configuration
The following `create-domain-configuration` example creates an AWS-managed domain configuration with a service type of DATA.

```bash
aws iot create-domain-configuration \
  --domain-configuration-name "additionalDataDomain" \
  --service-type "DATA"
```

Output:

```
{
  "domainConfigurationName": "additionalDataDomain",
  "domainConfigurationArn": "arn:aws:iot:us-west-2:123456789012:domainconfiguration/additionalDataDomain/dikMh"
}
```

For more information, see Configurable Endpoints in the AWS IoT Developer Guide.

- For API details, see CreateDomainConfiguration in AWS CLI Command Reference.

create-dynamic-thing-group

The following code example shows how to use `create-dynamic-thing-group`.

AWS CLI

To create a dynamic thing group

The following `create-dynamic-thing-group` example creates a dynamic thing group that contains any thing with a temperature attribute that is greater than 60 degrees. You must enable AWS IoT fleet indexing before you can use dynamic thing groups.

```bash
aws iot create-dynamic-thing-group \
  --thing-group-name "RoomTooWarm" \
  --query-string "attributes.temperature>60"
```

Output:

```
{
  "thingGroupName": "RoomTooWarm",
  "thingGroupArn": "arn:aws:iot:us-west-2:123456789012:thinggroup/RoomTooWarm",
```
For more information, see Dynamic Thing Groups in the AWS IoT Developers Guide.

- For API details, see CreateDynamicThingGroup in AWS CLI Command Reference.

**create-job**

The following code example shows how to use create-job.

**AWS CLI**

**Example 1: To create a job**

The following create-job example creates a simple AWS IoT job that sends a JSON document to the MyRaspberryPi device.

```
aws iot create-job \
  --job-id "example-job-01" \
  --targets "arn:aws:iot:us-west-2:123456789012:thing/MyRaspberryPi" \
  --document file://example-job.json \
  --description "example job test" \
  --target-selection SNAPSHOT
```

Output:

```
{
  "jobId": "example-job-01",
  "description": "example job test"
}
```

**Example 2: To create a continuous job**

The following create-job example creates a job that continues to run after the things specified as targets have completed the job. In this example, the target is a thing group, so when new devices are added to the group, the continuous job runs on those new things.

Output:

```
{
    "jobId": "example-job-04",
    "description": "example continuous job"
}
```

For more information, see Creating and Managing Jobs (CLI) in the AWS IoT Developer Guide.

- For API details, see CreateJob in AWS CLI Command Reference.

create-keys-and-certificate

The following code example shows how to use create-keys-and-certificate.

AWS CLI

**To create an RSA key pair and issue an X.509 certificate**

The following create-keys-and-certificate creates a 2048-bit RSA key pair and issues an X.509 certificate using the issued public key. Because this is the only time that AWS IoT provides the private key for this certificate, be sure to keep it in a secure location.

```
aws iot create-keys-and-certificate \
    --certificate-pem-outfile "myTest.cert.pem" \
    --public-key-outfile "myTest.public.key" \
    --private-key-outfile "myTest.private.key"
```

Output:

```
{
    "certificateArn": "arn:aws:iot:us-west-2:123456789012:cert/9894ba17925e663f1d29c23af4582b8e3b7619c31f3fbd93adb51ae54b83dc2",
    "certificateId": "9894ba17925e663f1d29c23af4582b8e3b7619c31f3fbd93adb51ae54b83dc2",
```
For more information, see Create and Register an AWS IoT Device Certificate in the AWS IoT Developer Guide.

- For API details, see CreateKeysAndCertificate in AWS CLI Command Reference.

create-mitigation-action

The following code example shows how to use create-mitigation-action.

AWS CLI

To create a mitigation action
The following create-mitigation-action example defines a mitigation action named AddThingsToQuarantineGroup1Action that, when applied, moves things into the thing group named QuarantineGroup1. This action overrides dynamic thing groups.

```bash
aws iot create-mitigation-action --cli-input-json file::params.json
```

Contents of `params.json`:

```json
{
    "actionName": "AddThingsToQuarantineGroup1Action",
    "actionParams": {
        "addThingsToThingGroupParams": {
            "thingGroupNames": [
                "QuarantineGroup1"
            ],
            "overrideDynamicGroups": true
        }
    },
    "roleArn": "arn:aws:iam::123456789012:role/service-role/
MoveThingsToQuarantineGroupRole"
}
```

Output:

```json
{
    "actionArn": "arn:aws:iot:us-west-2:123456789012:mitigationaction/
AddThingsToQuarantineGroup1Action",
    "actionId": "992e9a63-a899-439a-aa50-4e20c52367e1"
}
```

For more information, see `CreateMitigationAction` (Mitigation Action Commands) in the AWS IoT Developer Guide.

- For API details, see `CreateMitigationAction` in AWS CLI Command Reference.

**create-ota-update**

The following code example shows how to use create-ota-update.

**AWS CLI**

To create an OTA update for use with Amazon FreeRTOS
The following `create-ota-update` example creates an AWS IoT OTAUpdate on a target group of things or groups. This is part of an Amazon FreeRTOS over-the-air update which makes it possible for you to deploy new firmware images to a single device or a group of devices.

```
aws iot create-ota-update \
  --cli-input-json file://create-ota-update.json
```

Contents of `create-ota-update.json`:

```
{
  "otaUpdateId": "ota12345",
  "description": "A critical update needed right away.",
  "targets": [
    "device1",
    "device2",
    "device3",
    "device4"
  ],
  "targetSelection": "SNAPSHOT",
  "awsJobExecutionsRolloutConfig": {
    "maximumPerMinute": 10
  },
  "files": [
    {
      "fileName": "firmware.bin",
      "fileLocation": {
        "stream": {
          "streamId": "004",
          "fileId":123
        }
      },
      "codeSigning": {
        "awsSignerJobId": "48c67f3c-63bb-4f92-a98a-4ee0fbc2bef6"
      }
    }
  ],
  "roleArn": "arn:aws:iam:123456789012:role/service-role/my_ota_role"
}
```

Output:

```
{
  "otaUpdateId": "ota12345",
  "otaVersion": "ota12345",
  "status": "SUCCEEDED",
  "targetSelection": "SNAPSHOT",
  "totalTargetCount": 4,
  "updatedTargetCount": 4,
  "updateCount": 4
}
```
For more information, see CreateOTAUpdate in the AWS IoT API Reference.

- For API details, see CreateOtaUpdate in AWS CLI Command Reference.

**create-policy**

The following code example shows how to use create-policy.

**AWS CLI**

**To create an AWS IoT policy**

The following create-policy example creates an AWS IoT policy named TemperatureSensorPolicy. The policy.json file contains statements that allow AWS IoT policy actions.

```sh
aws iot create-policy
  --policy-name TemperatureSensorPolicy
  --policy-document file://policy.json
```

**Contents of policy.json:**

```json
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Action": [
        "iot:Publish",
        "iot:Receive"
      ],
      "Resource": [
        "arn:aws:iot:us-west-2:123456789012:topic/topic_2"
      ]
    }
  ]
}
```
Output:

```json
{
   "policyName": "TemperatureSensorPolicy",
   "policyDocument": {
      "Version": "2012-10-17",
      "Statement": [
         {
            "Effect": "Allow",
            "Action": ["iot:Publish", "iot:Receive"],
         }
      ]
   }
}
```
For more information, see AWS IoT Policies in the AWS IoT Developers Guide.

- For API details, see CreatePolicy in AWS CLI Command Reference.

create-policy-version

The following code example shows how to use create-policy-version.

AWS CLI

To update a policy with a new version

The following create-policy-version example updates a policy definition, creating a new policy version. This example also makes the new version the default.

```
aws iot create-policy-version \
    --policy-name UpdateDeviceCertPolicy \
    --policy-document file://policy.json \
    --set-as-default
```
Contents of policy.json:

```json
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Effect": "Allow",
            "Action": "iot:UpdateCertificate",
            "Resource": "*
        }
    ]
}
```

Output:

```json
{
    "policyVersionId": "2",
    "isDefaultVersion": true
}
```

For more information, see [AWS IoT Policies](https://docs.aws.amazon.com/iot/latest/developerguide/iot-policies.html) in the *AWS IoT Developers Guide*.

- For API details, see [CreatePolicyVersion](https://docs.aws.amazon.com/iot/latest/developerguide/create-policy-version.html) in *AWS CLI Command Reference*.

### create-provisioning-claim

The following code example shows how to use `create-provisioning-claim`.

**AWS CLI**

**To create a provisioning claim**

The following `create-provisioning-claim` example creates a provisioning claim from a provisioning template.

```
aws iot create-provisioning-claim \\
   --template-name MyTestProvisioningTemplate
```

Output:
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{
"certificateId":
"78de02184b2ce80cf8fb709bda59e62b19fb83513590483eb0434589476ab09f",
"certificatePem": "-----BEGIN CERTIFICATE-----\nMIIDdzCCAl
+gAwIBAgIUXSZhEBLztMLZ2fHG
14gV0NymYY0wDQYJKoZIhvcNAQEL
\nBQAwfjELMAkGA1UEBhMCVVMxEzARBgNVBAgMCldhc2hpbmd0b24xEDAOBg
VBAcM\nB1NlYXR0bGUxGDAWBgNVBAoMD0FtYXpvbi5jb20gSW5jLjEgMB4GA1UECwwXQW1h
\nem9uIElvVCBQcm9
2aXNpb25pbmcxDDAKBgNVBAUTAzEuMDAeFw0yMDA3MjgxNjQ0\nMDZaFw0yMDA3MjgxNjUxMDZaMEsxSTBHBgNVB
AMMQDFhNDEyM2VkNmIxYjU3MzE3\nZTgzMTJmY2MzN2FiNTdhY2MzYTZkZGVjOGQ5OGY3NzUwMWRlMjc0YjhmYTQ
xN2Iw\nggEiMA0GCSqGSIb3EXAMPLEAA4IBDwAwggEKAoIBAQDBhKI94ktKLqTwnj+ayOq1\nTAJt/
N6s6IJDZvl
rYjkC0E7wzaeY3TprWk03S29vUzVuEOXHXQXZbihgpg2m6fza\nkWm9/
wpjzE9ny5+xkPGVH4Wnwz7yK5m8S0agL
T96cRBSWnWmonOWdY0GKVzni0CA\n+iyGudgrFKm7Eae/
v18oXrf82KtOAGO4xG0KE2WKYHsT1fx3c9xZhlXP/eX
Lhv00\n+lGp0WVw9PbhKfrxliKJ5q6sL5nVUaUHq6hlQPYwsATeOvAp3u0ak5zgTyL0fg7Y
\nPyKk6VYwLW62r+V
YBSForEMOAhkq3LsP/rjxpEKmi2W4lPVS6oFZRKcD+H1Kyil5\nAgMBAAGjIDAeMAwGA1UdEwEB/
wQCMAAwDgYDV
R0PAQH/BAQDAgeAMA0GCSqGSIb3\nDQEBCwUAA4IBAQAGgix2k6nVqbZFKq97/fZBzLGS0dyz5rT/
E41cDIRX+1j
EPW41\nw0D+2sXheCZLZZnSkvIiP74IToNeXDrjdcaodeGFVHIElRjhMIq+4ZebPbRLtidF
\nRc2hfcTAlqq9Z6v
5Vk6BeM1tu0RqH1wPoVUccLPya8EjNCbnJZUmGdOfrN/Y9pho\n5ikV+HPeZhG/k6dhE2GsQJyKFVHL/
uBgKSily
1bRyWU1r6qcpWBNBHjUoD7HgOwD
\nnzMh4XRb2FQDsqFalkCSYmeL8IVC49sgPD9Otyp5uteGMTy62usAAUQdq/f
ZvrWg\nOkFpwMVnGKVKT7Kg0kKOLzKWOBB2Jm4/gmrJ\n-----END CERTIFICATE-----\n",
"keyPair": {
"PublicKey": "-----BEGIN PUBLIC KEY----\nMIIBIjANBgkqhkiG9w0BAQEFAAOCAQ8AMIIBCg
KCAQEAwYSiPeJLSi6k8J4/msjq
\ntUwCbfzerOiCQ2b5a2I5AtBO8M2nmN06a1pNN0tvb1M1bhDlx10F2W4oYKYN
pun8\n2pFpvf8KY8xPZ8ufsZDxlR+Fp8M+8iuZvEtGoC0/enEQUlp1pqJzlnWNBilc54tA
\ngPoshrnYKxSpuxGn
v79fKF63/NirTgBjuMRtChNlimEXAMPLE3PcWYZVz/3ly4b9\nNPpRqdFlcPT24Sn68ZYiieaurC
+Z1VGlB6uoZU
D2MLAE3jrwKd7tGpOc4E8i9H4O\n2D8ipOlWMC1utq/
lWAUhaKxDDgIZKty7D/648aRCpotluJT1UuqBWUSnA/h9
Ssop\neQIDAQAB\n-----END PUBLIC KEY-----\n",

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"PrivateKey": "-----BEGIN RSA PRIVATE KEY-----
MIIEowIBAAKCAQEAwYSiPe3LSi6k8J4/
msjqtUwCbfzer0iCQ2b5a2I5AtB0M2n
\nnN06a1pNOt6vb1M1bhd1x10F2w4oYKYNpun82pFpvf8KY8xP8ufsZ
Dx1R+Fp8M+\n81uZvEtGoC0/enEQU1pjqJzlWNB1iLC54tAgPoshrnYKxSpuxGnv79fKF63/Nir
\nTgBjuMrTCh
N1imB7E9X8d3PcwYZVz/3ly4b9NPpRqdF1cPT245n68ZYiieaurC+Z
\n1VG1B6uoZUD2MLAE3jrwKd7tGpoc4E8i
9H4O2D8ip01MC1utq/1WAUhaKxDgIZ\nKty7D/648aRCpotluJTIUuqBWUSnA/
h9SsopeQIDAQABAoIBAEAyB
QUtx9T2/n\ntZT2pA4iugecxi4dz+DmT0XXVs5VJmzX/
\nBSq6ejXExEpSIM04R7LYE3zdJcnd5N\nF7tQkkY7yR
VzfxHeFXU1kr0IPuxWebNOzRoPZi+1RSe+wv2aBC525+88pVuR6tM
\n3pgkrR2ycCj9F00UQxrdjHBHA05PDmJ
9aSxCKdgg3nRepeeGwsR2TQA+m2vVxWk7\n\nou0+91eTOP+/QfP7P8Zj0I2OxIV1RcDVY/N/
E4QXPkuIkM/8vSV8K+
E9pATQOMTBn\nl2wB8R/YU5Ajd6jLEXAMPLEGU2UzRzInNWiltkPPpqgXXhx0f+mxByjcMa1Vj0kOL
\nhn0G2ROUCgY
EA+R0chHNHy/XbsP7F1h0ehH+6Q2QxQncBUPybBazrR8Hn+7SCICQK
\nVYyd8Ajqf3e7RsKVL5S1MBp751idxak
BIn28fKfFpN62DaemGCIOyDgLpF+eUxBx
\ngzbcI82ga8bffurza43UZe}KLpg3hq721+FeAiXi1Nma4Yr9WHEHEN
8cGyEAXuWt\npzdWMmsiFfsAw0sy9ySDA/xr5WRz3yAqUsjsks6wxNzWebpufnYHCmtw7PlDqM
\nnkboHWn2pXa
km2vzk2nKKEmq5btrBYGDUXueDe+V369Bianx8azFyIsckA70wXW1w1h
\ngRC5rQ4X0gp3+Jmw7eA08LRYDjaN846+
QbtO2KccGyAWS0UL51bijQR0Zwi0dz27\nFQVuCAYsp748aurecRTACCj8jbnK/
QbqTNlxWsaH7ssBjKzo2D5sAqY
BRAT5W0Da\nahxSdhVmZJye+ESLOhMaCloyCkT3l18yqXIEdStM07f01Ryagl64E1jvSIZMfny\n\nNL/ fxVjCSh
/udCxdzP+7QKBqGC+LAD7rxd4J9538h7Tqpc4XK9vxRbrMXEH55XH
\nBm2ax0NZXpmteGqEBukyhcVcneyRhK9
i0e6irZTjVxgo0eoTpC8VXkzcouTiQ
\nneFQQ5gfnp7r0e6U1z23715pKdzuSNMSKg924ktv7CyDBF1gBQI5g
aDoHndd3BJn\nPRTIZQKBgA8MASXtTxQntRwXXzR92U0vAighiurKb/mx9jQpUcKqiqHbkAMqgNF
\nPFCBYIUbFT
iYKKKeJNbyJOqjfsJCKAnaFJ+RnTtx0QGWjm20peJ/ii4Q1DnigoE\nnvd1c5cFQewWb4/
\nzaTdpinkP1N94i1eI
79XQdc7rlOjgT1ml+\n-----END RSA PRIVATE KEY-----"
}

"expiration": 1595955066.0
}
create-provisioning-template

The following code example shows how to use create-provisioning-template.

AWS CLI

To create a provisioning template

The following create-provisioning-template example creates a provisioning template as defined by the file template.json.

```
aws iot create-provisioning-template \
   --template-name widget-template \
   --description "A provisioning template for widgets" \
   --provisioning-role-arn arn:aws:iam::123456789012:role/Provision_role \
   --template-body file://template.json
```

Contents of template.json:

```
{
   "Parameters": {
      "DeviceLocation": {
         "Type": "String"
      }
   },
   "Mappings": {
      "LocationTable": {
         "Seattle": {
            "LocationUrl": "https://example.aws"
         }
      }
   },
   "Resources": {
      "thing": {
         "Type": "AWS::IoT::Thing",
         "Properties": {
            "AttributePayload": {
               "version": "v1",
               "serialNumber": "serialNumber"
            }
         }
      }
   }
}
```
"ThingName": [{"Fn::Join": ["", ["ThingPrefix_", {
"Ref": "SerialNumber"]]]}],
"ThingTypeName": [{"Fn::Join": ["", ["ThingTypePrefix_", {
"Ref": "SerialNumber"]]]}],
"ThingGroups": ["widgets", "WA"],
"BillingGroup": "BillingGroup",
"OverrideSettings": {
"AttributePayload": "MERGE",
"ThingTypeName": "REPLACE",
"ThingGroups": "DO NOTHING"
},
"certificate": {
"Type": "AWS::IoT::Certificate",
"Properties": {
"CertificateId": {"Ref": "AWS::IoT::Certificate::Id"},
"Status": "Active"
}
},
"policy": {
"Type": "AWS::IoT::Policy",
"Properties": {
"PolicyDocument": {
"Version": "2012-10-17",
"Statement": [{
"Effect": "Allow",
"Action": ["iot:Publish"],
"Resource": ["arn:aws:iot:us-east-1:504350838278:topic/foo/bar"]
}]
}
}
"DeviceConfiguration": {
"FallbackUrl": "https://www.example.com/test-site",
"LocationUrl": {
"Fn::FindInMap": ["LocationTable", {"Ref": "DeviceLocation"},
"LocationUrl"]}
}
Output:

```json
{
    "templateArn": "arn:aws:iot:us-east-1:123456789012:provisioningtemplate/widget-template",
    "templateName": "widget-template",
    "defaultVersionId": 1
}
```

For more information, see [AWS IoT Secure Tunneling](https://docs.aws.amazon.com/iot/latest/developerguide/secure-tunneling.html) in the *[AWS IoT Core Developer Guide](https://docs.aws.amazon.com/iot/latest/developerguide/iot-core.html)*.

- For API details, see [CreateProvisioningTemplate](https://docs.aws.amazon.com/cli/latest/reference/iot/create-provisioning-template-version.html) in *AWS CLI Command Reference*.

### create-provisioning-template-version

The following code example shows how to use create-provisioning-template-version.

**AWS CLI**

**To create a provisioning template version**

The following example creates a version for the specified provisioning template. The body of the new version is supplied in the file `template.json`.

```bash
aws iot create-provisioning-template-version \
    --template-name widget-template \
    --template-body file://template.json
```

**Contents of template.json:**

```json
{
    "Parameters": {
        "DeviceLocation": {
            "Type": "String"
        }
    },
    "Mappings": {
        "LocationTable": {
            "Seattle": {
                "LocationUrl": "https://example.aws"
            }
        }
    }
}
```
"Resources" : {
    "thing" : {
        "Type" : "AWS::IoT::Thing",
        "Properties" : {
            "AttributePayload" : {
                "version" : "v1",
                "serialNumber" : "serialNumber"
            },
            "ThingName" : {"Fn::Join":["","[ThingPrefix_",
            {"Ref":"SerialNumber"}]},
            "ThingTypeName" : {"Fn::Join":["","[ThingTypePrefix_",
            {"Ref":"SerialNumber"}]},
            "ThingGroups" : ["widgets", "WA"],
            "BillingGroup": "BillingGroup"
        },
        "OverrideSettings" : {
            "AttributePayload" : "MERGE",
            "ThingTypeName" : "REPLACE",
            "ThingGroups" : "DO NOTHING"
        }
    },
    "certificate" : {
        "Type" : "AWS::IoT::Certificate",
        "Properties" : {
            "CertificateId": {"Ref": "AWS::IoT::Certificate::Id"},
            "Status" : "Active"
        }
    },
    "policy" : {
        "Type" : "AWS::IoT::Policy",
        "Properties" : {
            "PolicyDocument" : {
                "Version": "2012-10-17",
                "Statement" : [[
                    "Effect": "Allow",
                    "Action": ["iot:Publish"],
                    "Resource": ["arn:aws:iot:us-east-1:123456789012:topic/foo/bar"]
                ]]
            }
        }
    }
}
"DeviceConfiguration": {
  "FallbackUrl": "https://www.example.com/test-site",
  "LocationUrl": {
    "Fn::FindInMap": ["LocationTable","DeviceLocation"],
    "LocationUrl"
  }
}

Output:

```
{
  "templateArn": "arn:aws:iot:us-east-1:123456789012:provisioningtemplate/widget-template",
  "templateName": "widget-template",
  "versionId": 2,
  "isDefaultVersion": false
}
```

For more information, see [AWS IoT Secure Tunneling](https://docs.aws.amazon.com/iot/latest/developerguide/aws-iot-secure-tunneling.html) in the *AWS IoT Core Developer Guide*.

- For API details, see [CreateProvisioningTemplateVersion](https://docs.aws.amazon.com/cli/latest/reference/iot/create-provisioning-template-version.html) in *AWS CLI Command Reference*.

### create-role-alias

The following code example shows how to use `create-role-alias`.

**AWS CLI**

#### To create a role alias

The following `create-role-alias` example creates a role alias called `LightBulbRole` for the specified role.

```
aws iot create-role-alias \
  --role-alias LightBulbRole \
  --role-arn arn:aws:iam::123456789012:role/lightbulbrole-001
```

Output:
{  
  "roleAlias": "LightBulbRole",
  "roleAliasArn": "arn:aws:iot:us-west-2:123456789012:rolealias/LightBulbRole"
}

For more information, see CreateRoleAlias in the AWS IoT API Reference.

- For API details, see CreateRoleAlias in AWS CLI Command Reference.

create-scheduled-audit

The following code example shows how to use create-scheduled-audit.

**AWS CLI**

**To create a scheduled audit**

The following create-scheduled-audit example creates a scheduled audit that runs weekly, on Wednesday, to check if CA certificates or device certificates are expiring.

```bash
aws iot create-scheduled-audit \
  --scheduled-audit-name WednesdayCertCheck \
  --frequency WEEKLY \
  --day-of-week WED \
  --target-check-names CA_CERTIFICATE_EXPIRING_CHECK \n                      DEVICE_CERTIFICATE_EXPIRING_CHECK
```

Output:

```json
{
  "scheduledAuditArn": "arn:aws:iot:us-west-2:123456789012:scheduledaudit/WednesdayCertCheck"
}
```

For more information, see Audit Commands in the AWS IoT Developer Guide.

- For API details, see CreateScheduledAudit in AWS CLI Command Reference.

create-security-profile

The following code example shows how to use create-security-profile.
AWS CLI

To create a security profile

The following create-security-profile example creates a security profile that checks if cellular bandwidth exceeds a threshold or if more than 10 authorization failures occur within a five-minute period.

```
aws iot create-security-profile 
   --security-profile-name PossibleIssue 
   --security-profile-description "Check to see if authorization fails 10 times in 5 minutes or if cellular bandwidth exceeds 128" 
   --behaviors "[{{"name":"CellularBandwidth","metric":"aws:message-byte-size","criteria":{"comparisonOperator":"greater-than","value":{"count":128},"consecutiveDatapointsToAlarm":1,"consecutiveDatapointsToClear":1}},{"name":"Authorization","metric":"aws:num-authorization-failures","criteria":{"comparisonOperator":"less-than","value":{"count":10},"durationSeconds":300,"consecutiveDatapointsToAlarm":1,"consecutiveDatapointsToClear":1}}]"
```

Output:

```
{
    "securityProfileName": "PossibleIssue",
    "securityProfileArn": "arn:aws:iot:us-west-2:123456789012:securityprofile/PossibleIssue"
}
```

For more information, see Detect Commands in the AWS IoT Developer Guide.

- For API details, see CreateSecurityProfile in AWS CLI Command Reference.

create-stream

The following code example shows how to use create-stream.

AWS CLI

To create a stream for delivering one or more large files in chunks over MQTT

The following create-stream example creates a stream for delivering one or more large files in chunks over MQTT. A stream transports data bytes in chunks or blocks packaged as MQTT messages from a source like S3. You can have one or more files associated with a stream.
aws iot create-stream \
--cli-input-json file://create-stream.json

Contents of create-stream.json:

```json
{
    "streamId": "stream12345",
    "description": "This stream is used for Amazon FreeRTOS OTA Update 12345.",
    "files": [
        {
            "fileId": 123,
            "s3Location": {
                "bucket": "codesign-ota-bucket",
                "key": "48c67f3c-63bb-4f92-a98a-4ee0fbc2bef6"
            }
        }
    ],
    "roleArn": "arn:aws:iam:123456789012:role/service-role/my_ota_stream_role"
}
```

Output:

```json
{
    "streamId": "stream12345",
    "description": "This stream is used for Amazon FreeRTOS OTA Update 12345.",
    "streamVersion": "1"
}
```

For more information, see CreateStream in the AWS IoT API Reference.

- For API details, see CreateStream in AWS CLI Command Reference.

create-thing-group

The following code example shows how to use create-thing-group.

AWS CLI

Example 1: To create a thing group
The following `create-thing-group` example creates a thing group named `LightBulbs` with a description and two attributes.

```bash
aws iot create-thing-group \
    --thing-group-name LightBulbs \
    --thing-group-properties "thingGroupDescription="Generic bulb group", attributePayload={attributes={Manufacturer=AnyCompany,wattage=60}}"
```

Output:

```json
{
    "thingGroupName": "LightBulbs",
    "thingGroupArn": "arn:aws:iot:us-west-2:123456789012:thinggroup/LightBulbs",
    "thingGroupId": "9198bf9f-1e76-4a88-8e8c-e7140142c331"
}
```

Example 2: To create a thing group that's part of a parent group

The following `create-thing-group` creates a thing group named `HalogenBulbs` that has a parent thing group named `LightBulbs`.

```bash
aws iot create-thing-group \
    --thing-group-name HalogenBulbs \
    --parent-group-name LightBulbs
```

Output:

```json
{
    "thingGroupName": "HalogenBulbs",
    "thingGroupId": "f4ec6b84-b42b-499d-9ce1-4dbd4d4f6f6e"
}
```

For more information, see [Thing Groups](https://docs.aws.amazon.com/iot/latest/developerguide/thing-groups.html) in the *AWS IoT Developers Guide*.

- For API details, see [CreateThingGroup](https://docs.aws.amazon.com/cli/latest/reference/iot/create-thing-group.html) in *AWS CLI Command Reference*.

### create-thing-type

The following code example shows how to use `create-thing-type`.
AWS CLI

To define a thing type

The following create-thing-type example defines a thing type and associated attributes.

```bash
aws iot create-thing-type \
   --thing-type-name "LightBulb" \
   --thing-type-properties "thingTypeDescription=light bulb type, searchableAttributes=wattage,model"
```

Output:

```json
{
   "thingTypeName": "LightBulb",
   "thingTypeArn": "arn:aws:iot:us-west-2:123456789012:thingtype/LightBulb",
   "thingTypeId": "ce3573b0-0a3c-45a7-ac93-4e0ce14cd190"
}
```

For more information, see [Thing Types](https://docs.aws.amazon.com/iot/latest/developerguide/iot-thingtypes.html) in the *AWS IoT Developers Guide*.

- For API details, see [CreateThingType](https://docs.aws.amazon.com/cli/latest/reference/iot/create-thing-type.html) in *AWS CLI Command Reference*.

create-topic-rule

The following code example shows how to use create-topic-rule.

AWS CLI

To create a rule that sends an Amazon SNS alert

The following create-topic-rule example creates a rule that sends an Amazon SNS message when soil moisture level readings, as found in a device shadow, are low.

```bash
aws iot create-topic-rule \
   --rule-name "LowMoistureRule" \
   --topic-rule-payload file://plant-rule.json
```

The example requires the following JSON code to be saved to a file named `plant-rule.json`:

```json
{
   
```
"sql": "SELECT * FROM 'aws/things/MyRPi/shadow/update/accepted' WHERE state.reported.moisture = 'low'\n",
"description": "Sends an alert whenever soil moisture level readings are too low.",
"ruleDisabled": false,
"awsIotSqlVersion": "2016-03-23",
"actions": 
[{
  "sns": {
    "roleArn": "arn:aws:iam::123456789012:role/service-role/MyRPiLowMoistureTopicRole",
    "messageFormat": "RAW"
  }
}]

This command produces no output.

For more information, see Creating an AWS IoT Rule in the AWS IoT Developers Guide.

- For API details, see CreateTopicRule in AWS CLI Command Reference.

create-topic-rule-destination

The following code example shows how to use create-topic-rule-destination.

AWS CLI

To create a topic rule destination

The following create-topic-rule-destination example creates a topic rule destination for an HTTP endpoint.

```bash
aws iot create-topic-rule-destination \
  --destination-configuration httpUrlConfiguration={confirmationUrl=https://example.com}
```

Output:

```json
{
```
For more information, see [Creating a topic rule destination](#) in the *AWS IoT Developer Guide*.

- For API details, see [CreateTopicRuleDestination](#) in *AWS CLI Command Reference*.

**delete-account-audit-configuration**

The following code example shows how to use `delete-account-audit-configuration`.

**AWS CLI**

To disable all audit checks for your AWS account

The following `delete-account-audit-configuration` example restores the default settings for AWS IoT Device Defender for this account, disabling all audit checks and clearing configuration data. It also deletes any scheduled audits for this account. Use this command with caution.

```
aws iot delete-account-audit-configuration \
  --delete-scheduled-audits
```

This command produces no output.

For more information, see [Audit Commands](#) in the *AWS IoT Developer Guide*.

- For API details, see [DeleteAccountAuditConfiguration](#) in *AWS CLI Command Reference*.

**delete-audit-suppression**

The following code example shows how to use `delete-audit-suppression`.

```json
"topicRuleDestination": {
  "arn": "arn:aws:iot:us-west-2:123456789012:ruledestination/http/a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
  "status": "IN_PROGRESS",
  "statusReason": "Awaiting confirmation. Confirmation message sent on 2020-07-09T22:47:54.154Z; no response received from the endpoint.",
  "httpUrlProperties": {
    "confirmationUrl": "https://example.com"
  }
}
```
AWS CLI

To delete an audit finding suppression

The following delete-audit-suppression example deletes an audit finding suppression for DEVICE_CERTIFICATE_EXPIRING_CHECK.

```
aws iot delete-audit-suppression \
   --check-name DEVICE_CERTIFICATE_EXPIRING_CHECK \
   --resource-identifier deviceCertificateId="c7691e<shortened>"
```

This command produces no output.

For more information, see Audit finding suppressions in the AWS IoT Developers Guide.

- For API details, see DeleteAuditSuppression in AWS CLI Command Reference.

delete-authorizer

The following code example shows how to use delete-authorizer.

AWS CLI

To delete a custom authorizer

The following delete-authorizer example deletes the authorizer named CustomAuthorizer. A custom authorizer must be in the INACTIVE state before you can delete it.

```
aws iot delete-authorizer \
   --authorizer-name CustomAuthorizer
```

This command produces no output.

For more information, see DeleteAuthorizer in the AWS IoT Developer Guide.

- For API details, see DeleteAuthorizer in AWS CLI Command Reference.

delete-billing-group

The following code example shows how to use delete-billing-group.

Actions and scenarios
AWS CLI

To delete a billing group

The following delete-billing-group example deletes the specified billing group. You can delete a billing group even if it contains one or more things.

```bash
aws iot delete-billing-group \
   --billing-group-name BillingGroupTwo
```

This command does not produce any output.

For more information, see Billing Groups in the AWS IoT Developers Guide.

- For API details, see DeleteBillingGroup in AWS CLI Command Reference.

delete-ca-certificate

The following code example shows how to use delete-ca-certificate.

AWS CLI

To delete a CA certificate

The following delete-ca-certificate example deletes the CA certificate with the specified certificate ID.

```bash
aws iot delete-ca-certificate \
   --certificate-id \n   f4efed62c0142f16af278166f61962501165c4f0536295207426460058cd1467
```

This command produces no output.

For more information, see DeleteCACertificate in the AWS IoT API Reference.

- For API details, see DeleteCaCertificate in AWS CLI Command Reference.

delete-custom-metric

The following code example shows how to use delete-custom-metric.
To delete a custom metric

The following delete-custom-metric example deletes a custom metric.

```
aws iot delete-custom-metric \
  --metric-name batteryPercentage \
  --region us-east-1
```

Output:

```
HTTP 200
```

For more information, see Custom metrics in the AWS IoT Core Developer Guide.
- For API details, see DeleteCustomMetric in AWS CLI Command Reference.

delete-dimension

The following code example shows how to use delete-dimension.

AWS CLI

To delete a dimension

The following delete-dimension example deletes a dimension called TopicFilterForAuthMessages.

```
aws iot delete-dimension \
  --name TopicFilterForAuthMessages
```

This command produces no output.

For more information, see Detect Commands in the AWS IoT Developer Guide.
- For API details, see DeleteDimension in AWS CLI Command Reference.

delete-domain-configuration

The following code example shows how to use delete-domain-configuration.
**AWS CLI**

**To delete a domain configuration**

The following delete-domain-configuration example deletes a domain configuration named additionalDataDomain from your AWS account.

```bash
aws iot delete-domain-configuration \
   --domain-configuration-name "additionalDataDomain" \
   --domain-configuration-status "OK"
```

This command produces no output.

For more information, see [Configurable Endpoints](https://docs.aws.amazon.com/iot/latest/developerguide/configurable-Endpoints.html) in the *AWS IoT Developer Guide*.

- For API details, see [DeleteDomainConfiguration](https://docs.aws.amazon.com/iot/latest/developerguide/iot-api-reference-delete-domain-configuration.html) in *AWS CLI Command Reference*.

**delete-dynamic-thing-group**

The following code example shows how to use delete-dynamic-thing-group.

**AWS CLI**

**To delete a dynamic thing group**

The following delete-dynamic-thing-group example deletes the specified dynamic thing group.

```bash
aws iot delete-dynamic-thing-group \
   --thing-group-name "RoomTooWarm"
```

This command produces no output.

For more information, see [Dynamic Thing Groups](https://docs.aws.amazon.com/iot/latest/developerguide/dynamic-thing-groups.html) in the *AWS IoT Developers Guide*.

- For API details, see [DeleteDynamicThingGroup](https://docs.aws.amazon.com/iot/latest/developerguide/iot-api-reference-delete-dynamic-thing-group.html) in *AWS CLI Command Reference*.

**delete-job**

The following code example shows how to use delete-job.
AWS CLI

To delete a job

The following delete-job example deletes the specified job. By specifying the --force option, the job is deleted even if the status is IN_PROGRESS.

```bash
aws iot delete-job \
  --job-id "example-job-04" \
  --force
```

This command produces no output.

For more information, see Creating and Managing Jobs (CLI) in the AWS IoT Developer Guide.

- For API details, see DeleteJob in AWS CLI Command Reference.

delete-job-execution

The following code example shows how to use delete-job-execution.

AWS CLI

To delete a job execution

The following delete-job-execution example deletes the job execution of the specified job on a device. Use describe-job-execution to get the execution number.

```bash
aws iot delete-job-execution \
  --job-id "example-job-02" \
  --thing-name "MyRaspberryPi" \
  --execution-number 1
```

This command produces no output.

For more information, see Creating and Managing Jobs (CLI) in the AWS IoT Developer Guide.

- For API details, see DeleteJobExecution in AWS CLI Command Reference.

delete-mitigation-action

The following code example shows how to use delete-mitigation-action.
AWS CLI

To delete a mitigation action

The following `delete-mitigation-action` example deletes the specified mitigation action.

```
aws iot delete-mitigation-action \
    --action-name AddThingsToQuarantineGroup1Action
```

This command produces no output.

For more information, see [DeleteMitigationAction](https://docs.aws.amazon.com/iot/latest/developerguide/mutation-action-reference.html) in the AWS IoT Developer Guide.


**delete-ota-update**

The following code example shows how to use `delete-ota-update`.

AWS CLI

To delete an OTA update

The following `delete-ota-update` example deletes the specified OTA update.

```
aws iot delete-ota-update \
    --ota-update-id ota12345 \
    --delete-stream \
    --force-delete-aws-job
```

This command produces no output.

For more information, see [DeleteOTAUpdate](https://docs.aws.amazon.com/iot/latest/developerguide/ota-update-api-reference.html) in the AWS IoT API Reference.

- For API details, see [DeleteOtaUpdate](https://docs.aws.amazon.com/iot/latest/developerguide/iot-api-reference.html#iot-api-delete-ota-update) in AWS CLI Command Reference.

**delete-policy**

The following code example shows how to use `delete-policy`.
AWS CLI

To delete a policy

The following delete-policy example deletes the specified policy from your AWS account.

```
aws iot delete-policy --policy-name UpdateDeviceCertPolicy
```

This command produces no output.

For more information, see AWS IoT Policies in the AWS IoT Developers Guide.

- For API details, see DeletePolicy in AWS CLI Command Reference.

delete-policy-version

The following code example shows how to use delete-policy-version.

AWS CLI

To delete a version of policy

The following delete-policy-version example deletes version 2 of the specified policy from your AWS account.

```
aws iot delete-policy-version
   --policy-name UpdateDeviceCertPolicy
   --policy-version-id 2
```

This command produces no output.

For more information, see AWS IoT Policies in the AWS IoT Developer Guide.

- For API details, see DeletePolicyVersion in AWS CLI Command Reference.

delete-provisioning-template

The following code example shows how to use delete-provisioning-template.

AWS CLI

To delete a provisioning template
The following delete-provisioning-template example deletes the specified provisioning template.

```
aws iot delete-provisioning-template \
    --template-name widget-template
```

This command produces no output.

For more information, see AWS IoT Secure Tunneling in the AWS IoT Core Developer Guide. For API details, see DeleteProvisioningTemplate in AWS CLI Command Reference.

delete-provisioning-template-version

The following code example shows how to use delete-provisioning-template-version.

AWS CLI

To delete a provisioning template version

The following delete-provisioning-template-version example deletes version 2 of the specified provisioning template.

```
aws iot delete-provisioning-template-version \
    --version-id 2 \
    --template-name "widget-template"
```

This command produces no output.

For more information, see AWS IoT Secure Tunneling in the AWS IoT Core Developer Guide. For API details, see DeleteProvisioningTemplateVersion in AWS CLI Command Reference.

delete-registration-code

The following code example shows how to use delete-registration-code.

AWS CLI

To delete your registration code

The following delete-registration-code example deletes an AWS IoT account-specific registration code.
aws iot delete-registration-code

This command produces no output.

For more information, see Use Your Own Certificate in the AWS IoT Developer Guide.
- For API details, see DeleteRegistrationCode in AWS CLI Command Reference.

delete-role-alias

The following code example shows how to use delete-role-alias.

AWS CLI

To delete an AWS IoT role alias

The following delete-role-alias example deletes an AWS IoT role alias named LightBulbRole.

```bash
aws iot delete-role-alias \\
   --role-alias LightBulbRole
```

This command produces no output.

For more information, see Authorizing Direct Calls to AWS Services in the AWS IoT Developer Guide.
- For API details, see DeleteRoleAlias in AWS CLI Command Reference.

delete-scheduled-audit

The following code example shows how to use delete-scheduled-audit.

AWS CLI

To delete a scheduled audit

The following delete-scheduled-audit example deletes the AWS IoT Device Defender scheduled audit named AWSIoTDeviceDefenderDailyAudit.

```bash
aws iot delete-scheduled-audit \\
   --scheduled-audit-name AWSIoTDeviceDefenderDailyAudit
```
This command produces no output.

For more information, see Audit Commands in the AWS IoT Developer Guide.

- For API details, see DeleteScheduledAudit in AWS CLI Command Reference.

delete-security-profile

The following code example shows how to use delete-security-profile.

AWS CLI

To delete a security profile

The following delete-security-profile example deletes a security profile named PossibleIssue.

```
aws iot delete-security-profile \\
--security-profile-name PossibleIssue
```

This command produces no output.

For more information, see Detect Commands in the AWS IoT Developer Guide.

- For API details, see DeleteSecurityProfile in AWS CLI Command Reference.

delete-stream

The following code example shows how to use delete-stream.

AWS CLI

To delete a stream

The following delete-stream example deletes the specified stream.

```
aws iot delete-stream \\
--stream-id stream12345
```

This command produces no output.

For more information, see DeleteStream in the AWS IoT API Reference.

- For API details, see DeleteStream in AWS CLI Command Reference.
**delete-thing-group**

The following code example shows how to use delete-thing-group.

**AWS CLI**

**To delete a thing group**

The following delete-thing-group example deletes the specified thing group. You cannot delete a thing group if it contains child thing groups.

```
aws iot delete-thing-group \\
--thing-group-name DefectiveBulbs
```

This command produces no output.

For more information, see [Thing Groups](https://aws.amazon.com/iot/docs/developers-guide/) in the *AWS IoT Developers Guide*.

- For API details, see [DeleteThingGroup](https://docs.aws.amazon.com/cli/latest/reference/iot/delete-thing-group.html) in *AWS CLI Command Reference*.

**delete-thing-type**

The following code example shows how to use delete-thing-type.

**AWS CLI**

**Example 1: To delete a thing type**

The following delete-thing-type example deletes a deprecated thing type.

```
aws iot delete-thing-type \\
--thing-type-name "obsoleteThingType"
```

This command produces no output.

For more information, see [Thing Types](https://aws.amazon.com/iot/docs/developers-guide/) in the *AWS IoT Developers Guide*.

- For API details, see [DeleteThingType](https://docs.aws.amazon.com/cli/latest/reference/iot/delete-thing-type.html) in *AWS CLI Command Reference*.

**delete-topic-rule**

The following code example shows how to use delete-topic-rule.
AWS CLI

To delete a rule

The following delete-topic-rule example deletes the specified rule.

```bash
aws iot delete-topic-rule \
   --rule-name "LowMoistureRule"
```

This command produces no output.

For more information, see Deleting a Rule in the AWS IoT Developers Guide.

- For API details, see DeleteTopicRule in AWS CLI Command Reference.

delete-topic-rule-destination

The following code example shows how to use delete-topic-rule-destination.

AWS CLI

To delete a topic rule destination

The following delete-topic-rule-destination example deletes the specified topic rule destination.

```bash
aws iot delete-topic-rule-destination \
   --arn "arn:aws:iot:us-west-2:123456789012:ruledestination/http/a1b2c3d4-5678-90ab-cdef-11111EXAMPLE"
```

This command produces no output.

For more information, see Deleting a topic rule destination in the AWS IoT Developer Guide.

- For API details, see DeleteTopicRuleDestination in AWS CLI Command Reference.

delete-v2-logging-level

The following code example shows how to use delete-v2-logging-level.

AWS CLI

To delete the logging level for a thing group
The following delete-v2-logging-level example deletes the logging level for the specified thing group.

```
aws iot delete-v2-logging-level \
   --target-type THING_GROUP \
   --target-name LightBulbs
```

This command produces no output.

- For API details, see `DeleteV2LoggingLevel` in *AWS CLI Command Reference*.

**deprecate-thing-type**

The following code example shows how to use `deprecate-thing-type`.

**AWS CLI**

**Example 1: To deprecate a thing type**

The following deprecate-thing-type example deprecates a thing type so that users can't associate any new things with it.

```
aws iot deprecate-thing-type \
   --thing-type-name "obsoleteThingType"
```

This command produces no output.

**Example 2: To reverse the deprecation of a thing type**

The following deprecate-thing-type example reverses the deprecation of a thing type, which makes it possible for users to associate new things with it again.

```
aws iot deprecate-thing-type \
   --thing-type-name "obsoleteThingType" \
   --undo-deprecate
```

This command produces no output.

For more information, see `Thing Types` in the *AWS IoT Developers Guide*.

- For API details, see `DeprecateThingType` in *AWS CLI Command Reference*.
describe-account-audit-configuration

The following code example shows how to use describe-account-audit-configuration.

AWS CLI

To view current audit configuration settings

The following describe-account-audit-configuration example lists the current settings for your AWS IoT Device Defender audit configuration.

```bash
aws iot describe-account-audit-configuration
```

Output:

```json
{
  "roleArn": "arn:aws:iam::123456789012:role/service-role/AWSIoTDeviceDefenderAudit_1551201085996",
  "auditNotificationTargetConfigurations": {
    "SNS": {
      "roleArn": "arn:aws:iam::123456789012:role/service-role/AWSIoTDeviceDefenderAudit",
      "enabled": true
    }
  },
  "auditCheckConfigurations": {
    "AUTHENTICATED_COGNITO_ROLE_OVERLY_PERMISSIVE_CHECK": {
      "enabled": true
    },
    "CA_CERTIFICATE_EXPIRING_CHECK": {
      "enabled": true
    },
    "CONFLICTING_CLIENT_IDS_CHECK": {
      "enabled": true
    },
    "DEVICE_CERTIFICATE_EXPIRING_CHECK": {
      "enabled": true
    },
    "DEVICE_CERTIFICATE_SHARED_CHECK": {
      "enabled": true
    },
    "IOT_POLICY_OVERLY_PERMISSIVE_CHECK": {
```

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For more information, see [Audit Commands](https://docs.aws.amazon.com/iot/latest/developerguide/audit-commands.html) in the *AWS IoT Developer Guide*.

- For API details, see [DescribeAccountAuditConfiguration](https://docs.aws.amazon.com/cli/latest/reference/iot/describe-audit-finding.html) in *AWS CLI Command Reference*.

### describe-audit-finding

The following code example shows how to use `describe-audit-finding`.

#### AWS CLI

**To list details for an audit finding**

The following `describe-audit-finding` example lists the details for the specified AWS IoT Device Defender audit finding. An audit can produce multiple findings. Use the `list-audit-findings` command to get a list of the findings from an audit to get the `findingId`.

```bash
aws iot describe-audit-finding \
    --finding-id "ef4826b8-e55a-44b9-b460-5c485355371b"
```

**Output:**

```json
{
    "finding": {
        "findingId": "ef4826b8-e55a-44b9-b460-5c485355371b",
```
"taskId": "873ed69c74a9ec8fa9b8e88e9abc4661",
"checkName": "IOT_POLICY_OVERLY_PERMISSIVE_CHECK",
"taskStartTime": 1576012045.745,
"findingTime": 1576012046.168,
"severity": "CRITICAL",
"nonCompliantResource": {
   "resourceType": "IOT_POLICY",
   "resourceIdentifier": {  
      "policyVersionIdentifier": {  
         "policyName": "smp-ggrass-group_Core-policy",
         "policyVersionId": "1"
      }
   }
},
"reasonForNonCompliance": "Policy allows broad access to IoT data plane actions: [iot:Subscribe, iot:Connect, iot:GetThingShadow, iot:DeleteThingShadow, iot:UpdateThingShadow, iot:Publish].",
"reasonForNonComplianceCode": "ALLOWS_BROAD_ACCESS_TO_IOT_DATA_PLANE_ACTIONS"
}

For more information, see Check Audit Results (Audit Commands) in the AWS IoT Developer Guide.
• For API details, see DescribeAuditFinding in AWS CLI Command Reference.

describe-audit-mitigation-actions-task

The following code example shows how to use describe-audit-mitigation-actions-task.

AWS CLI

To show the details of an audit mitigation actions task

The following describe-audit-mitigation-actions-task example shows the details for the specified task, where the ResetPolicyVersionAction was applied to a finding. The results include when the task started and ended, how many findings were targeted (and the outcome), and the definition of the action that is applied as part of this task.

aws iot describe-audit-mitigation-actions-task \
   --task-id ResetPolicyTask01
For more information, see DescribeAuditMitigationActionsTask (Mitigation Action Commands) in the AWS IoT Developer Guide.

- For API details, see DescribeAuditMitigationActionsTask in AWS CLI Command Reference.
**describe-audit-suppression**

The following code example shows how to use describe-audit-suppression.

**AWS CLI**

**To get details about an audit finding suppression**

The following describe-audit-suppression example lists details about an audit finding suppression.

```bash
aws iot describe-audit-task \
  --task-id "787ed873b69cb4d6c6d00b9f4d0a6c5"
```

**Output:**

```
{
    "taskStatus": "COMPLETED",
    "taskType": "SCHEDULED_AUDIT_TASK",
    "taskStartTime": 1596168096.157,
    "taskStatistics": {
        "totalChecks": 1,
        "inProgressChecks": 0,
        "waitingForDataCollectionChecks": 0,
        "compliantChecks": 0,
        "nonCompliantChecks": 1,
        "failedChecks": 0,
        "canceledChecks": 0
    },
    "scheduledAuditName": "AWSIoTDeviceDefenderDailyAudit",
    "auditDetails": {
        "DEVICE_CERTIFICATE_EXPIRING_CHECK": {
            "checkRunStatus": "COMPLETED_NON_COMPLIANT",
            "checkCompliant": false,
            "totalResourcesCount": 195,
            "nonCompliantResourcesCount": 2
        }
    }
}
```

For more information, see [Audit finding suppressions](https://docs.aws.amazon.com/iot/latest/developerguide/aws-iot-device-defender-audit-suppression.html) in the *AWS IoT Developers Guide*.

- For API details, see [DescribeAuditSuppression](https://docs.aws.amazon.com/cli/latest/reference/iot/describe-audit-suppression.html) in *AWS CLI Command Reference*. 
describe-audit-task

The following code example shows how to use describe-audit-task.

AWS CLI

To get information about an audit instance

The following describe-audit-task example gets information about an instance of an AWS IoT Device Defender audit. If the audit is complete, summary statistics for the run are included in the results.

```
aws iot describe-audit-task \
   --task-id a3aea009955e501a31b764abe1bebd3d
```

Output:

```
{
   "taskStatus": "COMPLETED",
   "taskType": "ON_DEMAND_AUDIT_TASK",
   "taskStartTime": 1560356923.434,
   "taskStatistics": {
      "totalChecks": 3,
      "inProgressChecks": 0,
      "waitingForDataCollectionChecks": 0,
      "compliantChecks": 3,
      "nonCompliantChecks": 0,
      "failedChecks": 0,
      "canceledChecks": 0
   },
   "auditDetails": {
      "CA_CERTIFICATE_EXPIRING_CHECK": {
         "checkRunStatus": "COMPLETED_COMPLIANT",
         "checkCompliant": true,
         "totalResourcesCount": 0,
         "nonCompliantResourcesCount": 0
      },
      "DEVICE_CERTIFICATE_EXPIRING_CHECK": {
         "checkRunStatus": "COMPLETED_COMPLIANT",
         "checkCompliant": true,
         "totalResourcesCount": 6,
         "nonCompliantResourcesCount": 0
      }
   }
}
```
For more information, see [Audit Commands](#) in the [*AWS IoT Developer Guide*].

- For API details, see [DescribeAuditTask](#) in [*AWS CLI Command Reference*].

### describe-authorizer

The following code example shows how to use `describe-authorizer`.

**AWS CLI**

To get information about a custom authorizer

The following `describe-authorizer` example displays details for the specified custom authorizer.

```bash
aws iot describe-authorizer \
   --authorizer-name CustomAuthorizer
```

Output:

```json
{
   "authorizerDescription": {
      "authorizerName": "CustomAuthorizer",
      "tokenKeyName": "MyAuthToken",
      "tokenSigningPublicKeys": {
         "FIRST_KEY": "-----BEGIN PUBLIC KEY-----
MIIBIjANBgkqhkiG9w0BAQEFAAOCAQ8AMIIBCgKCAQEA1uJOB4lQPgG/lM6ZfIwoZ+7ENxAio9q6QD4FFqjGZsvjtYwjoe1RKK0U8Eq9xb503kRSmyIwTzwzm/f4Gf0Y
"}
}
```
For more information, see [DescribeAuthorizer](#) in the [AWS IoT API Reference](#).

- For API details, see [DescribeAuthorizer](#) in [AWS CLI Command Reference](#).

### describe-billing-group

The following code example shows how to use `describe-billing-group`.

**AWS CLI**

To get information about a billing group

The following `describe-billing-group` example gets information for the specified billing group.

```bash
aws iot describe-billing-group --billing-group-name GroupOne
```

Output:

```json
{
   "billingGroupName": "GroupOne",
   "billingGroupId": "103de383-114b-4f51-8266-18f209ef5562",
   "billingGroupArn": "arn:aws:iot:us-west-2:123456789012:billinggroup/GroupOne",
   "version": 1,
   "billingGroupProperties": {},
   "billingGroupMetadata": {
      "creationDate": 1560199355.378
   }
}
```
For more information, see Billing Groups in the AWS IoT Developers Guide.

- For API details, see DescribeBillingGroup in AWS CLI Command Reference.

describe-ca-certificate

The following code example shows how to use describe-ca-certificate.

AWS CLI

To get details about a CA certificate

The following describe-ca-certificate example displays the details for the specified CA certificate.

```
aws iot describe-ca-certificate
   --certificate-id
   f4efed62c0142f16af278166f61962501165c4f0536295207426460058cd1467
```

Output:

```json
{
   "certificateDescription": {
      "certificateId": "f4efed62c0142f16af278166f61962501165c4f0536295207426460058cd1467",
      "status": "INACTIVE",
      "certificatePem": "-----BEGIN CERTIFICATE-----
MIICzzCCAbegEXAMPLEJANVEPWXl8taPMA0GCSqGSIb3DQEBBQAMB4xCzAjjBgNV
nBAYTA1VTMQ8wDQYDVQQKDAZBBbWF6b24wHhcNMTkwOTI0MjEzMTE1WhcNMjkwOTI0
MjEzMTE1WjAeMQswCQYDVQQGEwJViUxExEjOjA1eUgwGQW1hem9uMIIIBjANBgkq
\nhk19k0BAQEFAAOCAQ8AMIIBCgKCAQEAzd3R3ioalCS0MhFWfBrVGR036EK07UAf
\nvDz9EXAMPLEICbAdAdATK522kEIBS1/18VzI1FtAhQL5V5eybXKnB7QebNer5Sm
\n4Yib75hR5oqNzFsrWxuagN5w5gEfqNMAwOhJF4LsculgK49yuqjdcUI9/13ua
\n3B2gxs1Pe7TiiWvUskzxnbo1F2WshbEJvqY8fIwTgYCjTeJAgQ9hVzX/69XhKen
\nVW9LJwQxrsUL0Ty8IHWbB8fry72VM5u7foaU+n04j5cquaEptrzeoesUFXAMPLE
\nyVAgpHwgbYbcUfn7V+AB6yhl+0Fa1rEg6uZDPgyJS1xw5rh8nRewIDAQABxAw
\nDjMnMbgNVHRMmTADQh/M0Q1GqG5Ib3DQEhBQUAA4IBAxQ+3a5CV3Ijgnd0AgI
\nBgvMTmYzTvqAngx26aG9/SpvcxJckh2SBF+EcB1CfWHyakwxjL1dR4yarNrxgI
\nEqP4OYVimAVoQ5FBwInKHe16+3qtDib1U9DeXBUcSt555EcfrEXAMPLEYxXqU5C
\nU91a4KajW0dxW1+EFYMwX5eGeboGDTHBBy1V6B/f0SZ1qA6Yp4X3B+gAP+a/bWB
\n\nu1um0qtBdWe6L6/83L+JhaTByqV25iVj3c/"UZUnG8926wULDM9zQvEXuEVzZ7+m\n4PSNqst/
```
For more information, see `DescribeCACertificate` in the *AWS IoT API Reference*.

- For API details, see `DescribeCaCertificate` in *AWS CLI Command Reference*.

**describe-certificate**

The following code example shows how to use `describe-certificate`.

**AWS CLI**

**To get information about a certificate**

The following `describe-certificate` example displays the details for the specified certificate.

```bash
aws iot describe-certificate \
    --certificate-id \
    "4f0ba725787aa94d67d2fca420eca022242532e8b3c58e7465c7778b443fd65e"
```

Output:

```json
{
    "certificateDescription": {
        "certificateArn": "arn:aws:iot:us-west-2:123456789012:cert/4f0ba725787aa94d67d2fca420eca022242532e8b3c58e7465c7778b443fd65e",
        "certificateId": "4f0ba725787aa94d67d2fca420eca022242532e8b3c58e7465c7778b443fd65e",
        "status": "ACTIVE",
```
The following code example shows how to use describe-custom-metric.

### AWS CLI

**To get information about a Device Defender custom metric**

The following describe-custom-metric example gets information about a custom metric named myCustomMetric.
aws iot describe-custom-metric \
  --metric-name myCustomMetric

Output:

```json
{
  "metricName": "myCustomMetric",
  "metricArn": "arn:aws:iot:us-east-1:1234564789012:custommetric/myCustomMetric",
  "metricType": "number",
  "displayName": "My custom metric",
  "creationDate": 2020-11-17T23:02:12.879000-09:00,
  "lastModifiedDate": 2020-11-17T23:02:12.879000-09:00
}
```

For more information, see [Custom metrics](https://docs.aws.amazon.com/iot/latest/developerguide/custom-metrics.html) in the *AWS IoT Core Developer Guide*.

- For API details, see [DescribeCustomMetric](https://docs.aws.amazon.com/cli/latest/reference/iot/describe-custom-metric.html) in *AWS CLI Command Reference*.

**describe-default-authorizer**

The following code example shows how to use `describe-default-authorizer`.

**AWS CLI**

**To get information about the default custom authorizer**

The following `describe-default-authorizer` example displays details for the default custom authorizer.

aws iot describe-default-authorizer

Output:

```json
{
  "authorizerName": "CustomAuthorizer",
  "authorizerArn": "arn:aws:iot:us-west-2:123456789012:authorizer/CustomAuthorizer"
}
```

For more information, see [DescribeDefaultAuthorizer](https://docs.aws.amazon.com/iot/latest/developerguide/api-reference.html) in the *AWS IoT API Reference*.

- For API details, see [DescribeDefaultAuthorizer](https://docs.aws.amazon.com/cli/latest/reference/iot/describe-default-authorizer.html) in *AWS CLI Command Reference*. 
describe-dimension

The following code example shows how to use describe-dimension.

AWS CLI

To get information about a dimension

The following describe-dimension example gets information about a dimension named TopicFilterForAuthMessages.

```bash
aws iot describe-dimension \
   --name TopicFilterForAuthMessages
```

Output:

```json
{
   "name": "TopicFilterForAuthMessages",
   "type": "TOPIC_FILTER",
   "stringValues": [
      "device/+/auth"
   ],
   "creationDate": 1578620223.255,
   "lastModifiedDate": 1578620223.255
}
```

For more information, see Detect Commands in the AWS IoT Developer Guide.

- For API details, see DescribeDimension in AWS CLI Command Reference.

describe-domain-configuration

The following code example shows how to use describe-domain-configuration.

AWS CLI

To describe a domain configuration

The following describe-domain-configuration example displays details about the specified domain configuration.
aws iot describe-domain-configuration \
--domain-configuration-name "additionalDataDomain"

Output:

{
   "domainConfigurationName": "additionalDataDomain",
   "domainConfigurationArn": "arn:aws:iot:us-east-1:758EXAMPLE143:domainconfiguration/additionalDataDomain/norpw",
   "domainName": "d055exampleed74y71zfd-ats.beta.us-east-1.iot.amazonaws.com",
   "serverCertificates": [],
   "domainConfigurationStatus": "ENABLED",
   "serviceType": "DATA",
   "domainType": "AWS_MANAGED",
   "lastStatusChangeDate": 1601923783.774
}

For more information, see Configurable Endpoints in the AWS IoT Developer Guide.

• For API details, see DescribeDomainConfiguration in AWS CLI Command Reference.

describe-event-configurations

The following code example shows how to use describe-event-configurations.

AWS CLI

To show which event types are published

The following describe-event-configurations example lists the configuration that controls which events are generated when something is added, updated, or deleted.

aws iot describe-event-configurations

Output:

{
   "eventConfigurations": {
      "CA_CERTIFICATE": {
         "Enabled": false
      },
      "CERTIFICATE": {
      
```
For more information, see Event Messages in the AWS IoT Developer Guide.

- For API details, see DescribeEventConfigurations in AWS CLI Command Reference.

**describe-index**

The following code example shows how to use `describe-index`.

**AWS CLI**

To retrieve the current status of the thing index
The following describe-index example retrieves the current status of the thing index.

```bash
aws iot describe-index \
   --index-name "AWS_Things"
```

Output:

```json
{
   "indexName": "AWS_Things",
   "indexStatus": "ACTIVE",
   "schema": "REGISTRY_AND_SHADOW_AND_CONNECTIVITY_STATUS"
}
```

For more information, see Managing Thing Indexing in the AWS IoT Developer Guide.

- For API details, see DescribeIndex in AWS CLI Command Reference.

describe-job

The following code example shows how to use describe-job.

AWS CLI

To get detailed status for a job

The following describe-job example gets detailed status for the job whose ID is example-job-01.

```bash
aws iot describe-job \
   --job-id "example-job-01"
```

Output:

```json
{
   "job": {
      "jobId": "example-job-01",
      "targetSelection": "SNAPSHOT",
      "status": "IN_PROGRESS",
      "targets": [
      ]
   }
}
```
For more information, see Creating and Managing Jobs (CLI) in the AWS IoT Developer Guide.

- For API details, see DescribeJob in AWS CLI Command Reference.

describe-job-execution

The following code example shows how to use describe-job-execution.

AWS CLI

To get execution details for a job on a device

The following describe-job-execution example gets execution details for the specified job.

```
aws iot describe-job-execution \
  --job-id "example-job-01" \
  --thing-name "MyRaspberryPi"
```

Output:

```
{
  "execution": {
    "jobId": "example-job-01",
    "status": "QUEUED",
```
For more information, see [Creating and Managing Jobs (CLI)](https://docs.aws.amazon.com/iot-developer-guide) in the *AWS IoT Developer Guide*.

- For API details, see [DescribeJobExecution](https://docs.aws.amazon.com/cli/latest/reference/iot/describe-job-execution.html) in *AWS CLI Command Reference*.

### describe-mitigation-action

The following code example shows how to use `describe-mitigation-action`.

**AWS CLI**

To view the details for a defined mitigation action

The following `describe-mitigation-action` example displays details for the specified mitigation action.

```bash
aws iot describe-mitigation-action \
   --action-name AddThingsToQuarantineGroupAction
```

**Output:**

```json
{
   "actionName": "AddThingsToQuarantineGroupAction",
   "actionType": "ADD_THINGS_TO_THING_GROUP",
   "actionArn": "arn:aws:iot:us-west-2:123456789012:mitigationaction/AddThingsToQuarantineGroupAction",
   "actionId": "2fd2726d-98e1-4abf-b10f-09465ccd6bfa",
   "roleArn": "arn:aws:iam::123456789012:role/service-role/MoveThingsToQuarantineGroupRole",
   "actionParams": {
      "addThingsToThingGroupParams": {
         "thingGroupNames": ["QuarantineGroup1"],
         "overrideDynamicGroups": true
      }
   }
}
```
For more information, see `DescribeMitigationAction (Mitigation Action Commands)` in the *AWS IoT Developer Guide*.

- For API details, see *DescribeMitigationAction* in *AWS CLI Command Reference*.

**describe-provisioning-template**

The following code example shows how to use `describe-provisioning-template`.

**AWS CLI**

**To describe a provisioning template**

The following `describe-provisioning-template` example describes a provisioning template.

```
aws iot describe-provisioning-template \
    --template-name MyTestProvisioningTemplate
```

**Output:**

```
{
    "templateName": "MyTestProvisioningTemplate",
    "creationDate": 1589308310.574,
    "lastModifiedDate": 1589308345.539,
    "defaultVersionId": 1,
    "templateBody": "{
        "Parameters":{
            "SerialNumber":{
                "Type":"String"
            },
            "AWS::IoT::Certificate::Id":{
                "Type":"String"
            }
        }
    }
}
```
"Resources":{
  "certificate":{
    "Properties":{
      "CertificateId":{
        "Ref":"AWS::IoT::Certificate::Id"
      },
      "Status":"Active"
    },
    "Type":"AWS::IoT::Certificate"
  },
  "policy":{
    "Properties":{
      "PolicyName":"MyIotPolicy"
    },
    "Type":"AWS::IoT::Policy"
  },
  "thing":{
    "OverrideSettings":{
      "AttributePayload":"MERGE",
      "ThingGroups":"DO_NOTHING",
      "ThingTypeName":"REPLACE"
    },
    "Properties":{
      "AttributePayload":{},
      "ThingGroups":[],
      "ThingName":{
        "Fn::Join":[
          ",",
          [
            "DemoGroup_",
            "{"Ref":"SerialNumber"}
          ]
        ],
        "ThingTypeName":"VirtualThings"
      },
      "Type":"AWS::IoT::Thing"
    }
  }
},
"enabled": true,
"provisioningRoleArn": "arn:aws:iam::571032923833:role/service-role/Iot_access"
For more information, see Provisioning devices that don't have device certificates using fleet provisioning in the AWS IoT Core Developers Guide.

- For API details, see DescribeProvisioningTemplate in AWS CLI Command Reference.

describe-provisioning-template-version

The following code example shows how to use describe-provisioning-template-version.

AWS CLI

To describe a provisioning template version

The following describe-provisioning-template-version example describes a provisioning template version.

```
aws iot describe-provisioning-template-version
--template-name MyTestProvisioningTemplate
--version-id 1
```

Output:

```
{
   "versionId": 1,
   "creationDate": 1589308310.574,
   "templateBody": {
      "Parameters": {
         "SerialNumber": {
            "Type": "String"
         },
         "AWS::IoT::Certificate::Id": {
            "Type": "String"
         }
      },
      "Resources": {
         "certificate": {
            "Properties": {
               "CertificateId": {
                  "Ref": "AWS::IoT::Certificate::Id"
               },
               "Status": "Active"
            }
         }
      }
   }
}
```
For more information, see Provisioning devices that don't have device certificates using fleet provisioning in the AWS IoT Core Developers Guide.

- For API details, see DescribeProvisioningTemplateVersion in AWS CLI Command Reference.

**describe-role-alias**

The following code example shows how to use describe-role-alias.
AWS CLI

To get information about an AWS IoT role alias

The following `describe-role-alias` example displays details for the specified role alias.

```bash
aws iot describe-role-alias \
--role-alias LightBulbRole
```

Output:

```json
{
   "roleAliasDescription": {
      "roleAlias": "LightBulbRole",
      "roleAliasArn": "arn:aws:iot:us-west-2:123456789012:rolealias/LightBulbRole",
      "roleArn": "arn:aws:iam::123456789012:role/light_bulb_role_001",
      "owner": "123456789012",
      "credentialDurationSeconds": 3600,
      "creationDate": 1570558643.221,
      "lastModifiedDate": 1570558643.221
   }
}
```

For more information, see `DescribeRoleAlias` in the AWS IoT API Reference.

- For API details, see `DescribeRoleAlias` in AWS CLI Command Reference.

describe-scheduled-audit

The following code example shows how to use `describe-scheduled-audit`.

AWS CLI

To get information about a scheduled audit

The following `describe-scheduled-audit` example gets detailed information about an AWS IOT Device Defender scheduled audit named `AWSIoTDeviceDefenderDailyAudit`.

```bash
aws iot describe-scheduled-audit \
--scheduled-audit-name AWSIoTDeviceDefenderDailyAudit
```
Output:

```json
{
    "frequency": "DAILY",
    "targetCheckNames": [
        "AUTHENTICATED_COGNITO_ROLE_OVERLY_PERMISSIVE_CHECK",
        "CONFLICTING_CLIENT_IDS_CHECK",
        "DEVICE_CERTIFICATE_SHARED_CHECK",
        "IOT_POLICY_OVERLY_PERMISSIVE_CHECK",
        "REVOKED_CA_CERTIFICATE_STILL_ACTIVE_CHECK",
        "UNAUTHENTICATED_COGNITO_ROLE_OVERLY_PERMISSIVE_CHECK"
    ],
    "scheduledAuditName": "AWSIoTDeviceDefenderDailyAudit",
    "scheduledAuditArn": "arn:aws:iot:us-west-2:123456789012:scheduledaudit/AWSIoTDeviceDefenderDailyAudit"
}
```

For more information, see [Audit Commands](#) in the [AWS IoT Developer Guide](#).

- For API details, see [DescribeScheduledAudit](#) in [AWS CLI Command Reference](#).

describe-security-profile

The following code example shows how to use describe-security-profile.

AWS CLI

**To get information about a security profile**

The following describe-security-profile example gets information about the AWS IoT Device Defender security profile named PossibleIssue.

```bash
aws iot describe-security-profile \\
  --security-profile-name PossibleIssue
```

Output:

```
{
    "securityProfileName": "PossibleIssue",
    "securityProfileArn": "arn:aws:iot:us-west-2:123456789012:securityprofile/PossibleIssue",
    "securityProfileDescription": "check to see if authorization fails 10 times in 5 minutes or if cellular bandwidth exceeds 128",
}
For more information, see Detect Commands in the AWS IoT Developer Guide.

- For API details, see DescribeSecurityProfile in AWS CLI Command Reference.

**describe-stream**

The following code example shows how to use describe-stream.

**AWS CLI**

To get information about a stream
The following `describe-stream` example displays the details about the specified stream.

```bash
aws iot describe-stream \
  --stream-id stream12345
```

Output:

```json
{
  "streamInfo": {
    "streamId": "stream12345",
    "streamVersion": 1,
    "description": "This stream is used for Amazon FreeRTOS OTA Update 12345.",
    "files": [
      {
        "fileId": "123",
        "s3Location": {
          "bucket": "codesign-ota-bucket",
          "key": "48c67f3c-63bb-4f92-a98a-4ee0fbc2bef6"
        }
      }
    ],
    "createdAt": 1557863215.995,
    "lastUpdatedAt": 1557863215.995,
    "roleArn": "arn:aws:iam:123456789012:role/service-role/my_ota_stream_role"
  }
}
```

For more information, see [DescribeStream](https://docs.aws.amazon.com/iot/latest/developerguide/ota-update.html) in the *AWS IoT API Reference*.

- For API details, see [DescribeStream](https://docs.aws.amazon.com/cli/latest/reference/iot/describe-stream.html) in *AWS CLI Command Reference*.

**describe-thing-group**

The following code example shows how to use `describe-thing-group`.

**AWS CLI**

**To get information about a thing group**

The following `describe-thing-group` example gets information about the thing group named HalogenBulbs.
aws iot describe-thing-group \
    --thing-group-name HalogenBulbs

Output:

```
{
   "thingGroupName": "HalogenBulbs",
   "thingGroupId": "f4ec6b84-b42b-499d-9ce1-4dbd4d4f6f6e",
   "version": 1,
   "thingGroupProperties": {},
   "thingGroupMetadata": {
       "parentGroupName": "LightBulbs",
       "rootToParentThingGroups": [
       {
           "groupName": "LightBulbs",
           "groupArn": "arn:aws:iot:us-west-2:123456789012:thinggroup/LightBulbs"
       }],
       "creationDate": 1559927609.897
   }
}
```

For more information, see [Thing Groups](https://docs.aws.amazon.com/iot/latest/developerguide/thing-groups.html) in the [AWS IoT Developers Guide](https://docs.aws.amazon.com/iot/latest/developerguide/).

- For API details, see [DescribeThingGroup](https://docs.aws.amazon.com/cli/latest/reference/iot/describe-thing-group.html) in [AWS CLI Command Reference](https://docs.aws.amazon.com/cli/latest/reference/iot/describe-thing-group.html).

describe-thing-type

The following code example shows how to use describe-thing-type.

AWS CLI

**To get information about a thing type**

The following describe-thing-type example display information about the specified thing type defined in your AWS account.

```
aws iot describe-thing-type \
    --thing-type-name "LightBulb"
```
Output:

```
{
  "thingTypeName": "LightBulb",
  "thingTypeId": "ce3573b0-0a3c-45a7-ac93-4e0ce14cd190",
  "thingTypeArn": "arn:aws:iot:us-west-2:123456789012:thingtype/LightBulb",
  "thingTypeProperties": {
    "thingTypeDescription": "light bulb type",
    "searchableAttributes": [
      "model",
      "wattage"
    ]
  },
  "thingTypeMetadata": {
    "deprecated": false,
    "creationDate": 1559772562.498
  }
}
```

For more information, see [Thing Types](https://docs.aws.amazon.com/iotdevelopersguide/things) in the *AWS IoT Developers Guide*.

- For API details, see [DescribeThingType](https://docs.aws.amazon.com/cli/latest/reference/iot/describe-thing-type.html) in *AWS CLI Command Reference*.

**detach-policy**

The following code example shows how to use `detach-policy`.

**AWS CLI**

**Example 1: To detach an AWS IoT policy from a thing group**

The following `detach-policy` example detaches the specified policy from a thing group and, by extension, from all things in that group and any of the group's child groups.

```
aws iot detach-policy \
  --target "arn:aws:iot:us-west-2:123456789012:thinggroup/LightBulbs" \
  --policy-name "MyFirstGroup_Core-policy"
```

This command produces no output.

For more information, see [Thing Groups](https://docs.aws.amazon.com/iotdevelopersguide/things) in the *AWS IoT Developers Guide*.

**Example 2: To detach an AWS IoT policy from a device certificate**
The following `detach-policy` example detaches the `TemperatureSensorPolicy` policy from a device certificate identified by ARN.

```bash
aws iot detach-policy \
    --policy-name TemperatureSensorPolicy \
    --target arn:aws:iot:us-west-2:123456789012:cert/488b6a7f2acdeb00a77384e63c4e40b18b1b3caaae57b7272ba44c45e3448142
```

This command produces no output.

- For API details, see `DetachPolicy` in the `AWS CLI Command Reference`.

**detach-security-profile**

The following code example shows how to use `detach-security-profile`.

**AWS CLI**

**To disassociate a security profile from a target**

The following `detach-security-profile` example removes the association between the AWS IoT Device Defender security profile named `Testprofile` and the all registered things target.

```bash
aws iot detach-security-profile \
    --security-profile-name Testprofile \
```

This command produces no output.

For more information, see `Detect Commands` in the `AWS IoT Developer Guide`.

- For API details, see `DetachSecurityProfile` in the `AWS CLI Command Reference`.

**disable-topic-rule**

The following code example shows how to use `disable-topic-rule`.

**AWS CLI**

**To disable a topic rule**
The following `disable-topic-rule` example disables the specified topic rule.

```bash
aws iot disable-topic-rule \
    --rule-name "MyPlantPiMoistureAlertRule"
```

This command produces no output.

For more information, see [Viewing Your Rules](https://aws.amazon.com/IoT/developer-guide) in the *AWS IoT Developer Guide*.

- For API details, see [DisableTopicRule](https://aws.amazon.com/IoT/cli-reference) in *AWS CLI Command Reference*.

**enable-topic-rule**

The following code example shows how to use `enable-topic-rule`.

**AWS CLI**

**To enable a topic rule**

The following `enable-topic-rule` example enables (or re-enables) the specified topic rule.

```bash
aws iot enable-topic-rule \
    --rule-name "MyPlantPiMoistureAlertRule"
```

This command produces no output.

For more information, see [Viewing Your Rules](https://aws.amazon.com/IoT/developer-guide) in the *AWS IoT Developer Guide*.

- For API details, see [EnableTopicRule](https://aws.amazon.com/IoT/cli-reference) in *AWS CLI Command Reference*.

**get-behavior-model-training-summaries**

The following code example shows how to use `get-behavior-model-training-summaries`.

**AWS CLI**

**To list a Device Defender's ML Detect Security Profile training model's status**

The following `get-behavior-model-training-summaries` example lists model training status for the configured behaviors in the chosen Security Profile. For each behavior, the name, model status, and percentage of datapoints collected are listed.
aws iot get-behavior-model-training-summaries \\n   --security-profile-name MySecurityProfileName

Output:

{
   "summaries": [
      {
         "securityProfileName": "MySecurityProfileName",
         "behaviorName": "Messages_sent_ML_behavior",
         "modelStatus": "PENDING_BUILD",
         "datapointsCollectionPercentage": 0.0
      },
      {
         "securityProfileName": "MySecurityProfileName",
         "behaviorName": "Messages_received_ML_behavior",
         "modelStatus": "PENDING_BUILD",
         "datapointsCollectionPercentage": 0.0
      },
      {
         "securityProfileName": "MySecurityProfileName",
         "behaviorName": "Authorization_failures_ML_behavior",
         "modelStatus": "PENDING_BUILD",
         "datapointsCollectionPercentage": 0.0
      },
      {
         "securityProfileName": "MySecurityProfileName",
         "behaviorName": "Message_size_ML_behavior",
         "modelStatus": "PENDING_BUILD",
         "datapointsCollectionPercentage": 0.0
      },
      {
         "securityProfileName": "MySecurityProfileName",
         "behaviorName": "Connection_attempts_ML_behavior",
         "modelStatus": "PENDING_BUILD",
         "datapointsCollectionPercentage": 0.0
      },
      {
         "securityProfileName": "MySecurityProfileName",
         "behaviorName": "Disconnects_ML_behavior",
         "modelStatus": "PENDING_BUILD",
         "datapointsCollectionPercentage": 0.0
      }
   ]
}
For more information, see `GetBehaviorModelTrainingSummaries (Detect Commands)` in the *AWS IoT Developer Guide*.

- For API details, see `GetBehaviorModelTrainingSummaries` in *AWS CLI Command Reference*.

**get-cardinality**

The following code example shows how to use `get-cardinality`.

**AWS CLI**

**To return the approximate count of unique values that match the query**

You can use the following setup script to create 10 things representing 10 temperature sensors. Each new thing has 3 attributes.

```bash
# Bash script. If in other shells, type `bash` before running
Temperatures=(70 71 72 73 74 75 47 97 98 99)
Racks=(Rack1 Rack1 Rack2 Rack2 Rack3 Rack4 Rack5 Rack6 Rack6 Rack6)
IsNormal=(true true true true true true false false false false)
for ((i=0; i<10 ; i++))
do
    thing=$(aws iot create-thing --thing-name "TempSensor$i" --attribute-payload
                attributes="[temperature=${Temperatures[i]},rackId=${Racks[i]},stateNormal=${IsNormal[i]}]"")
    aws iot describe-thing --thing-name "TempSensor$i"
done
```

**Example output of the setup script:**

```json
{
    "version": 1,
    "thingName": "TempSensor0",
    "defaultClientId": "TempSensor0",
    "attributes": {
        "rackId": "Rack1",
        "stateNormal": "true",
        "temperature": "70"
    }
}
```
The following get-cardinality example queries the 10 sensors created by the setup script and returns the number of racks that have temperature sensors reporting abnormal temperature values. If the temperature value is below 60 or above 80, the temperature sensor is in an abnormal state.

```bash
aws iot get-cardinality \
  --aggregation-field "attributes.rackId" \
  --query-string "thingName:TempSensor* AND attributes.stateNormal:false"
```

Output:

```json
{
  "cardinality": 2
}
```

For more information, see Querying for Aggregate Data<https://docs.aws.amazon.com/iot/latest/developerguide/index-aggregate.html> in the AWS IoT Developer Guide.

- For API details, see GetCardinality in AWS CLI Command Reference.

get-effective-policies

The following code example shows how to use get-effective-policies.

AWS CLI

**To list the policies that effect a thing**

The following get-effective-policies example lists the policies that effect the specified thing, including policies attached to any groups to which it belongs.

```bash
aws iot get-effective-policies \
  --thing-name TemperatureSensor-001 \
  --principal arn:aws:iot:us-west-2:123456789012:cert/488b6a7f2acdeb00a77384e63c4e40b18b1b3caaae57b7272ba44c45e3448142
```
Output:

```json
{
    "effectivePolicies": [
        {
            "policyName": "TemperatureSensorPolicy",
            "policyDocument": "{
                "Version": "2012-10-17",
                "Statement": [
                    {
                        "Effect": "Allow",
                        "Action": [
                            "iot:Publish",
                            "iot:Receive"
                        ],
                        "Resource": [
                            "arn:aws:iot:us-west-2:123456789012:topic/topic_2"
                        ]
                    },
                    {
                        "Effect": "Allow",
                        "Action": ["iot:Subscribe"],
                        "Resource": [
                            "arn:aws:iot:us-west-2:123456789012:topicfilter/topic_2"
                        ]
                    },
                    {
                        "Effect": "Allow",
                        "Action": ["iot:Connect"],
                    ]
                ]
            }
        }
    ]
}
```
The following code example shows how to use `get-indexing-configuration`.

**AWS CLI**

**To get the thing indexing configuration**

The following `get-indexing-configuration` example gets the current configuration data for AWS IoT fleet indexing.

```bash
aws iot get-indexing-configuration
```

Output:

```json
{
  "thingIndexingConfiguration": {
    "thingIndexingMode": "OFF",
    "thingConnectivityIndexingMode": "OFF"
  },
  "thingGroupIndexingConfiguration": {
    "thingGroupIndexingMode": "OFF"
  }
}
```

For more information, see [Managing Thing Indexing](https://docs.aws.amazon.com/iot-developerguide/index.html) in the *AWS IoT Developers Guide*.

- For API details, see [GetIndexingConfiguration](https://docs.aws.amazon.com/cli/latest/reference/iot/get-indexing-configuration.html) in *AWS CLI Command Reference*.

**get-job-document**

The following code example shows how to use `get-job-document`.

```bash
aws iot get-job-document
```

Output:

```json
{
  "jobDocument": ""}
```

For more information, see [Get Effective Policies for a Thing](https://docs.aws.amazon.com/iot-developerguide/index.html) in the *AWS IoT Developers Guide*.

- For API details, see [GetEffectivePolicies](https://docs.aws.amazon.com/cli/latest/reference/iot/get-effective-policies.html) in *AWS CLI Command Reference*. 

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To retrieve the document for a job

The following get-job-document example displays details about the document for the job whose ID is example-job-01.

```bash
aws iot get-job-document --job-id "example-job-01"
```

Output:

```json
{
   "document": "\n   \"operation\": \"customJob\",
   \"otherInfo\": \"someValue\"
}
```

For more information, see Creating and Managing Jobs (CLI) in the AWS IoT Developer Guide.

- For API details, see GetJobDocument in AWS CLI Command Reference.

get-logging-options

The following code example shows how to use get-logging-options.

AWS CLI

To get the logging options

The following get-logging-options example gets the current logging options for your AWS account.

```bash
aws iot get-logging-options
```

Output:

```json
{
   "roleArn": "arn:aws:iam::123456789012:role/service-role/iotLoggingRole",
   "logLevel": "ERROR"
}
```
get-ota-update

The following code example shows how to use `get-ota-update`.

**AWS CLI**

To retrieve information about an OTA Update

The following `get-ota-update` example displays details about the specified OTA Update.

```bash
aws iot get-ota-update \
   --ota-update-id ota12345
```

Output:

```json
{
   "otaUpdateInfo": {
      "otaUpdateId": "ota12345",
      "creationDate": 1557863215.995,
      "lastModifiedDate": 1557863215.995,
      "description": "A critical update needed right away.",
      "targets": [
         "device1",
         "device2",
         "device3",
         "device4"
      ],
      "targetSelection": "SNAPSHOT",
      "protocols": ["HTTP"],
      "awsJobExecutionsRolloutConfig": {
         "maximumPerMinute": 10
      },
      "otaUpdateFiles": [
         {
            "fileName": "firmware.bin",
```
For more information, see `GetOOTAUpdate` in the **AWS IoT API Reference**.

- For API details, see `GetOotaUpdate` in **AWS CLI Command Reference**.

### get-percentiles

The following code example shows how to use `get-percentiles`.

**AWS CLI**

**To group the aggregated values that match the query into percentile groupings**

You can use the following setup script to create 10 things representing 10 temperature sensors. Each new thing has 1 attribute.

```
# Bash script. If in other shells, type `bash` before running
Temperatures=(70 71 72 73 74 75 47 97 98 99)
for ((i=0; i<10 ; i++))
    do
        thing=$(aws iot create-thing --thing-name "TempSensor$i" --attribute-payload attributes="{temperature=${Temperatures[i]}}")
        aws iot describe-thing --thing-name "TempSensor$i"
    done
```
Example output of the setup script:

```json
{
   "version": 1,
   "thingName": "TempSensor0",
   "defaultClientId": "TempSensor0",
   "attributes": {
      "temperature": "70"
   },
   "thingArn": "arn:aws:iot:us-east-1:123456789012:thing/TempSensor0",
   "thingId": "example1-90ab-cdef-fedc-ba987example"
}
```

The following `aws iot get-percentiles` example queries the 10 sensors created by the setup script and returns a value for each percentile group specified. The percentile group "10" contains the aggregated field value that occurs in approximately 10 percent of the values that match the query. In the following output, \{"percent": 10.0, "value": 67.7\} means approximately 10.0% of the temperature values are below 67.7.

```bash
aws iot get-percentiles \
   --aggregation-field "attributes.temperature" \
   --query-string "thingName:TempSensor*" \
   --percents 10 25 50 75 90
```

Output:

```json
{
   "percentiles": [
      {
         "percent": 10.0,
         "value": 67.7
      },
      {
         "percent": 25.0,
         "value": 71.25
      },
      {
         "percent": 50.0,
         "value": 73.5
      }
   ]
}
```
For more information, see Querying for Aggregate Data in the AWS IoT Developer Guide.

- For API details, see GetPercentiles in AWS CLI Command Reference.

**get-policy**

The following code example shows how to use get-policy.

**AWS CLI**

**To get information about the default version of a policy**

The following get-policy example retrieves information about the default version of the specified policy.

```bash
aws iot get-policy \\
--policy-name UpdateDeviceCertPolicy
```

**Output:**

```json
{
    "policyName": "UpdateDeviceCertPolicy",
    "defaultVersionId": "2",
    "creationDate": 1559925941.924,
    "lastModifiedDate": 1559925941.924,
    "generationId": "5066f1b6712ce9d2a1e56399771649a272d6a921762fed080e24fe52f24e042"
}
```
For more information, see [AWS IoT Policies](#) in the *AWS IoT Developers Guide*.

- For API details, see [GetPolicy](#) in *AWS CLI Command Reference*.

### get-policy-version

The following code example shows how to use `get-policy-version`.

**AWS CLI**

**To get information about a specific version of a policy**

The following `get-policy-version` example gets information about the first version of the specified policy.

```bash
aws iot get-policy
   --policy-name UpdateDeviceCertPolicy
   --policy-version-id "1"
```

**Output:**

```json
{
   "policyName": "UpdateDeviceCertPolicy",
   "policyVersionId": "1",
   "isDefaultVersion": false,
   "creationDate": 1559925941.924,
   "lastModifiedDate": 1559926175.458,
   "generationId": "5066f1b6712ce9d2a1e56399771649a272d6a921762fead080e24fe52f24e042"
}
```

For more information, see [AWS IoT Policies](#) in the *AWS IoT Developers Guide*.

- For API details, see [GetPolicyVersion](#) in *AWS CLI Command Reference*.

### get-registration-code

The following code example shows how to use `get-registration-code`.

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To get your AWS account-specific registration code

The following `get-registration-code` example retrieves your AWS account-specific registration code.

```
aws iot get-registration-code
```

Output:

```
{
   "registrationCode": "15c51ae5e36ba59ba77042df1115862076bea4bd15841c838fcb68d5010a614c"
}
```

For more information, see Use Your Own Certificate in the AWS IoT Developer Guide.

- For API details, see GetRegistrationCode in AWS CLI Command Reference.

get-statistics

The following code example shows how to use `get-statistics`.

AWS CLI

To search the device index for aggregate data

The following `get-statistics` example returns the number of things that have a property called `connectivity.connected` set to `false` (that is, the number of devices that are not connected) in their device shadow.

```
aws iot get-statistics \
   --index-name AWS_Things \
   --query-string "connectivity.connected:false"
```

Output:

```
{
```

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For more information, see [Getting Statistics About Your Device Fleet](#) in the *AWS IoT Developer Guide*.

- For API details, see [GetStatistics](#) in *AWS CLI Command Reference*.

### get-topic-rule

The following code example shows how to use `get-topic-rule`.

#### AWS CLI

**To get information about a rule**

The following `get-topic-rule` example gets information about the specified rule.

```bash
aws iot get-topic-rule \
  --rule-name MyRPiLowMoistureAlertRule
```

**Output:**

```json
{
  "rule": {
    "ruleName": "MyRPiLowMoistureAlertRule",
    "sql": "SELECT * FROM 'aws/things/MyRPi/shadow/update/accepted' WHERE state.reported.moisture = 'low'

    description": "Sends an alert whenever soil moisture level readings are too low.",
    "createdAt": 1558624363.0,
    "actions": [
      {
        "sns": {
          "roleArn": "arn:aws:iam::123456789012:role/service-role/MyRPiLowMoistureTopicRole",
          "messageFormat": "RAW"
        }
      }
    ]
  }
}
```
For more information, see Viewing Your Rules in the AWS IoT Developers Guide.

- For API details, see GetTopicRule in AWS CLI Command Reference.

get-topic-rule-destination

The following code example shows how to use get-topic-rule-destination.

AWS CLI

To get a topic rule destination

The following get-topic-rule-destination example gets information about a topic rule destination.

```bash
aws iot get-topic-rule-destination \
    --arn "arn:aws:iot:us-west-2:123456789012:ruledestination/http/a1b2c3d4-5678-90ab-cdef-11111EXAMPLE"
```

Output:

```json
{
	"topicRuleDestination": {
		"arn": "arn:aws:iot:us-west-2:123456789012:ruledestination/http/a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
		"status": "DISABLED",
		"httpUrlProperties": {
			"confirmationUrl": "https://example.com"
		}
	}
}
```

For more information, see Working with topic rule destinations in the AWS IoT Developer Guide.
get-v2-logging-options

The following code example shows how to use get-v2-logging-options.

AWS CLI

**To list the current logging options**

The following get-v2-logging-options example lists the current logging options for AWS IoT.

```bash
aws iot get-v2-logging-options
```

Output:

```json
{
   "roleArn": "arn:aws:iam::094249569039:role/service-role/iotLoggingRole",
   "defaultLogLevel": "WARN",
   "disableAllLogs": false
}
```

For more information, see title in the *AWS IoT Developer Guide*.

list-active-violations

The following code example shows how to use list-active-violations.

AWS CLI

**To list the active violations**

The following list-active-violations example lists all violations for the specified security profile.

```bash
aws iot list-active-violations \
--security-profile-name Testprofile
```
Output:

```json
{
    "activeViolations": [
        {
            "violationId": "174db59167fa474c80a652ad1583fd44",
            "thingName": "iotconsole-1560269126751-1",
            "securityProfileName": "Testprofile",
            "behavior": {
                "name": "Authorization",
                "metric": "aws:num-authorization-failures",
                "criteria": {
                    "comparisonOperator": "greater-than",
                    "value": {
                        "count": 10
                    },
                    "durationSeconds": 300,
                    "consecutiveDatapointsToAlarm": 1,
                    "consecutiveDatapointsToClear": 1
                },
                "lastViolationValue": {
                    "count": 0
                },
                "lastViolationTime": 1560293700.0,
                "violationStartTime": 1560279000.0
            }
        },
        {
            "violationId": "c8a9466a093d3b7b35cd44ca58bdbeab",
            "thingName": "TvnQoEoU",
            "securityProfileName": "Testprofile",
            "behavior": {
                "name": "CellularBandwidth",
                "metric": "aws:message-byte-size",
                "criteria": {
                    "comparisonOperator": "greater-than",
                    "value": {
                        "count": 128
                    },
                    "consecutiveDatapointsToAlarm": 1,
                    "consecutiveDatapointsToClear": 1
                },
                "lastViolationValue": {
                    "count": 0
                }
            }
        }
    ]
}```
"count": 110
},
"lastViolationTime": 1560369000.0,
"violationStartTime": 1560276600.0
},
{
"violationId": "74aa393adea02e6648f3ac362beed55e",
"thingName": "iotconsole-1560269232412-2",
"securityProfileName": "Testprofile",
"behavior": {
"name": "Authorization",
"metric": "aws:num-authorization-failures",
"criteria": {
"comparisonOperator": "greater-than",
"value": {
"count": 10
},
"durationSeconds": 300,
"consecutiveDatapointsToAlarm": 1,
"consecutiveDatapointsToClear": 1
}
},
"lastViolationValue": {
"count": 0
},
"lastViolationTime": 1560276600.0,
"violationStartTime": 1560276600.0
},
{
"violationId": "1e6ab5f7cf39a1466fcd154e1377e406",
"thingName": "TvnQoEoU",
"securityProfileName": "Testprofile",
"behavior": {
"name": "Authorization",
"metric": "aws:num-authorization-failures",
"criteria": {
"comparisonOperator": "greater-than",
"value": {
"count": 10
},
"durationSeconds": 300,
"consecutiveDatapointsToAlarm": 1,
"consecutiveDatapointsToClear": 1
}
• For API details, see ListActiveViolations in AWS CLI Command Reference.

list-attached-policies

The following code example shows how to use list-attached-policies.

AWS CLI

Example 1: To list the policies attached to a group

The following list-attached-policies example lists the policies that are attached to the specified group.

```bash
aws iot list-attached-policies \
   --target "arn:aws:iot:us-west-2:123456789012:thinggroup/LightBulbs"
```

Output:

```json
{
   "policies": [
   {
      "policyName": "UpdateDeviceCertPolicy",
   }
   ]
}
```

For more information, see Thing Groups in the AWS IoT Developers Guide.

Example 2: To list the policies attached to a device certificate
The following list-attached-policies example lists the AWS IoT policies attached to the device certificate. The certificate is identified by its ARN.

```
aws iot list-attached-policies \
   --target arn:aws:iot:us-west-2:123456789012:cert/488b6a7f2acdeb00a77384e63c4e40b18b1b3caaae57b7272ba44c45e3448142
```

Output:

```
{
   "policies": [
      {
         "policyName": "TemperatureSensorPolicy",
      }
   ]
}
```

For more information, see Thing Groups in the AWS IoT Developers Guide.

- For API details, see ListAttachedPolicies in AWS CLI Command Reference.

**list-audit-findings**

The following code example shows how to use list-audit-findings.

**AWS CLI**

**Example 1: To list all findings from an audit**

The following list-audit-findings example lists all findings from an AWS IoT Device Defender audit with a specified task ID.

```
aws iot list-audit-findings \
   --task-id a3aea009955e501a31b764abe1bebd3d
```

Output:

```
{
   "findings": []
}
```
Example 2: To list findings for an audit check type

The following list-audit-findings example shows findings from AWS IoT Device Defender audits that ran between June 5, 2019 and June 19, 2019 in which devices are sharing a device certificate. When you specify a check name, you must provide a start and end time.

```
aws iot list-audit-findings \
   --check-name DEVICE_CERTIFICATE_SHARED_CHECK \
   --start-time 1559747125 \
   --end-time 1560962028
```

Output:

```
{
   "findings": [
      {
         "taskId": "eeef61068b0eb03c456d746c5a26ee04",
         "checkName": "DEVICE_CERTIFICATE_SHARED_CHECK",
         "taskStartTime": 1560161017.172,
         "findingTime": 1560161017.592,
         "severity": "CRITICAL",
         "nonCompliantResource": {
            "resourceType": "DEVICE_CERTIFICATE",
            "resourceIdentifier": {
               "deviceCertificateId": "b193ab7162c0fadca83246d24fa090300a1236fe58137e121b011804d8ac1d6b"
            }
         },
         "relatedResources": [
            {
               "resourceType": "CLIENT_ID",
               "resourceIdentifier": {
                  "clientId": "ZipxgAIl"
               },
               "additionalInfo": {
                  "CONNECTION_TIME": "1560086374068"
               }
            },
            {
               "resourceType": "CLIENT_ID",
               "resourceIdentifier": {
                  "clientId": "ZipxgAIl"
               }
            }
         ]
      }
   ]
}
```
"clientId": "ZipxgAIl"
},
"additionalInfo": {
  "CONNECTION_TIME": "1560081552187",
  "DISCONNECTION_TIME": "1560086371552"
}
},
{
  "resourceType": "CLIENT_ID",
  "resourceIdentifier": {
    "clientId": "ZipxgAIl"
  },
  "additionalInfo": {
    "CONNECTION_TIME": "1559289863631",
    "DISCONNECTION_TIME": "1560081532716"
  }
}]
,"reasonForNonCompliance": "Certificate shared by one or more devices.",
"reasonForNonComplianceCode": "CERTIFICATE_SHARED_BY_MULTIPLE_DEVICES"
},
{
  "taskId": "bade6b5efd2e1b1569822f6021b39cf5",
  "checkName": "DEVICE_CERTIFICATE_SHARED_CHECK",
  "taskStartTime": 1559988217.27,
  "findingTime": 1559988217.655,
  "severity": "CRITICAL",
  "nonCompliantResource": {
    "resourceType": "DEVICE_CERTIFICATE",
    "resourceIdentifier": {
      "deviceCertificateId": "b193ab7162c0fadca83246d24fa090300a1236fe58137e121b011804d8ac1d6b"
    }
  },
  "relatedResources": [
    {
      "resourceType": "CLIENT_ID",
      "resourceIdentifier": {
        "clientId": "xShGENLW"
      },
      "additionalInfo": {
        "CONNECTION_TIME": "1559972350825"
      }
    }
  ]}
{  
    "resourceType": "CLIENT_ID",
    "resourceIdentifier": {
        "clientId": "xShGENLW"
    },
    "additionalInfo": {
        "CONNECTION_TIME": "1559255062002",
        "DISCONNECTION_TIME": "1559972350616"
    }
},
"reasonForNonCompliance": "Certificate shared by one or more devices.",
"reasonForNonComplianceCode": "CERTIFICATE_SHARED_BY_MULTIPLE_DEVICES"
},
{
    "taskId": "c23f6233ba2d35879c4bb2810fb5fffd6",
    "checkName": "DEVICE_CERTIFICATE_SHARED_CHECK",
    "taskStartTime": 1559901817.31,
    "findingTime": 1559901817.767,
    "severity": "CRITICAL",
    "nonCompliantResource": {
        "resourceType": "DEVICE_CERTIFICATE",
        "resourceIdentifier": {
            "deviceCertificateId": "b193ab7162c0fadca83246d24fa090300a1236fe58137e121b011804d8ac1d6b"
        }
    },
    "relatedResources": [  
        {
            "resourceType": "CLIENT_ID",
            "resourceIdentifier": {
                "clientId": "TvnQoEoU"
            },
            "additionalInfo": {
                "CONNECTION_TIME": "1559826729768"
            }
        }
    ]
}
The following code example shows how to use list-audit-mitigation-actions-executions.

**AWS CLI**

**To list the details of an audit mitigation action execution**

An audit mitigation action task applies a mitigation action to one or more findings from an AWS IoT Device Defender audit. The following list-audit-mitigation-actions-executions example lists the details for the mitigation action task with the specified taskId and for the specified finding.

```
aws iot list-audit-mitigation-actions-executions \
   --task-id myActionsTaskId \ 
   --finding-id 0edbaaec-2fe1-4cf5-abc9-d4c3e51f7464
```

Output:

```
{
   "actionsExecutions": [
   {
      "taskId": "myActionsTaskId",
      "findingId": "0edbaaec-2fe1-4cf5-abc9-d4c3e51f7464",
      "actionName": "ResetPolicyVersionAction",
      "actionId": "1ea0b415-bef1-4a01-bd13-72fb63c59af8",
```
For more information, see ListAuditMitigationActionsExecutions (Mitigation Action Commands) in the AWS IoT Developer Guide.

- For API details, see ListAuditMitigationActionsExecutions in AWS CLI Command Reference.

list-audit-mitigation-actions-tasks

The following code example shows how to use list-audit-mitigation-actions-tasks.

AWS CLI

To list audit mitigation action tasks

The following list-audit-mitigation-actions-tasks example lists the mitigation actions that were applied to findings within the specified time period.

```bash
aws iot list-audit-mitigation-actions-tasks \
  --start-time 1594157400 \
  --end-time 1594157430
```

Output:

```json
{
  "tasks": [
    {
      "taskId": "0062f2d6-3999-488f-88c7-bef005414103",
      "startTime": "2020-07-07T14:30:15.172000-07:00",
      "taskStatus": "COMPLETED"
    }
  ]
}
```

For more information, see ListAuditMitigationActionsTasks (Mitigation Action Commands) in the AWS IoT Developer Guide.
list-audit-suppressions

The following code example shows how to use list-audit-suppressions.

AWS CLI

To list all audit finding suppressions

The following list-audit-suppressions example lists all active audit finding suppressions.

aws iot list-audit-suppressions

Output:

```json
{
   "suppressions": [
   {
       "checkName": "DEVICECERTIFICATEEXPIRINGCHECK",
       "resourceIdentifier": {
           "deviceCertificateId": "c7691e<shortened>"
       },
       "expirationDate": 1597881600.0,
       "suppressIndefinitely": false
    }
   ]
}
```

For more information, see Audit finding suppressions in the AWS IoT Developers Guide.

• For API details, see ListAuditSuppressions in AWS CLI Command Reference.

list-audit-tasks

The following code example shows how to use list-audit-tasks.

AWS CLI

To list all findings from an audit
The following `list-audit-tasks` example lists the audit tasks that ran between June 5, 2019 and June 12, 2019.

```
aws iot list-audit-tasks \
    --start-time 1559747125 \
    --end-time 1560357228
```

Output:

```
{
    "tasks": [
        {
            "taskId": "a3aea009955e501a31b764abe1bebd3d",
            "taskStatus": "COMPLETED",
            "taskType": "ON_DEMAND_AUDIT_TASK"
        },
        {
            "taskId": "f76b4b5102b632cd9ae38a279c266da1",
            "taskStatus": "COMPLETED",
            "taskType": "SCHEDULED_AUDIT_TASK"
        },
        {
            "taskId": "51d9967d9f9ff4d26529505f6d2c444a",
            "taskStatus": "COMPLETED",
            "taskType": "SCHEDULED_AUDIT_TASK"
        },
        {
            "taskId": "eeef61068b0eb03c456d746c5a26ee04",
            "taskStatus": "COMPLETED",
            "taskType": "SCHEDULED_AUDIT_TASK"
        },
        {
            "taskId": "041c49557b7c04c079a49514b55589",
            "taskStatus": "COMPLETED",
            "taskType": "SCHEDULED_AUDIT_TASK"
        },
        {
            "taskId": "82c7f2afac1562d18a4560be73998acc",
            "taskStatus": "COMPLETED",
            "taskType": "SCHEDULED_AUDIT_TASK"
        },
        {
            "taskId": "bade6b5efd2e1b1569822f6021b39cf5",
```
The following code example shows how to use `list-authorizers`.

**AWS CLI**

**To list your custom authorizer**

The following `list-authorizers` example lists the custom authorizers in your AWS account.

```
aws iot list-authorizers
```

Output:

```json
{
    "authorizers": [
        {
            "authorizerName": "CustomAuthorizer",
            "authorizerArn": "arn:aws:iot:us-west-2:123456789012:authorizer/CustomAuthorizer"
        }]
}
```


```
"authorizerName": "CustomAuthorizer2",
"authorizerArn": "arn:aws:iot:us-west-2:123456789012:authorizer/
CustomAuthorizer2"
},
{
   "authorizerName": "CustomAuthorizer3",
   "authorizerArn": "arn:aws:iot:us-west-2:123456789012:authorizer/
CustomAuthorizer3"
}
]
```

For more information, see ListAuthorizers in the AWS IoT API Reference.

- For API details, see ListAuthorizers in AWS CLI Command Reference.

**list-billing-groups**

The following code example shows how to use list-billing-groups.

**AWS CLI**

To list the billing groups for your AWS account and region

The following list-billing-groups example lists all billing groups that are defined for your AWS account and AWS Region.

```
aws iot list-billing-groups
```

Output:

```
{
   "billingGroups": [
      {
         "groupName": "GroupOne",
         "groupArn": "arn:aws:iot:us-west-2:123456789012:billinggroup/GroupOne"
      }
   ]
}
```

For more information, see Billing Groups in the AWS IoT Developers Guide.
For API details, see ListBillingGroups in AWS CLI Command Reference.

list-ca-certificates

The following code example shows how to use list-ca-certificates.

AWS CLI

To list the CA certificates registered in your AWS account

The following list-ca-certificates example lists the CA certificates registered in your AWS account.

```
aws iot list-ca-certificates
```

Output:

```
{
    "certificates": [
    {
        "certificateId": "f4efed62c0142f16af278166f61962501165c4f0536295207426460058cd1467",
        "status": "INACTIVE",
        "creationDate": 1569365372.053
    }
    ]
}
```

For more information, see Use Your Own Certificate in the AWS IoT Developer Guide.

list-certificates-by-ca

The following code example shows how to use list-certificates-by-ca.

AWS CLI

To list all device certificates signed with a CA certificate
The following `list-certificates-by-ca` example lists all device certificates in your AWS account that are signed with the specified CA certificate.

```bash
aws iot list-certificates-by-ca \
   --ca-certificate-id
f4efed62c0142f16af278166f61962501165c4f0536295207426460058cd1467
```

Output:

```json
{
   "certificates": [
      {
         "certificateArn": "arn:aws:iot:us-west-2:123456789012:cert/488b6a7f2acdeb00a77384e63c4e40b18b1b3caaae57b7272ba44c45e3448142",
         "certificateId": "488b6a7f2acdeb00a77384e63c4e40b18b1b3caaae57b7272ba44c45e3448142",
         "status": "ACTIVE",
         "creationDate": 1569363250.557
      }
   ]
}
```

For more information, see [ListCertificatesByCA](https://aws.amazon.com/documentation/iot/api-reference/) in the [AWS IoT API Reference](https).

- For API details, see [ListCertificatesByCa](https://aws.amazon.com/documentation/cli(command-reference)/) in *AWS CLI Command Reference*.

### list-custom-metrics

The following code example shows how to use `list-custom-metrics`.

#### AWS CLI

**To list your custom metrics**

The following `list-custom-metrics` example lists all of your custom metrics.

```bash
aws iot list-custom-metrics \
   --region us-east-1
```

Output:

```json
{
}
```
"metricNames": [ 
   "batteryPercentage"
]
}

For more information, see Custom metrics in the AWS IoT Core Developer Guide.

- For API details, see ListCustomMetrics in AWS CLI Command Reference.

list-dimensions

The following code example shows how to use list-dimensions.

AWS CLI

To list the dimensions for your AWS account

The following list-dimensions example lists all AWS IoT Device Defender dimensions that are defined in your AWS account.

aws iot list-dimensions

Output:

{
   "dimensionNames": [ 
      "TopicFilterForAuthMessages",
      "TopicFilterForActivityMessages"
   ]
}

For more information, see Detect Commands in the AWS IoT Developer Guide.

- For API details, see ListDimensions in AWS CLI Command Reference.

list-domain-configurations

The following code example shows how to use list-domain-configurations.

AWS CLI

To list domain configurations
The following list-domain-configurations example lists the domain configurations in your AWS account that have the specified service type.

```
aws iot list-domain-configurations \
   --service-type "DATA"
```

Output:

```
{
   "domainConfigurations": [
   {
      "domainConfigurationName": "additionalDataDomain",
      "domainConfigurationArn": "arn:aws:iot:us-west-2:123456789012:domainconfiguration/additionalDataDomain/dikMh",
      "serviceType": "DATA"
   },
   {
      "domainConfigurationName": "iot:Jobs",
      "serviceType": "JOBS"
   },
   {
      "domainConfigurationName": "iot:Data-ATS",
      "domainConfigurationArn": "arn:aws:iot:us-west-2:123456789012:domainconfiguration/iot:Data-ATS",
      "serviceType": "DATA"
   },
   {
      "domainConfigurationName": "iot:CredentialProvider",
      "domainConfigurationArn": "arn:aws:iot:us-west-2:123456789012:domainconfiguration/iot:CredentialProvider",
      "serviceType": "CREDENTIAL_PROVIDER"
   }
   ]
}
```

For more information, see Configurable Endpoints in the AWS IoT Developer Guide.

- For API details, see ListDomainConfigurations in AWS CLI Command Reference.
list-indices

The following code example shows how to use list-indices.

AWS CLI

To list the configured search indices

The following list-indices example lists all configured search indices in your AWS account. If you have not enabled thing indexing, you might not have any indices.

```bash
aws iot list-indices
```

Output:

```json
{
   "indexNames": [
      "AWS_Things"
   ]
}
```

For more information, see Managing Thing Indexing in the AWS IoT Developer Guide.

- For API details, see ListIndices in AWS CLI Command Reference.

list-job-executions-for-job

The following code example shows how to use list-job-executions-for-job.

AWS CLI

To list the jobs in your AWS account

The following list-job-executions-for-job example lists all job executions for a job in your AWS account, specified by the jobId.

```bash
aws iot list-job-executions-for-job \
   --job-id my-ota-job
```

Output:

```json
{
```

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For more information, see [Creating and Managing Jobs (CLI)](https://docs.aws.amazon.com/iot/latest/developerguide/creating-managing-jobs-cli.html) in the [AWS IoT Developer Guide](https://docs.aws.amazon.com/iot/latest/developerguide/).

- For API details, see [ListJobExecutionsForJob](https://docs.aws.amazon.com/cli/latest/reference/iot/list-job-executions-for-job.html) in [AWS CLI Command Reference](https://docs.aws.amazon.com/cli/latest/reference/).
For more information, see Creating and Managing Jobs (CLI) in the AWS IoT Developer Guide.

- For API details, see ListJobExecutionsForThing in AWS CLI Command Reference.

list-jobs

The following code example shows how to use list-jobs.

AWS CLI

To list the jobs in your AWS account

The following list-jobs example lists all jobs in your AWS account, sorted by the job status.

```bash
aws iot list-jobs
```

Output:

```json
{
   "jobs": [
      {
         "jobId": "example-job-01",
         "targetSelection": "SNAPSHOT",
         "status": "IN_PROGRESS",
         "createdAt": 1560787022.733,
         "lastUpdatedAt": 1560787026.294
      }
   ]
}
```

For more information, see Creating and Managing Jobs (CLI) in the AWS IoT Developer Guide.

- For API details, see ListJobs in AWS CLI Command Reference.

list-mitigation-actions

The following code example shows how to use list-mitigation-actions.
AWS CLI

To list all defined mitigation actions

The following `list-mitigation-actions` example lists all defined mitigation actions for your AWS account and Region. For each action, the name, ARN, and creation date are listed.

```bash
aws iot list-mitigation-actions
```

Output:

```
{
   "actionIdentifiers": [
   {
      "actionName": "DeactivateCACertAction",
      "creationDate": "2019-12-10T11:12:47.574000-08:00"
   },
   {
      "actionName": "ResetPolicyVersionAction",
      "creationDate": "2019-12-10T11:11:48.920000-08:00"
   },
   {
      "actionName": "PublishFindingToSNSAction",
      "actionArn": "arn:aws:iot:us-west-2:123456789012:mitigationaction/PublishFindingToSNSAction",
      "creationDate": "2019-12-10T11:10:49.546000-08:00"
   },
   {
      "actionName": "AddThingsToQuarantineGroupAction",
      "actionArn": "arn:aws:iot:us-west-2:123456789012:mitigationaction/AddThingsToQuarantineGroupAction",
      "creationDate": "2019-12-10T11:09:35.999000-08:00"
   },
   {
      "actionName": "UpdateDeviceCertAction",
      "creationDate": "2019-12-10T11:08:44.263000-08:00"
   }
   ]
}
```
For more information, see ListMitigationActions (Mitigation Action Commands) in the AWS IoT Developer Guide.

- For API details, see ListMitigationActions in AWS CLI Command Reference.

list-mitigations-actions

The following code example shows how to use list-mitigations-actions.

AWS CLI

To list all defined mitigation actions

The following list-mitigations-actions example lists all defined mitigation actions for your AWS account and Region. For each action, the name, ARN, and creation date are listed.

aws iot list-mitigation-actions

Output:

```json
{
  "actionIdentifiers": [
    {
      "actionName": "DeactivateCACertAction",
      "creationDate": "2019-12-10T12:47.574000-08:00"
    },
    {
      "actionName": "ResetPolicyVersionAction",
      "creationDate": "2019-12-10T11:48.920000-08:00"
    }
  ]
}
```
For more information, see [ListMitigationActions](https://docs.aws.amazon.com/iotsitecore/latest/userguide/ListMitigationActions.html) (Mitigation Action Commands) in the *AWS IoT Developer Guide*.

- For API details, see [ListMitigationsActions](https://docs.aws.amazon.com/iotsitecore/latest/userguide/ListMitigationsActions.html) in *AWS CLI Command Reference*.

### list-ota-updates

The following code example shows how to use list-ota-updates.

**AWS CLI**

**To list OTA Updates for the account**

The following list-ota-updates example lists the available OTA updates.

```bash
aws iot list-ota-updates
```
Output:

```json
{
  "otaUpdates": [
    {
      "otaUpdateId": "itsaupdate",
      "creationDate": 1557863215.995
    }
  ]
}
```

For more information, see [ListOTAUpdates](https://docs.aws.amazon.com/iot/latest/developerguide/listotaupdates.html) in the *AWS IoT API Reference*.

- For API details, see [ListOtaUpdates](https://docs.aws.amazon.com/cli/latest/reference/iot/list-ota-updates.html) in *AWS CLI Command Reference*.

**list-outgoing-certificates**

The following code example shows how to use `list-outgoing-certificates`.

**AWS CLI**

**To list certificates being transferred to a different AWS account**

The following `list-outgoing-certificates` example lists all device certificates that are in the process of being transferred to a different AWS account using the `transfer-certificate` command.

```bash
aws iot list-outgoing-certificates
```

Output:

```json
{
  "outgoingCertificates": [
    {
      "certificateArn": "arn:aws:iot:us-west-2:030714055129:cert/488b6a7f2acdeb00a77384e63c4e40b18b1b3caaae57b7272ba44c45e3448142",
      "certificateId": "488b6a7f2acdeb00a77384e63c4e40b18b1b3caaae57b7272ba44c45e3448142",
      "transferredTo": "030714055129",
      "creationDate": 1557863215.995
    }
  ]
}
```
For more information, see ListOutgoingCertificates in the AWS IoT API Reference.

- For API details, see ListOutgoingCertificates in AWS CLI Command Reference.

**list-policies**

The following code example shows how to use list-policies.

**AWS CLI**

To list the policies defined in your AWS account

The following list-policies example lists all policies defined in your AWS account.

```bash
aws iot list-policies
```

Output:

```json
{
    "policies": [
        {
            "policyName": "UpdateDeviceCertPolicy",
        },
        {
            "policyName": "PlantIoTPolicy",
            "policyArn": "arn:aws:iot:us-west-2:123456789012:policy/PlantIoTPolicy"
        },
        {
            "policyName": "MyPiGroup_Core-policy",
            "policyArn": "arn:aws:iot:us-west-2:123456789012:policy/MyPiGroup_Core-policy"
        }
    ]
}
```
list-policy-versions

The following code example shows how to use `list-policy-versions`.

**AWS CLI**

**Example 1: To see all versions of a policy**

The following `list-policy-versions` example lists all versions of the specified policy and their creation dates.

```bash
aws iot list-policy-versions \
--policy-name LightBulbPolicy
```

**Output:**

```json
{
    "policyVersions": [
        {
            "versionId": "2",
            "isDefaultVersion": true,
            "createDate": 1559925941.924
        },
        {
            "versionId": "1",
            "isDefaultVersion": false,
            "createDate": 1559925941.924
        }
    ]
}
```

For more information, see [AWS IoT Policies](https://docs.aws.amazon.com/iot/latest/developerguide/aws-iot-policies.html) in the [AWS IoT Developers Guide](https://docs.aws.amazon.com/iot/latest/developerguide).

- For API details, see `ListPolicyVersions` in [AWS CLI Command Reference](https://docs.aws.amazon.com/cli/latest/reference/iot/list-policy-versions.html).

**list-principal-things**

The following code example shows how to use `list-principal-things`.
AWS CLI

To list the things attached with a principal

The following list-principal-things example lists the things attached to the principal specified by an ARN.

```bash
aws iot list-principal-things \
    --principal arn:aws:iot:us-west-2:123456789012:cert/2e1eb273792174ec2b9bf4e9b37e6c6c692345499506002a35159767055278e8
```

Output:

```json
{
    "things": [
        "DeskLamp",
        "TableLamp"
    ]
}
```

For more information, see [ListPrincipalThings](https://docs.aws.amazon.com/iotevents/latest/APIReference/API_ListPrincipalThings.html) in the AWS IoT API Reference.

- For API details, see [ListPrincipalThings](https://docs.aws.amazon.com/iotevents/latest/command-reference/index.html) in *AWS CLI Command Reference*.

list-provisioning-template-versions

The following code example shows how to use list-provisioning-template-versions.

AWS CLI

To list provisioning template versions

The following list-provisioning-template-versions example lists the available versions of the specified provisioning template.

```bash
aws iot list-provisioning-template-versions \
    --template-name "widget-template"
```

Output:

```json
{
}
```
For more information, see [AWS IoT Secure Tunneling](#) in the [AWS IoT Core Developer Guide](#).

- For API details, see [ListProvisioningTemplateVersions](#) in [AWS CLI Command Reference](#).

list-provisioning-templates

The following code example shows how to use list-provisioning-templates.

**AWS CLI**

To list provisioning templates

The following list-provisioning-templates example lists all of the provisioning templates in your AWS account.

```
aws iot list-provisioning-templates
```

Output:

```
{
   "templates": [
     {
       "templateArn": "arn:aws:iot:us-east-1:123456789012:provisioningtemplate/widget-template",
       "templateName": "widget-template",
       "description": "A provisioning template for widgets",
       "creationDate": 157480471.367,
       "lastModifiedDate": 1574801192.317
     }
   ]
}
```
For more information, see [AWS IoT Secure Tunneling](https://docs.aws.amazon.com/iot/latest/developerguide/aws-iot-secure-tunneling.html) in the *AWS IoT Core Developer Guide*.

- For API details, see [ListProvisioningTemplates](https://docs.aws.amazon.com/iot/latest/developerguide/aws-iot-list-provisioning-templates.html) in *AWS CLI Command Reference*.

### list-role-aliases

The following code example shows how to use `list-role-aliases`.

**AWS CLI**

**To list the AWS IoT role aliases in your AWS account**

The following `list-role-aliases` example lists the AWS IoT role aliases in your AWS account.

```
aws iot list-role-aliases
```

**Output:**

```json
{
    "roleAliases": [
        "ResidentAlias",
        "ElectricianAlias"
    ]
}
```

For more information, see [ListRoleAliases](https://docs.aws.amazon.com/iot/latest/developerguide/aws-iot-list-roles-aliases.html) in the *AWS IoT API Reference*.

- For API details, see [ListRoleAliases](https://docs.aws.amazon.com/iot/latest/developerguide/aws-iot-list-roles-aliases.html) in *AWS CLI Command Reference*.

### list-scheduled-audits

The following code example shows how to use `list-scheduled-audits`.

**AWS CLI**

**To list the scheduled audits for your AWS account**

```bash
aws iot list-scheduled-audits
```
The following `list-scheduled-audits` example lists any audits scheduled for your AWS account.

```bash
aws iot list-scheduled-audits
```

Output:

```json
{
    "scheduledAudits": [
    {
        "scheduledAuditName": "AWSIoTDeviceDefenderDailyAudit",
        "frequency": "DAILY"
    },
    {
        "scheduledAuditName": "AWSDeviceDefenderWeeklyAudit",
        "frequency": "WEEKLY",
        "dayOfWeek": "SUN"
    }
    ]
}
```

For more information, see [Audit Commands](https://docs.aws.amazon.com/iot/latest/developerguide/iot-security-profiles-audit.html) in the *AWS IoT Developer Guide*.

- For API details, see [ListScheduledAudits](https://docs.aws.amazon.com/cli/latest/reference/iot/list-scheduled-audits.html) in *AWS CLI Command Reference*.

### list-security-profiles

The following code example shows how to use `list-security-profiles`.

**AWS CLI**

To list the security profiles for your AWS account

The following `list-security-profiles` example lists all AWS IoT Device Defender security profiles that are defined in your AWS account.

```bash
aws iot list-security-profiles
```
Output:

```
{
    "securityProfileIdentifiers": [
        {
            "name": "Testprofile",
            "arn": "arn:aws:iot:us-west-2:123456789012:securityprofile/Testprofile"
        }
    ]
}
```

For more information, see [Detect Commands](#) in the [AWS IoT Developer Guide](#).

- For API details, see [ListSecurityProfiles](#) in [AWS CLI Command Reference](#).

### list-security-profiles-for-target

The following code example shows how to use `list-security-profiles-for-target`.

**AWS CLI**

**To list the security profiles attached to a target**

The following `list-security-profiles-for-target` example lists the AWS IoT Device Defender security profiles that are attached to unregistered devices.

```
aws iot list-security-profiles-for-target \
```

Output:

```
{
    "securityProfileTargetMappings": [
        {
            "securityProfileIdentifier": {
                "name": "Testprofile",
                "arn": "arn:aws:iot:us-west-2:123456789012:securityprofile/Testprofile"
            },
            "target": {
                "arn": "arn:aws:iot:us-west-2:123456789012:all/unregistered-things"
            }
        }
    ]
}
```
list-streams

The following code example shows how to use list-streams.

**AWS CLI**

**To list the streams in the account**

The following list-streams example lists all of the streams in your AWS account.

```bash
aws iot list-streams
```

Output:

```json
{
  "streams": [
    {
      "streamId": "stream12345",
      "streamVersion": 1,
      "description": "This stream is used for Amazon FreeRTOS OTA Update 12345."
    },
    {
      "streamId": "stream54321",
      "streamVersion": 1,
      "description": "This stream is used for Amazon FreeRTOS OTA Update 54321."
    }
  ]
}
```

For more information, see [ListStreams](https://docs.aws.amazon.com/iot/latest/APIReference/api-summary.html#iot-api-summary-summary) in the [AWS IoT API Reference](https://docs.aws.amazon.com/iot/latest/api/index.html).
For API details, see ListStreams in AWS CLI Command Reference.

list-tags-for-resource

The following code example shows how to use list-tags-for-resource.

AWS CLI

To display the tags and their values associated with a resource

The following list-tags-for-resource example displays the tags and values associated with the thing group LightBulbs.

```bash
aws iot list-tags-for-resource \
```

Output:

```
{
    "tags": [
        {
            "Key": "Assembly",
            "Value": "Fact1NW"
        },
        {
            "Key": "MyTag",
            "Value": "777"
        }
    ]
}
```

For more information, see Tagging Your AWS IoT Resources in the AWS IoT Developer Guide.

For API details, see ListTagsForResource in AWS CLI Command Reference.

list-targets-for-policy

The following code example shows how to use list-targets-for-policy.

AWS CLI

To list the principals associated with an AWS IoT policy
The following `list-targets-for-policy` example lists the device certificates to which the specified policy is attached.

```bash
aws iot list-targets-for-policy \
  --policy-name UpdateDeviceCertPolicy
```

Output:

```
{
    "targets": [
       "arn:aws:iot:us-west-2:123456789012:cert/488b6a7f2acdeb00a77384e63c4e40b1b3caaae57b7272ba44c45e3448142",
       "arn:aws:iot:us-west-2:123456789012:cert/d1eb269fb55a628552143c8f96eb3c258fcd5331ea113e766ba0c82bf225f0be"
    ]
}
```

For more information, see [Thing Groups](https://docs.aws.amazon.com/iot/latest/developerguide/things.html) in the *AWS IoT Developers Guide*.

- For API details, see `ListTargetsForPolicy` in *AWS CLI Command Reference*.

**list-targets-for-security-profile**

The following code example shows how to use `list-targets-for-security-profile`.

**AWS CLI**

**To list the targets to which a security profile is applied**

The following `list-targets-for-security-profile` example lists the targets to which the AWS IoT Device Defender security profile named `PossibleIssue` is applied.

```bash
aws iot list-targets-for-security-profile \
  --security-profile-name Testprofile
```

Output:

```
{
   "securityProfileTargets": [
      {
```
The following code example shows how to use `list-thing-groups`.

**AWS CLI**

To list the thing groups defined in your AWS account

The following `describe-thing-group` example lists all thing groups defined in your AWS account.

```
aws iot list-thing-groups
```

**Output:**

```
{
  "thingGroups": [
    {
      "groupName": "HalogenBulbs",
      "groupArn": "arn:aws:iot:us-west-2:123456789012:thinggroup/HalogenBulbs"
    },
    {
      "groupName": "LightBulbs",
      "groupArn": "arn:aws:iot:us-west-2:123456789012:thinggroup/LightBulbs"
    }
  ]
}
```

For more information, see [Thing Groups](https://docs.aws.amazon.com/iot/latest/developerguide/thing-groups.html) in the *AWS IoT Developers Guide*. 
list-thing-groups-for-thing

The following code example shows how to use list-thing-groups-for-thing.

AWS CLI

To list the groups that a thing belongs to

The following list-thing-groups-for-thing example lists the groups to which the specified thing belongs.

```bash
aws iot list-thing-groups-for-thing \\
  --thing-name MyLightBulb
```

Output:

```json
{
  "thingGroups": [
    {
      "groupName": "DeadBulbs",
      "groupArn": "arn:aws:iot:us-west-2:123456789012:thinggroup/DeadBulbs"
    },
    {
      "groupName": "LightBulbs",
      "groupArn": "arn:aws:iot:us-west-2:123456789012:thinggroup/LightBulbs"
    }
  ]
}
```

For more information, see Thing Groups in the AWS IoT Developers Guide.

list-thing-principals

The following code example shows how to use list-thing-principals.

AWS CLI

To list the principals associated with a thing
The following list-thing-principals example lists the principals (X.509 certificates, IAM users, groups, roles, Amazon Cognito identities, or federated identities) associated with the specified thing.

```bash
aws iot list-thing-principals \
   --thing-name MyRaspberryPi
```

Output:

```
{
   "principals": [
      "arn:aws:iot:us-west-2:123456789012:cert/33475ac865079a5ffd5ecd44240640349293facc760642d7d8d5dbb6b4c86893"
   ]
}
```

For more information, see ListThingPrincipals in the AWS IoT API Reference.

- For API details, see ListThingPrincipals in AWS CLI Command Reference.

list-thing-types

The following code example shows how to use list-thing-types.

AWS CLI

To list the defined thing types

The following list-thing-types example displays a list of thing types defined in your AWS account.

```bash
aws iot list-thing-types
```

Output:

```
{
   "thingTypes": [
      {
         "thingTypeName": "LightBulb",
         "thingTypeArn": "arn:aws:iot:us-west-2:123456789012:thingtype/LightBulb",
```
"thingTypeProperties": {
    "thingTypeDescription": "light bulb type",
    "searchableAttributes": [
        "model",
        "wattage"
    ],
},
"thingTypeMetadata": {
    "deprecated": false,
    "creationDate": 1559772562.498
}

For more information, see Thing Types in the AWS IoT Developers Guide.

- For API details, see ListThingTypes in AWS CLI Command Reference.

list-things-in-billing-group

The following code example shows how to use list-things-in-billing-group.

AWS CLI

To list the things in a billing group

The following list-things-in-billing-group example lists the things that are in the specified billing group.

aws iot list-things-in-billing-group \
   --billing-group-name GroupOne

Output:

```json
{
    "things": [
        "MyOtherLightBulb",
        "MyLightBulb"
    ]
}
```
For more information, see Billing Groups in the AWS IoT Developers Guide.

- For API details, see ListThingsInBillingGroup in AWS CLI Command Reference.

**list-things-in-thing-group**

The following code example shows how to use list-things-in-thing-group.

**AWS CLI**

**To list the things that belong to a group**

The following list-things-in-thing-group example lists the things that belong to the specified thing group.

```
aws iot list-things-in-thing-group \
   --thing-group-name LightBulbs
```

Output:

```
{
   "things": [
      "MyLightBulb"
   ]
}
```

For more information, see Thing Groups in the AWS IoT Developers Guide.

- For API details, see ListThingsInThingGroup in AWS CLI Command Reference.

**list-topic-rule-destinations**

The following code example shows how to use list-topic-rule-destinations.

**AWS CLI**

**To list your topic rule destinations**

The following list-topic-rule-destinations example lists all topic rule destinations that you have defined in the current AWS Region.

```
aws iot list-topic-rule-destinations
```
Output:

```
{
  "destinationSummaries": [
    {
      "arn": "arn:aws:iot:us-west-2:123456789012:ruledestination/http/a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
      "status": "ENABLED",
      "httpUrlSummary": {
        "confirmationUrl": "https://example.com"
      }
    }
  ]
}
```

For more information, see [Working with topic rule destinations](https://docs.aws.amazon.com/iot/latest/developerguide/working-topic-rules.html) in the *AWS IoT Developer Guide*.

- For API details, see [ListTopicRuleDestinations](https://docs.aws.amazon.com/cli/latest/reference/iot/list-topic-rule-destinations.html) in *AWS CLI Command Reference*.

**list-topic-rules**

The following code example shows how to use `list-topic-rules`.

**AWS CLI**

**To list your rules**

The following `list-topic-rules` example lists all rules that you have defined.

```
aws iot list-topic-rules
```

Output:

```
{
  "rules": [
    {
      "ruleName": "MyRPiLowMoistureAlertRule",
      "topicPattern": "$aws/things/MyRPi/shadow/update/accepted",
      "createdAt": 1558624363.0,
      "ruleDisabled": false
    }
  ]
}
```
For more information, see Viewing Your Rules in the AWS IoT Developers Guide.

- For API details, see ListTopicRules in AWS CLI Command Reference.

**list-v2-logging-levels**

The following code example shows how to use list-v2-logging-levels.

**AWS CLI**

**To list logging levels**

The following list-v2-logging-levels example lists the configured logging levels. If logging levels were not set, a NotConfiguredException occurs when you run this command.

```bash
aws iot list-v2-logging-levels
```

**Output:**

```json
{
    "logTargetConfigurations": [
    {
        "logTarget": {
            "targetType": "DEFAULT"
        },
        "logLevel": "ERROR"
    }
    ]
}
```

- For API details, see ListV2LoggingLevels in AWS CLI Command Reference.
list-violation-events

The following code example shows how to use list-violation-events.

AWS CLI

To list the security profile violations during a time period

The following list-violation-events example lists violations that occurred between June 5, 2019 and June 12, 2019 for all AWS IoT Device Defender security profiles for the current AWS account and AWS Region.

```
aws iot list-violation-events \
   --start-time 1559747125 \
   --end-time 1560351925
```

Output:

```
{
   "violationEvents": [
      {
         "violationId": "174db59167fa474c80a652ad1583fd44",
         "thingName": "iotconsole-1560269126751-1",
         "securityProfileName": "Testprofile",
         "behavior": {
            "name": "Authorization",
            "metric": "aws:num-authorization-failures",
            "criteria": {
               "comparisonOperator": "greater-than",
               "value": {
                  "count": 10
               },
               "durationSeconds": 300,
               "consecutiveDatapointsToAlarm": 1,
               "consecutiveDatapointsToClear": 1
            }
         },
         "metricValue": {
            "count": 0
         },
         "violationEventType": "in-alarm",
         "violationEventTime": 1560279000.0
      }
   ]
}
```
{
    "violationId": "c8a9466a093d3b7b35cd44ca58bdbeab",
    "thingName": "TvnQoEoU",
    "securityProfileName": "Testprofile",
    "behavior": {
        "name": "CellularBandwidth",
        "metric": "aws:message-byte-size",
        "criteria": {
            "comparisonOperator": "greater-than",
            "value": {
                "count": 128
            },
            "consecutiveDatapointsToAlarm": 1,
            "consecutiveDatapointsToClear": 1
        }
    },
    "metricValue": {
        "count": 110
    },
    "violationEventType": "in-alarm",
    "violationEventTime": 1560276600.0
},
{
    "violationId": "74aa393adea02e6648f3ac362beed55e",
    "thingName": "iotconsole-1560269232412-2",
    "securityProfileName": "Testprofile",
    "behavior": {
        "name": "Authorization",
        "metric": "aws:num-authorization-failures",
        "criteria": {
            "comparisonOperator": "greater-than",
            "value": {
                "count": 10
            },
            "durationSeconds": 300,
            "consecutiveDatapointsToAlarm": 1,
            "consecutiveDatapointsToClear": 1
        }
    },
    "metricValue": {
        "count": 0
    },
    "violationEventType": "in-alarm",
    "violationEventTime": 1560276600.0
}
For more information, see Detect Commands in the AWS IoT Developer Guide.

- For API details, see ListViolationEvents in AWS CLI Command Reference.

register-ca-certificate

The following code example shows how to use register-ca-certificate.

AWS CLI

To register a certificate authority (CA) certificate

The following register-ca-certificate example registers a CA certificate. The command supplies the CA certificate and a key verification certificate that proves you own the private key associated with the CA certificate.
aws iot register-ca-certificate \  
  --ca-certificate file://rootCA.pem \  
  --verification-cert file://verificationCert.pem

Output:

{
    "certificateId": "f4efed62c0142f16af278166f61962501165c4f0536295207426460058cd1467"
}

For more information, see RegisterCACertificate in the AWS IoT API Reference.

- For API details, see RegisterCaCertificate in AWS CLI Command Reference.

register-certificate

The following code example shows how to use register-certificate.

AWS CLI

To register a self signed device certificate

The following register-certificate example registers the deviceCert.pem device certificate signed by the rootCA.pem CA certificate. The CA certificate must be registered before you use it to register a self-signed device certificate. The self-signed certificate must be signed by the same CA certificate you pass to this command.

aws iot register-certificate \  
  --certificate-pem file://deviceCert.pem \  
  --ca-certificate-pem file://rootCA.pem

Output:

{
    "certificateArn": "arn:aws:iot:us-west-2:123456789012:cert/488b6a7f2acdeb00a77384e63c4e40b18b1b3caaae57b7272ba44c45e3448142",
    "certificateId": "488b6a7f2acdeb00a77384e63c4e40b18b1b3caaae57b7272ba44c45e3448142"
}
register-thing

The following code example shows how to use register-thing.

AWS CLI

To register a thing

The following register-thing example registers a thing using a provisioning template.

```bash
aws iot register-thing \
   --template-body '{"Parameters":{"ThingName":"","AWS::IoT::Certificate::Id":{"Type":"String"},"Resources": \
   {"certificate":{"Properties":{"CertificateId": \
      {"Ref":"AWS::IoT::Certificate::Id"},"Status":"Active"},"Type":"AWS::IoT::Certificate"},"policy": \
      {"Properties":{"PolicyName":"MyIotPolicy"},"Type":"AWS::IoT::Policy"},"thing": \
      {"OverrideSettings": \
        {"AttributePayload":"MERGE","ThingGroups":"DO NOTHING","ThingTypeName":"REPLACE"},"Properties": \
        {"Ref":"ThingName"},"ThingGroups":[]},"ThingType": "VirtualThings"},"Type":"AWS::IoT::Thing"}}' \
   --parameters '{"ThingName":"Register-thing-trial-1","AWS::IoT::Certificate::Id":"799a9ea048a1e6aea42b55EXAMPLef8697b4bafcd77a318a3068e30404b9233c"}"
```

Output:

```
{
   "certificatePem": "-----BEGIN CERTIFICATE-----
MIIDWTCCAkGgAwIBAgIUYLk81I35cIppopbw
Hi0J2jnJboIwDQYJKoZIhvcNAQEL
\nBQAwTTFLMEkGA1UECxwCQW1hem9uIFd1YiBTZXJ2aWNlcyBPUPUtYXpvbi
5jb20g\nSw5jL1BMPVlNYXR0bGUuI1QV2FzaGluz3RvbibDPVVTMB4XDTIwMDcyMzE2NDUw
\nOVoXDQ5MTIzMT
IzNTk10VowHjEcMboGA1UEawwTQVdTIE1vVCBDZXJ0aWZpY2F0\n\nZTCCASIwDQYJKoZIhvcNAQEBBQADggEPADCC
A0oCggEBA071uADhdBajqTmgzMV5\n\nM4MzL
+RARtUzH9a25MAckeX8Keb1IO7kORI
RDhHyE
\n61VOwjkAsd0ku22rFxex4eG2ikha7pYYkvUTOqA7L3TxItRvfKrxRI4ZfOFPip4\nKqiuB5NOGKTcQ
```

For more information, see [RegisterCertificate](https://docs.aws.amazon.com/iot/latest/APIReference/registerThing.html) in the *AWS IoT API Reference*.

- For API details, see [RegisterCertificate](https://docs.aws.amazon.com/cli/latest/reference/iot/register-thing.html) in *AWS CLI Command Reference*. 

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For more information, see **Provisioning by trusted user** in the *AWS IoT Core Developers Guide*.

- For API details, see **RegisterThing** in *AWS CLI Command Reference*.

**reject-certificate-transfer**

The following code example shows how to use `reject-certificate-transfer`.

**AWS CLI**

**To reject a certificate transfer**

The following `reject-certificate-transfer` example rejects the transfer of the specified device certificate from another AWS account.

```
aws iot reject-certificate-transfer
    --certificate-id
f0f33678c79a046e5cc87b2b1a58d8a0beec26db78add5e605d630e05c7fc8
```
This command produces no output.

For more information, see Transfer a certificate to another account in the AWS IoT Core Developer Guide.

- For API details, see RejectCertificateTransfer in AWS CLI Command Reference.

remove-thing-from-billing-group

The following code example shows how to use remove-thing-from-billing-group.

**AWS CLI**

To remove a thing from a billing group

The following remove-thing-from-billing-group example removes the specified thing from a billing group.

```
aws iot remove-thing-from-billing-group \
  --billing-group-name GroupOne \
  --thing-name MyOtherLightBulb
```

This command produces no output.

For more information, see Billing Groups in the AWS IoT Developers Guide.

- For API details, see RemoveThingFromBillingGroup in AWS CLI Command Reference.

remove-thing-from-thing-group

The following code example shows how to use remove-thing-from-thing-group.

**AWS CLI**

To remove a thing from a thing group

The following remove-thing-from-thing-group example removes the specified thing from a thing group.

```
aws iot remove-thing-from-thing-group \
  --thing-name bulb7 \
```
This command produces no output.

For more information, see Thing Groups <https://docs.aws.amazon.com/iot/latest/developerguide/thing-groups.html> in the AWS IoT Developer Guide.

- For API details, see `RemoveThingFromThingGroup` in AWS CLI Command Reference.

**replace-topic-rule**

The following code example shows how to use `replace-topic-rule`.

**AWS CLI**

**To update a topic's rule definition**

The following `replace-topic-rule` example updates the specified rule to send an SNS alert when soil moisture level readings are too low.

```
aws iot replace-topic-rule \
    --rule-name MyRPiLowMoistureAlertRule \
    --topic-rule-payload "{"sql": "SELECT * FROM '$aws/things/MyRPi/shadow/update/accepted' WHERE state.reported.moisture = 'low'",
    "description": "Sends an alert when soil moisture level readings are too low.",
    "roleArn": "arn:aws:iam::123456789012:role/service-role/MyRPiLowMoistureTopicRole",
    "messageFormat": "RAW"}],
    "ruleDisabled": false,
    "awsIotSqlVersion": "2016-03-23"}"
```

This command produces no output.

For more information, see Creating an AWS IoT Rule in the AWS IoT Developer Guide.

- For API details, see `ReplaceTopicRule` in AWS CLI Command Reference.

**set-default-authorizer**

The following code example shows how to use `set-default-authorizer`.

**AWS CLI**

**To set a default authorizer**
The following set-default-authorizer example sets the custom authorizer named CustomAuthorizer as the default authorizer.

```bash
aws iot set-default-authorizer \
  --authorizer-name CustomAuthorizer
```

Output:

```
{
    "authorizerName": "CustomAuthorizer",
    "authorizerArn": "arn:aws:iot:us-west-2:123456789012:authorizer/CustomAuthorizer"
}
```

For more information, see CreateDefaultAuthorizer in the AWS IoT API Reference.

- For API details, see SetDefaultAuthorizer in AWS CLI Command Reference.

**set-default-policy-version**

The following code example shows how to use set-default-policy-version.

**AWS CLI**

**To set the default version for a policy**

The following set-default-policy-version example sets the default version to 2 for the policy named UpdateDeviceCertPolicy.

```bash
aws iot set-default-policy-version \
  --policy-name UpdateDeviceCertPolicy \
  --policy-version-id 2
```

This command produces no output.

- For API details, see SetDefaultPolicyVersion in AWS CLI Command Reference.

**set-v2-logging-level**

The following code example shows how to use set-v2-logging-level.
AWS CLI

To set the logging level for a thing group

The following set-v2-logging-level example sets the logging level to log warnings for the specified thing group.

```
aws iot set-v2-logging-level \
    --log-target "{"targetType":"THING_GROUP","targetName":"LightBulbs"}" \
    --log-level WARN
```

This command produces no output.

- For API details, see `SetV2LoggingLevel` in `AWS CLI Command Reference`.

set-v2-logging-options

The following code example shows how to use set-v2-logging-options.

```
aws iot set-v2-logging-options \
    --default-log-level ERROR \
    --role-arn "arn:aws:iam::094249569039:role/service-role/iotLoggingRole"
```

This command produces no output.

- For API details, see `SetV2LoggingOptions` in `AWS CLI Command Reference`.

start-audit-mitigation-actions-task

The following code example shows how to use start-audit-mitigation-actions-task.

AWS CLI

To apply a mitigation action to the findings from an audit
The following `start-audit-mitigation-actions-task` example applies the `ResetPolicyVersionAction` action (which clears the policy) to the specified single finding.

```
aws iot start-audit-mitigation-actions-task \
    --task-id "myActionsTaskId" \
    --target "findingIds=["0edbaaec-2fe1-4cf5-abc9-d4c3e51f7464"]" \
    --audit-check-to-actions-mapping "IOT_POLICY_OVERLY_PERMISSIVE_CHECK=["ResetPolicyVersionAction"]" \
    --client-request-token "adhadhahda"
```

Output:

```
{
    "taskId": "myActionsTaskId"
}
```

For more information, see [StartAuditMitigationActionsTask (Mitigation Action Commands)](https://docs.aws.amazon.com/iot/latest/developerguide/iot-command-reference.html) in the [AWS IoT Developer Guide](https).

- For API details, see [StartAuditMitigationActionsTask](https://docs.aws.amazon.com/cli/latest/reference/iot/start-audit-mitigation-actions-task.html) in [AWS CLI Command Reference](https).

**start-on-demand-audit-task**

The following code example shows how to use `start-on-demand-audit-task`.

**AWS CLI**

**To start an audit right away**

The following `start-on-demand-audit-task` example starts an AWS IoT Device Defender audit and performs three certificate checks.

```
aws iot start-on-demand-audit-task \
    --target-check-names CA_CERTIFICATE_EXPIRING_CHECK DEVICE_CERTIFICATE_EXPIRING_CHECK REVOKECA_CERTIFICATE_STILL_ACTIVE_CHECK
```

Output:

```
{
    "taskId": "a3aea009955e501a31a31b764abe1bebd3d"
}
```
For more information, see Audit Commands in the AWS IoT Developer Guide.

- For API details, see StartOnDemandAuditTask in AWS CLI Command Reference.

tag-resource

The following code example shows how to use tag-resource.

**AWS CLI**

To specify a tag key and value for a resource

The following tag-resource example applies the tag with a key Assembly and the value Fact1NW to the thing group LightBulbs.

```bash
aws iot tag-resource \
  --tags Key=Assembly,Value="Fact1NW" \
```

This command produces no output.

For more information, see Tagging Your AWS IoT Resources in the AWS IoT Developer Guide.

- For API details, see TagResource in AWS CLI Command Reference.

test-authorization

The following code example shows how to use test-authorization.

**AWS CLI**

To test your AWS IoT policies

The following test-authorization example tests the AWS IoT policies associated with the specified principal.

```bash
aws iot test-authorization \
  --auth-infos actionType=CONNECT,resources=arn:aws:iot:us-east-1:123456789012:client/client1 \
  --principal arn:aws:iot:us-west-2:123456789012:cert/aab1068f7f43ac3e3cae4b3a8aa3f308d2a750e6350507962e32c1eb465d9775
```
Output:

```json
{
    "authResults": [
        {
            "authInfo": {
                "actionType": "CONNECT",
                "resources": [
                    "arn:aws:iot:us-east-1:123456789012:client/client1"
                ]
            },
            "allowed": {
                "policies": [
                    {
                        "policyName": "TestPolicyAllowed",
                    }
                ]
            },
            "denied": {
                "implicitDeny": {
                    "policies": [
                        {
                            "policyName": "TestPolicyDenied",
                        }
                    ]
                },
                "explicitDeny": {
                    "policies": [
                        {
                            "policyName": "TestPolicyExplicitDenied",
                        }
                    ]
                }
            }
        }
    ],
    "authDecision": "IMPLICIT_DENY",
    "missingContextValues": []
}
```
For more information, see **TestAuthorization** in the *AWS IoT API Reference*.

- For API details, see **TestAuthorization** in *AWS CLI Command Reference*.

**test-invoke-authorizer**

The following code example shows how to use test-invoke-authorizer.

**AWS CLI**

**To test your custom authorizer**

The following test-invoke-authorizer example tests your custom authorizer.

```bash
aws iot test-invoke-authorizer
   --authorizer-name IoTAuthorizer
   --token allow
   --token-signature "mE0GvaHqy9nER/
FdgtJX5lXYE33b3vE7t1gEszc0TKGgLKWXnTnpb2AbKn0AZ81GyoN5dVtWDWVmr25m7+
+zjbYMk2TBvzGxh0mvKFBPkdgyA43KL6siZy0cTq1PmcQDsP7vX2xr7CTowCxSNKphGXdQe0/
I5dQ+306KUaHwCmupt0/MejKtaNwiia064j6wp0AUwG5Si1YFuRdOY
+wfo8pb0DubAIX1u705kuhRUcTx4sXUShEYkMn4IDEvLB6FsIr0B2wvB7y4iPmcajxzG12ExvyCUNctCV9dYlRRGj
```

**Output:**

```json
{
   "isAuthenticated": true,
   "principalId": "principalId",
   "policyDocuments": [
      {
         "Version": "2012-10-17",
         "Statement": [
            {
               "Action": "iot:Publish",
               "Effect": "Allow",
            }
         ],
         "refreshAfterInSeconds": 600,
         "disconnectAfterInSeconds": 3600
      }
   ]
}
```

For more information, see **TestInvokeAuthorizer** in the *AWS IoT API Reference*.

- For API details, see **TestInvokeAuthorizer** in *AWS CLI Command Reference*. 

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**transfer-certificate**

The following code example shows how to use `transfer-certificate`.

**AWS CLI**

**To transfer a device certificate to a different AWS account**

The following `transfer-certificate` example transfers a device certificate to another AWS account. The certificate and AWS account are identified by ID.

```bash
aws iot transfer-certificate \
  --certificate-id 488b6a7f2acdeb00a77384e63c4e40b18b1b3caaae57b7272ba44c45e3448142 \
  --target-aws-account 030714055129
```

Output:

```
{
  "transferredCertificateArn": "arn:aws:iot:us-west-2:030714055129:cert/488b6a7f2acdeb00a77384e63c4e40b18b1b3caaae57b7272ba44c45e3448142"
}
```

For more information, see [Transfer a certificate to another account](https://docs.aws.amazon.com/iot/latest/developerguide/) in the *AWS IoT Core Developer Guide*.

- For API details, see [TransferCertificate](https://docs.aws.amazon.com/cli/latest/reference/iot/transfer-certificate.html) in *AWS CLI Command Reference*.

**untag-resource**

The following code example shows how to use `untag-resource`.

**AWS CLI**

**To remove a tag key from a resource**

The following `untag-resource` example removes the tag `MyTag` and its value from the thing group `LightBulbs`.

```bash
command
```

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update-account-audit-configuration

This command produces no output.

For more information, see Tagging Your AWS IoT Resources in the AWS IoT Developer Guide.

- For API details, see UntagResource in AWS CLI Command Reference.

AWS CLI

Example 1: To enable Amazon SNS notifications for audit notifications

The following update-account-audit-configuration example enables Amazon SNS notifications for AWS IoT Device Defender audit notifications, specifying a target and the role used to write to that target.

```bash
aws iot update-account-audit-configuration
```

This command produces no output.

Example 2: To enable an audit check

The following update-account-audit-configuration example enables the AWS IoT Device Defender audit check named AUTHENTICATED_COGNITO_ROLE_OVERLY_PERMISSIVE_CHECK. You cannot disable an audit check if it is part of the targetCheckNames for one or more scheduled audits for the AWS account.

```bash
aws iot update-account-audit-configuration
   --audit-check-configurations
   "{"AUTHENTICATED_COGNITO_ROLE_OVERLY_PERMISSIVE_CHECK":{"enabled":true}}"
```

This command produces no output.

For more information, see Audit Commands in the AWS IoT Developer Guide.

- For API details, see UpdateAccountAuditConfiguration in AWS CLI Command Reference.
**update-audit-suppression**

The following code example shows how to use `update-audit-suppression`.

**AWS CLI**

**To update an audit finding suppression**

The following `update-audit-suppression` example updates an audit finding suppression's expiration date to 2020-09-21.

```bash
aws iot update-audit-suppression \
    --check-name DEVICE_CERTIFICATE_EXPIRING_CHECK \
    --resource-identifier deviceCertificateId=c7691e<shortened> \
    --no-suppress-indefinitely \
    --expiration-date 2020-09-21
```

This command produces no output.

For more information, see [Audit finding suppressions](https://docs.aws.amazon.com/iot/latest/developerguide/audit-finding-suppressions.html) in the *AWS IoT Developers Guide*.

- For API details, see [UpdateAuditSuppression](https://docs.aws.amazon.com/cli/latest/reference/iot/update-audit-suppression.html) in *AWS CLI Command Reference*.

**update-authorizer**

The following code example shows how to use `update-authorizer`.

**AWS CLI**

**To update a custom authorizer**

The following `update-authorizer` example he state of `CustomAuthorizer2` to INACTIVE.

```bash
aws iot update-authorizer \
    --authorizer-name CustomAuthorizer2 \
    --status INACTIVE
```

Output:

```json
{
    "authorizerName": "CustomAuthorizer2",
}```
For more information, see UpdateAuthorizer in the AWS IoT API Reference.

- For API details, see UpdateAuthorizer in AWS CLI Command Reference.

**update-billing-group**

The following code example shows how to use `update-billing-group`.

**AWS CLI**

**To update information about a billing group**

The following `update-billing-group` example updates the description for the specified billing group.

```
aws iot update-billing-group \
  --billing-group-name GroupOne \
  --billing-group-properties "billingGroupDescription="Primary bulb billing group"
```

**Output:**

```
{
  "version": 2
}
```

For more information, see Billing Groups in the AWS IoT Developers Guide.

- For API details, see UpdateBillingGroup in AWS CLI Command Reference.

**update-ca-certificate**

The following code example shows how to use `update-ca-certificate`.

**AWS CLI**

**To update a certificate authority (CA) certificate**
The following `update-ca-certificate` example sets the specified CA certificate to ACTIVE status.

```bash
aws iot update-ca-certificate \
  --certificate-id \
  f4efed62c0142f16af278166f61962501165c4f0536295207426460058cd1467 \
  --new-status ACTIVE
```

This command produces no output.

For more information, see [UpdateCACertificate](#) in the *AWS IoT API Reference*.

• For API details, see [UpdateCaCertificate](#) in *AWS CLI Command Reference*.

### update-certificate

The following code example shows how to use `update-certificate`.

**AWS CLI**

**To update a device certificate**

The following `update-certificate` example sets the specified device certificate to INACTIVE status.

```bash
aws iot update-certificate \
  --certificate-id \
  d1eb269fb55a628552143c8f96eb3c258fcd5331ea113e766ba0c82bf225f0be \
  --new-status INACTIVE
```

This command produces no output.

For more information, see [UpdateCertificate](#) in the *AWS IoT API Reference*.

• For API details, see [UpdateCertificate](#) in *AWS CLI Command Reference*.

### update-custom-metric

The following code example shows how to use `update-custom-metric`.

**AWS CLI**

**To update a custom metric**
The following `update-custom-metric` example updates a custom metric to have a new display-name.

```
aws iot update-custom-metric \
   --metric-name batteryPercentage \
   --display-name 'remaining battery percentage on device' \
   --region us-east-1
```

Output:

```
{
   "metricName": "batteryPercentage",
   "metricArn": "arn:aws:iot:us-east-1:1234564789012:custommetric/batteryPercentage",
   "metricType": "number",
   "displayName": "remaining battery percentage on device",
   "creationDate": "2020-11-17T23:01:35.110000-08:00",
   "lastModifiedDate": "2020-11-17T23:02:12.879000-08:00"
}
```

For more information, see [Custom metrics](https://docs.aws.amazon.com/iot/core/latest/developerguide/custom-metrics.html) in the *AWS IoT Core Developer Guide*.

- For API details, see [UpdateCustomMetric](https://docs.aws.amazon.com/cli/latest/reference/iot/update-custom-metric.html) in *AWS CLI Command Reference*.

**update-dimension**

The following code example shows how to use `update-dimension`.

**AWS CLI**

**To update a dimension**

The following `update-dimension` example updates a dimension.

```
aws iot update-dimension \
   --name TopicFilterForAuthMessages \
   --string-values device/${iot:ClientId}/auth
```

Output:

```
{
}
```
For more information, see [Scoping metrics in security profiles using dimensions](https://aws.amazon.com/documentation/iot/core/developer-guide/) in the *AWS IoT Core Developer Guide*.

- For API details, see [UpdateDimension](https://docs.aws.amazon.com/cli/latest/reference/iot/update-dimension.html) in *AWS CLI Command Reference*.

**update-domain-configuration**

The following code example shows how to use update-domain-configuration.

**AWS CLI**

**To update a domain configuration**

The following update-domain-configuration example disables the specified domain configuration.

```bash
aws iot update-domain-configuration \
    --domain-configuration-name "additionalDataDomain" \
    --domain-configuration-status "DISABLED"
```

Output:

```
{
    "domainConfigurationName": "additionalDataDomain",
    "domainConfigurationArn": "arn:aws:iot:us-west-2:1234564789012:domainconfiguration/additionalDataDomain/dikMh"
}
```

For more information, see [Configurable Endpoints](https://aws.amazon.com/documentation/iot/developer-guide/) in the *AWS IoT Developer Guide*.

- For API details, see [UpdateDomainConfiguration](https://docs.aws.amazon.com/cli/latest/reference/iot/update-domain-configuration.html) in *AWS CLI Command Reference*. 
update-dynamic-thing-group

The following code example shows how to use update-dynamic-thing-group.

AWS CLI

To update a dynamic thing group

The following update-dynamic-thing-group example updates the specified dynamic thing group. It provides a description and updates the query string to change the group membership criteria.

```
aws iot update-dynamic-thing-group \\
    --thing-group-name "RoomTooWarm" \\
    --thing-group-properties "thingGroupDescription="This thing group contains rooms warmer than 65F.\"" \\
    --query-string "attributes.temperature>65"
```

Output:

```
{
    "version": 2
}
```

For more information, see Dynamic Thing Groups in the AWS IoT Developers Guide.

- For API details, see UpdateDynamicThingGroup in AWS CLI Command Reference.

update-event-configurations

The following code example shows how to use update-event-configurations.

AWS CLI

To show which event types are published

The following update-event-configurations example updates the configuration to enable messages when the CA certificate is added, updated, or deleted.

```
aws iot update-event-configurations \\
    --event-configurations "{"CA_CERTIFICATE":{"Enabled":true}}"
```
This command produces no output.

For more information, see Event Messages in the AWS IoT Developer Guide.
- For API details, see UpdateEventConfigurations in AWS CLI Command Reference.

update-job

The following code example shows how to use update-job.

AWS CLI

To get detailed status for a job

The following update-job example gets detailed status for the job whose ID is example-job-01.

```
aws iot describe-job \
   --job-id "example-job-01"
```

Output:

```
{
   "job": {
       "jobId": "example-job-01",
       "targetSelection": "SNAPSHOT",
       "status": "IN_PROGRESS",
       "targets": [
       ],
       "description": "example job test",
       "presignedUrlConfig": {},
       "jobExecutionsRolloutConfig": {},
       "createdAt": 1560787022.733,
       "lastUpdatedAt": 1560787026.294,
       "jobProcessDetails": {
           "numberOfCanceledThings": 0,
           "numberOfSucceededThings": 0,
           "numberOfFailedThings": 0,
           "numberOfRejectedThings": 0,
           "numberOfQueuedThings": 1,
           "numberOfInProgressThings": 0,
        
```
For more information, see Creating and Managing Jobs (CLI) in the AWS IoT Developer Guide.

For API details, see UpdateJob in AWS CLI Command Reference.

**update-mitigation-action**

The following code example shows how to use update-mitigation-action.

**AWS CLI**

**To update a mitigation action**

The following update-mitigation-action example updates the specified mitigation action named AddThingsToQuarantineGroupAction, changes the thing group name, and sets overrideDynamicGroups to false. You can verify your changes by using the describe-mitigation-action command.

```bash
aws iot update-mitigation-action \\
  --cli-input-json "{"actionName": "AddThingsToQuarantineGroupAction", \\
  "actionParams": {"addThingsToThingGroupParams": {"thingGroupNames": ["QuarantineGroup2"], \\
  "overrideDynamicGroups": false}}}"
```

Output:

```json
{
  "actionArn": "arn:aws:iot:us-west-2:123456789012:mitigationaction/AddThingsToQuarantineGroupAction",
  "actionId": "2fd2726d-98e1-4abf-b10f-09465ccd6bfa"
}
```

For more information, see UpdateMitigationAction (Mitigation Action Commands) in the AWS IoT Developer Guide.

For API details, see UpdateMitigationAction in AWS CLI Command Reference.
The following code example shows how to use `update-provisioning-template`.

**AWS CLI**

To update a provisioning template

The following `update-provisioning-template` example modifies the description and role ARN for the specified provisioning template and enables the template.

```
aws iot update-provisioning-template \
  --template-name widget-template \
  --enabled \
  --description "An updated provisioning template for widgets" \
  --provisioning-role-arn arn:aws:iam::504350838278:role/Provision_role
```

This command produces no output.

For more information, see [AWS IoT Secure Tunneling](https://docs.aws.amazon.com/iot/latest/developerguide/aws-iot-secure-tunneling.html) in the [AWS IoT Core Developer Guide](https://docs.aws.amazon.com/iot/latest/developerguide/index.html).


The following code example shows how to use `update-role-alias`.

**AWS CLI**

To update a role alias

The following `update-role-alias` example updates the `LightBulbRole` role alias.

```
aws iot update-role-alias \
  --role-alias LightBulbRole \
  --role-arn arn:aws:iam::123456789012:role/lightbulbrole-001
```

Output:

```
{
    "roleAlias": "LightBulbRole",
```
"roleAliasArn": "arn:aws:iot:us-west-2:123456789012:rolealias/LightBulbRole"
}

For more information, see UpdateRoleAlias in the AWS IoT API Reference.

- For API details, see UpdateRoleAlias in AWS CLI Command Reference.

**update-scheduled-audit**

The following code example shows how to use update-scheduled-audit.

**AWS CLI**

**To update a scheduled audit definition**

The following update-scheduled-audit example changes the target check names for an AWS IoT Device Defender scheduled audit.

```bash
aws iot update-scheduled-audit \
  --scheduled-audit-name WednesdayCertCheck \
  --target-check-names CA_CERTIFICATE_EXPIRING_CHECK \n  DEVICE_CERTIFICATE_EXPIRING_CHECK REVOKED_CA_CERTIFICATE_STILL_ACTIVE_CHECK
```

**Output:**

```json
{
  "scheduledAuditArn": "arn:aws:iot:us-west-2:123456789012:scheduledaudit/\nWednesdayCertCheck"
}
```

For more information, see Audit Commands in the AWS IoT Developer Guide.

- For API details, see UpdateScheduledAudit in AWS CLI Command Reference.

**update-security-profile**

The following code example shows how to use update-security-profile.

**AWS CLI**

**To change a security profile**
The following `update-security-profile` example updates both the description and the behaviors for an AWS IoT Device Defender security profile.

```bash
aws iot update-security-profile \
  --security-profile-name PossibleIssue \
  --security-profile-description "Check to see if authorization fails 12 times in 5 minutes or if cellular bandwidth exceeds 128" \
  --behaviors "[{"name":"CellularBandwidth","metric":"aws:message-byte-size","criteria":{"comparisonOperator":"greater-than","value":{"count":128},"consecutiveDatapointsToAlarm":1,"consecutiveDatapointsToClear":1}},{"name":"Authorization","metric":"aws:num-authorization-failures","criteria":{"comparisonOperator":"less-than","value":{"count":12},"durationSeconds":300,"consecutiveDatapointsToAlarm":1,"consecutiveDatapointsToClear":1}]"
```

**Output:**

```json
{
  "securityProfileName": "PossibleIssue",
  "securityProfileArn": "arn:aws:iot:us-west-2:123456789012:securityprofile/PossibleIssue",
  "securityProfileDescription": "check to see if authorization fails 12 times in 5 minutes or if cellular bandwidth exceeds 128",
  "behaviors": [
  {
    "name": "CellularBandwidth",
    "metric": "aws:message-byte-size",
    "criteria": {
      "comparisonOperator": "greater-than",
      "value": {
        "count": 128
      },
      "consecutiveDatapointsToAlarm": 1,
      "consecutiveDatapointsToClear": 1
    }
  },
  {
    "name": "Authorization",
    "metric": "aws:num-authorization-failures",
    "criteria": {
      "comparisonOperator": "less-than",
      "value": {
        "count": 12
      }
    }
  }
  ]
}
```
"durationSeconds": 300,
"consecutiveDatapointsToAlarm": 1,
"consecutiveDatapointsToClear": 1
}
}
"version": 2,
"creationDate": 1560278102.528,
"lastModifiedDate": 1560352711.207
}

For more information, see Detect Commands in the AWS IoT Developer Guide.

- For API details, see UpdateSecurityProfile in AWS CLI Command Reference.

**update-stream**

The following code example shows how to use update-stream.

**AWS CLI**

**To update a stream**

The following update-stream example updates an existing stream. The stream version is incremented by one.

```shell
aws iot update-stream \
   --cli-input-json file://update-stream.json
```

**Contents of update-stream.json:**

```json
{
   "streamId": "stream12345",
   "description": "This stream is used for Amazon FreeRTOS OTA Update 12345.",
   "files": [
      {
         "fileId": 123,
         "s3Location": {
            "bucket": "codesign-ota-bucket",
            "key": "48c67f3c-63bb-4f92-a98a-4ee0fbc2bef6"
         }
      }
   ]
}
```
Output:

```json
{
    "streamId": "stream12345",
    "description": "This stream is used for Amazon FreeRTOS OTA Update 12345.",
    "streamVersion": 2
}
```

For more information, see [UpdateStream](https://docs.aws.amazon.com/iot/latest/developerguide/iot-update-stream.html) in the *AWS IoT API Reference*.

- For API details, see [UpdateStream](https://docs.aws.amazon.com/cli/latest/reference/iot/update-stream.html) in *AWS CLI Command Reference*.

**update-thing-group**

The following code example shows how to use `update-thing-group`.

**AWS CLI**

To update the definition for a thing group

The following `update-thing-group` example updates the definition for the specified thing group, changing the description and two attributes.

```bash
aws iot update-thing-group \
    --thing-group-name HalogenBulbs \
    --thing-group-properties "thingGroupDescription=\"Halogen bulb group\",\n    attributePayload={attributes={Manufacturer=AnyCompany,wattage=60}}"
```

Output:

```json
{
    "version": 2
}
```

For more information, see [Thing Groups](https://docs.aws.amazon.com/iot/latest/developerguide/thing-groups.html) in the *AWS IoT Developers Guide*.

- For API details, see [UpdateThingGroup](https://docs.aws.amazon.com/cli/latest/reference/iot/update-thing-group.html) in *AWS CLI Command Reference*. 
**update-thing-groups-for-thing**

The following code example shows how to use `update-thing-groups-for-thing`.

**AWS CLI**

**To change the groups to which a thing belongs**

The following `update-thing-groups-for-thing` example removes the thing named MyLightBulb from the group named DeadBulbs and adds it to the group named replaceableItems at the same time.

```
aws iot update-thing-groups-for-thing \\
   --thing-name MyLightBulb \\
   --thing-groups-to-add "replaceableItems" \\
   --thing-groups-to-remove "DeadBulbs"
```

This command produces no output.

For more information, see [Thing Groups](https://docs.aws.amazon.com/iot/latest/developerguide/thing-groups.html) in the *AWS IoT Developer Guide*.

- For API details, see [UpdateThingGroupsForThing](https://docs.aws.amazon.com/cli/latest/reference/iot/update-thing-groups-for-thing.html) in *AWS CLI Command Reference*.

**update-topic-rule-destination**

The following code example shows how to use `update-topic-rule-destination`.

**AWS CLI**

**Example 1: To enable a topic rule destination**

The following `update-topic-rule-destination` example enables traffic to a topic rule destination.

```
aws iot update-topic-rule-destination \\
   --arn "arn:aws:iot:us-west-2:123456789012:ruledestination/http/a1b2c3d4-5678-90ab-cdef-11111EXAMPLE" \\
   --status ENABLED
```

This command produces no output.

For more information, see [Enabling a topic rule destination](https://docs.aws.amazon.com/iot/latest/developerguide/enabling-topic-rule-destination.html) in the *AWS IoT Developer Guide*. 
Example 2: To disable a topic rule destination

The following `update-topic-rule-destination` example disables traffic to a topic rule destination.

```bash
aws iot update-topic-rule-destination \
  --arn "arn:aws:iot:us-west-2:123456789012:ruledestination/http/a1b2c3d4-5678-90ab-cdef-11111EXAMPLE" \
  --status DISABLED
```

This command produces no output.

For more information, see [Disabling a topic rule destination](https://aws.amazon.com/iot-developer-guide/) in the *AWS IoT Developer Guide*.

Example 3: To send a new confirmation message

The following `update-topic-rule-destination` example sends a new confirmation message for a topic rule destination.

```bash
aws iot update-topic-rule-destination \
  --arn "arn:aws:iot:us-west-2:123456789012:ruledestination/http/a1b2c3d4-5678-90ab-cdef-11111EXAMPLE" \
  --status IN_PROGRESS
```

This command produces no output.

For more information, see [Sending a new confirmation message](https://aws.amazon.com/iot-developer-guide/) in the *AWS IoT Developer Guide*.

- For API details, see *UpdateTopicRuleDestination* in *AWS CLI Command Reference*.

validate-security-profile-behaviors

The following code example shows how to use `validate-security-profile-behaviors`.

AWS CLI

Example 1: To validate the behaviors parameters for a security profile

The following `validate-security-profile-behaviors` example validates a well-formed and correct set of behaviors for an AWS IoT Device Defender security profile.

```bash
aws iot validate-security-profile-behaviors \
```
Output:

```
{
    "valid": true,
    "validationErrors": []
}
```

Example 2: To validate incorrect behaviors parameters for a security profile

The following validate-security-profile-behaviors example validates a set of behaviors that contains an error for an AWS IoT Device Defender security profile.

```
aws iot validate-security-profile-behaviors 
    --behaviors "[{
        "name": "CellularBandwidth",
        "metric": "aws:message-byte-size",
        "criteria": {
            "comparisonOperator": "greater-than",
            "value": {
                "count": 128,
                "consecutiveDatapointsToAlarm": 1,
                "consecutiveDatapointsToClear": 1
            }
        },
        "Authorization",
        "metric": "aws:num-authorization-failures",
        "criteria": {
            "comparisonOperator": "greater-than",
            "value": {
                "count": 12,
                "durationSeconds": 300,
                "consecutiveDatapointsToAlarm": 1,
                "consecutiveDatapointsToClear": 1
            }
        }
    }]
```

Output:

```
{
    "valid": false,
    "validationErrors": [
        {
            "errorMessage": "Behavior Authorization is malformed. consecutiveDatapointsToAlarm 100000 should be in range[1,10]"
        }
    ]
}
```

For more information, see Detect Commands in the AWS IoT Developer Guide.
For API details, see ValidateSecurityProfileBehaviors in AWS CLI Command Reference.

AWS IoT 1-Click Devices examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS IoT 1-Click Devices.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics

- Actions

Actions

claim-devices-by-claim-code

The following code example shows how to use claim-devices-by-claim-code.

AWS CLI

To claim one or more AWS IoT 1-Click devices using a claim code

The following claim-devices-by-claim-code example claims the specified AWS IoT 1-Click device using a claim code (instead of a device ID).

```bash
aws iot1click-devices claim-devices-by-claim-code \
   --claim-code C-123EXAMPLE
```

Output:

```
{
  "Total": 9
}
```
"ClaimCode": "C-123EXAMPLE"
}

For more information, see Using AWS IoT 1-Click with the AWS CLI in the AWS IoT 1-Click Developer Guide.

- For API details, see ClaimDevicesByClaimCode in AWS CLI Command Reference.

describe-device

The following code example shows how to use describe-device.

**AWS CLI**

To describe a device

The following describe-device example describes the specified device.

```bash
aws iot1click-devices describe-device \\   --device-id G030PM0123456789
```

Output:

```json
{
   "DeviceDescription": {
      "Attributes": {
         "projectRegion": "us-west-2",
         "projectName": "AnytownDumpsters",
         "placementName": "customer217",
         "deviceTemplateName": "empty-dumpster-request"
      },
      "DeviceId": "G030PM0123456789",
      "Enabled": false,
      "RemainingLife": 99.9,
      "Type": "button",
      "Tags": {}
   }
}
```

For more information, see Using AWS IoT 1-Click with the AWS CLI in the AWS IoT 1-Click Developer Guide.
finalize-device-claim

The following code example shows how to use finalize-device-claim.

AWS CLI

To finalize a claim request for an AWS IoT 1-Click device using a device ID

The following finalize-device-claim example finalizes a claim request for the specified AWS IoT 1-Click device using a device ID (instead of a claim code).

```
aws iot1click-devices finalize-device-claim \
  --device-id G030PM0123456789
```

Output:

```
{
   "State": "CLAIMED"
}
```

For more information, see Using AWS IoT 1-Click with the AWS CLI in the AWS IoT 1-Click Developer Guide.

- For API details, see FinalizeDeviceClaim in AWS CLI Command Reference.

get-device-methods

The following code example shows how to use get-device-methods.

AWS CLI

To list the available methods for a device

The following get-device-methods example lists the available methods for a device.

```
aws iot1click-devices get-device-methods \
  --device-id G030PM0123456789
```

Output:
initiate-device-claim

The following code example shows how to use `initiate-device-claim`.

**AWS CLI**

To initiate a claim request for an AWS IoT 1-Click device using a device ID

The following `initiate-device-claim` example initiates a claim request for the specified AWS IoT 1-Click device using a device ID (instead of a claim code).

```
aws iot1click-devices initiate-device-claim \
  --device-id G030PM0123456789
```

Output:

```json
{
}
```
For more information, see [Using AWS IoT 1-Click with the AWS CLI](https://aws.amazon.com/blogs/aws) in the *AWS IoT 1-Click Developer Guide*.

- For API details, see [InitiateDeviceClaim](https://docs.aws.amazon.com/cli/latest/reference/iot1click-devices/initiate-device-claim) in *AWS CLI Command Reference*.

### invoke-device-method

The following code example shows how to use `invoke-device-method`.

**AWS CLI**

**To invoke a device method on a device**

The following `invoke-device-method` example invokes the specified method on a device.

```bash
aws iot1click-devices invoke-device-method \
    --cli-input-json file://invoke-device-method.json
```

**Contents of `invoke-device-method.json`:**

```json
{
    "DeviceId": "G030PM0123456789",
    "DeviceMethod": {
        "DeviceType": "device",
        "MethodName": "getDeviceHealthParameters"
    }
}
```

**Output:**

```json
{
    "DeviceMethodResponse": "{\"remainingLife\": 99.8}\"
}
```

For more information, see [Using AWS IoT 1-Click with the AWS CLI](https://aws.amazon.com/blogs/aws) in the *AWS IoT 1-Click Developer Guide*.

- For API details, see [InvokeDeviceMethod](https://docs.aws.amazon.com/cli/latest/reference/iot1click-devices/invoke-device-method) in *AWS CLI Command Reference*.
list-device-events

The following code example shows how to use list-device-events.

AWS CLI

To list a device's events for a specified time range

The following list-device-events example lists the specified device's events for the specified time range.

```
aws iot1click-devices list-device-events \
  --device-id G030PM0123456789 \
```

Output:

```
{
  "Events": [
    {
      "Device": {
        "Attributes": {},
        "DeviceId": "G030PM0123456789",
        "Type": "button"
      },
      "StdEvent": "{"clickType": "SINGLE", "reportedTime": "2019-07-18T23:47:55.015Z", "certificateId": "fe8798a6c97c62ef8756b80eeefdcf2280f3352f82faa8080c74cc4f4a4d1811", "remainingLife": 99.85000000000001, "testMode": false}"
    },
    {
      "Device": {
        "Attributes": {},
        "DeviceId": "G030PM0123456789",
        "Type": "button"
      },
      "StdEvent": "{"clickType": "DOUBLE", "reportedTime": "2019-07-19T00:14:41.353Z", "certificateId": "fe8798a6c97c62ef8756b80eeefdcf2280f3352f82faa8080c74cc4f4a4d1811", "remainingLife": 99.8, "testMode": false}"
    }
  ]
}
For more information, see [Using AWS IoT 1-Click with the AWS CLI](https://docs.aws.amazon.com/iot1click/latest/developerguide/index.html) in the [AWS IoT 1-Click Developer Guide](https://docs.aws.amazon.com/iot1click/latest/developerguide/index.html).

- For API details, see [ListDeviceEvents](https://docs.aws.amazon.com/cli/latest/reference/iot1click-devices/list-device-events.html) in *AWS CLI Command Reference*.

### list-devices

The following code example shows how to use `list-devices`.

#### AWS CLI

**To list the devices of a specified type**

The following `list-devices` example lists the devices of a specified type.

```bash
aws iot1click-devices list-devices \
  --device-type button
```

This command produces no output.

**Output:**

```json
{
   "Devices": [
      {
         "remainingLife": 99.9,
         "attributes": {
            "type": "button",
            "deviceId": "G030PM0123456789",
            "enabled": false
         }
      }
   ]
}
```

For more information, see [Using AWS IoT 1-Click with the AWS CLI](https://docs.aws.amazon.com/iot1click/latest/developerguide/index.html) in the [AWS IoT 1-Click Developer Guide](https://docs.aws.amazon.com/iot1click/latest/developerguide/index.html).

- For API details, see [ListDevices](https://docs.aws.amazon.com/cli/latest/reference/iot1click-devices/list-devices.html) in *AWS CLI Command Reference*. 

Actions and scenarios
list-tags-for-resource

The following code example shows how to use list-tags-for-resource.

AWS CLI

To list the tags for a device

The following list-tags-for-resource example list the tags for the specified device.

```bash
aws iot1click-devices list-tags-for-resource \
```

Output:

```json
{
   "Tags": {
      "Driver Phone": "123-555-0199",
      "Driver": "Jorge Souza"
   }
}
```

For more information, see Using AWS IoT 1-Click with the AWS CLI in the AWS IoT 1-Click Developer Guide.

- For API details, see ListTagsForResource in AWS CLI Command Reference.

tag-resource

The following code example shows how to use tag-resource.

AWS CLI

To add tags to a device AWS resource

The following tag-resource example adds two tags to the specified resource.

```bash
aws iot1click-devices tag-resource \
   --cli-input-json file://devices-tag-resource.json
```
Contents of devices-tag-resource.json:

```json
{
    "Tags": {
        "Driver": "Jorge Souza",
        "Driver Phone": "123-555-0199"
    }
}
```

This command produces no output.

For more information, see [Using AWS IoT 1-Click with the AWS CLI](https://docs.aws.amazon.com/iot1click/latest/developerguide/using-aws-cli.html) in the *AWS IoT 1-Click Developer Guide*.

- For API details, see [TagResource](https://docs.aws.amazon.com/cli/latest/reference/iot1click-devices/tag-resource.html) in *AWS CLI Command Reference*.

**unclaim-device**

The following code example shows how to use unclaim-device.

**AWS CLI**

**To unclaim (deregister) a device from your AWS account**

The following unclaim-device example unclaims (deregisters) the specified device from your AWS account.

```bash
aws iot1click-devices unclaim-device \ 
    --device-id G030PM0123456789
```

Output:

```json
{
    "State": "UNCLAIMED"
}
```

For more information, see [Using AWS IoT 1-Click with the AWS CLI](https://docs.aws.amazon.com/iot1click/latest/developerguide/using-aws-cli.html) in the *AWS IoT 1-Click Developer Guide*.

- For API details, see [UnclaimDevice](https://docs.aws.amazon.com/cli/latest/reference/iot1click-devices/unclaim-device.html) in *AWS CLI Command Reference*.  

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untag-resource

The following code example shows how to use untag-resource.

**AWS CLI**

To remove tags from a device AWS resource

The following untag-resource example removes the tags with the names Driver Phone and Driver from the specified device resource.

```
aws iot1click-devices untag-resource \
   --resource-arn "arn:aws:iot1click:us-west-2:123456789012:projects/AnytownDumpsters" \ 
   --tag-keys "Driver Phone" "Driver"
```

This command produces no output.

For more information, see [Using AWS IoT 1-Click with the AWS CLI](https://docs.aws.amazon.com/iot1click/latest/developerguide/using-aws-cli.html) in the AWS IoT 1-Click Developer Guide.

- For API details, see [UntagResource](https://docs.aws.amazon.com/cli/latest/reference/iot1click-devices/untag-resource.html) in *AWS CLI Command Reference*.

update-device-state

The following code example shows how to use update-device-state.

**AWS CLI**

To update the `enabled` state for a device

The following update-device-state sets the state of the specified device to enabled.

```
aws iot1click-devices update-device-state \
   --device-id G030PM0123456789 \
   --enabled
```

This command produces no output.

For more information, see [Using AWS IoT 1-Click with the AWS CLI](https://docs.aws.amazon.com/iot1click/latest/developerguide/using-aws-cli.html) in the AWS IoT 1-Click Developer Guide.
• For API details, see UpdateDeviceState in AWS CLI Command Reference.

AWS IoT 1-Click Projects examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS IoT 1-Click Projects.

**Actions** are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

**Scenarios** are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

• **Actions**

**Actions**

**associate-device-with-placement**

The following code example shows how to use associate-device-with-placement.

**AWS CLI**

**To associate an AWS IoT 1-Click device with an existing placement**

The following associate-device-with-placement example associates the specified AWS IoT 1-Click device with an existing placement.

```
aws iot1click-projects associate-device-with-placement \
  --project-name AnytownDumpsters \
  --placement-name customer217 \
  --device-template-name empty-dumpster-request \
  --device-id G030PM0123456789
```

This command produces no output.
For more information, see Using AWS IoT 1-Click with the AWS CLI in the AWS IoT 1-Click Developer Guide.

- For API details, see AssociateDeviceWithPlacement in AWS CLI Command Reference.

create-placement

The following code example shows how to use create-placement.

AWS CLI

To create an AWS IoT 1-Click placement for a project

The following create-placement example create an AWS IoT 1-Click placement for the specified project.

```bash
aws iot1click-projects create-placement \
  --project-name AnytownDumpsters \
  --placement-name customer217 \n  --attributes "{"location": "123 Any Street Anytown, USA 10001", "phone": "123-456-7890"}"
```

This command produces no output.

For more information, see Using AWS IoT 1-Click with the AWS CLI in the AWS IoT 1-Click Developer Guide.

- For API details, see CreatePlacement in AWS CLI Command Reference.

create-project

The following code example shows how to use create-project.

AWS CLI

To create an AWS IoT 1-Click project for zero or more placements

The following create-project example creates an AWS IoT 1-Click project for a placement.

```bash
aws iot1click-projects create-project --cli-input-json file://create-project.json
```

Contents of create-project.json:
```
{
    "projectName": "AnytownDumpsters",
    "description": "All dumpsters in the Anytown region.",
    "placementTemplate": {
        "defaultAttributes": {
            "City": "Anytown"
        },
        "deviceTemplates": {
            "empty-dumpster-request": {
                "deviceType": "button"
            }
        }
    }
}
```

This command produces no output.

For more information, see [Using AWS IoT 1-Click with the AWS CLI](#) in the [AWS IoT 1-Click Developer Guide](#).

- For API details, see [CreateProject](#) in [AWS CLI Command Reference](#).

### delete-placement

The following code example shows how to use `delete-placement`.

**AWS CLI**

**To delete a placement from a project**

The following `delete-placement` example deletes the specified placement from a project.

```
aws iot1click-projects delete-placement \  
    --project-name AnytownDumpsters \  
    --placement-name customer217
```

This command produces no output.

For more information, see [Using AWS IoT 1-Click with the AWS CLI](#) in the [AWS IoT 1-Click Developer Guide](#).

- For API details, see [DeletePlacement](#) in [AWS CLI Command Reference](#).
**delete-project**

The following code example shows how to use delete-project.

**AWS CLI**

To delete a project from your AWS account

The following delete-project example deletes the specified project from your AWS account.

```
aws iot1click-projects delete-project \
   --project-name AnytownDumpsters
```

This command produces no output.

For more information, see Using AWS IoT 1-Click with the AWS CLI in the AWS IoT 1-Click Developer Guide.

- For API details, see DeleteProject in AWS CLI Command Reference.

**describe-placement**

The following code example shows how to use describe-placement.

**AWS CLI**

To describe a placement for a project

The following describe-placement example describes a placement for the specified project.

```
aws iot1click-projects describe-placement \
   --project-name AnytownDumpsters \
   --placement-name customer217
```

Output:

```
{
   "placement": {
      "projectName": "AnytownDumpsters",
      "placementName": "customer217",
      "attributes": {
         "phone": "123-555-0110",
```
For more information, see Using AWS IoT 1-Click with the AWS CLI in the AWS IoT 1-Click Developer Guide.

- For API details, see DescribePlacement in AWS CLI Command Reference.

describe-project

The following code example shows how to use describe-project.

AWS CLI

To describe an AWS IoT 1-Click project

The following describe-project example describes the specified AWS IoT 1-Click project.

aws iot1click-projects describe-project \ 
  --project-name AnytownDumpsters

Output:

```json
{
  "project": {
    "projectName": "AnytownDumpsters",
    "description": "All dumpsters in the Anytown region.",
    "createdDate": 1563483100,
    "updatedDate": 1563483100,
    "placementTemplate": {
      "defaultAttributes": {
        "City": "Anytown"
      },
      "deviceTemplates": {
        "empty-dumpster-request": {
          "deviceType": "button",
          "callbackOverrides": {}  
        }  
      }
```
disassociate-device-from-placement

The following code example shows how to use disassociate-device-from-placement.

AWS CLI

To disassociate a device from a placement

The following disassociate-device-from-placement example disassociates the specified device from a placement.

```
aws iot1click-projects disassociate-device-from-placement \   
    --project-name AnytownDumpsters \   
    --placement-name customer217 \   
    --device-template-name empty-dumpster-request
```

This command produces no output.

For more information, see Using AWS IoT 1-Click with the AWS CLI in the AWS IoT 1-Click Developer Guide.

For API details, see DisassociateDeviceFromPlacement in AWS CLI Command Reference.

get-devices-in-placement

The following code example shows how to use get-devices-in-placement.

AWS CLI

To list all devices in a placement contained in a project
The following get-devices-in-placement example lists all devices in a the specified placement contained in the specified project.

```bash
aws iot1click-projects get-devices-in-placement \
   --project-name AnytownDumpsters \
   --placement-name customer217
```

Output:

```json
{
   "devices": {
      "empty-dumpster-request": "G030PM0123456789"
   }
}
```

For more information, see [Using AWS IoT 1-Click with the AWS CLI](https://docs.aws.amazon.com/iot1click/latest/developerguide/cli.html) in the [AWS IoT 1-Click Developer Guide](https://docs.aws.amazon.com/iot1click/latest/developerguide/)


### list-placements

The following code example shows how to use list-placements.

**AWS CLI**

**To list all AWS IoT 1-Click placements for a project**

The following list-placements example lists all AWS IoT 1-Click placements for the specified project.

```bash
aws iot1click-projects list-placements \
   --project-name AnytownDumpsters
```

Output:

```json
{
   "placements": [
      {
         "projectName": "AnytownDumpsters",
         "dimensions": [
            ...
         ]
      }
   ]
}
```
"placementName": "customer217",
"createdDate": 1563488454,
"updatedDate": 1563488454
]
]

For more information, see Using AWS IoT 1-Click with the AWS CLI in the AWS IoT 1-Click Developer Guide.

- For API details, see ListPlacements in AWS CLI Command Reference.

list-projects

The following code example shows how to use list-projects.

AWS CLI

To list all AWS IoT 1-Click projects

The following list-projects example list all AWS IoT 1-Click projects in your account.

aws iot1click-projects list-projects

Output:

{
   "projects": [
   {
      "projectName": "AnytownDumpsters",
      "createdDate": 1563483100,
      "updatedDate": 1563483100,
      "tags": {}
   }
   ]
}

For more information, see Using AWS IoT 1-Click with the AWS CLI in the AWS IoT 1-Click Developer Guide.
list-tags-for-resource

The following code example shows how to use list-tags-for-resource.

AWS CLI

To list the tags for a project resource

The following list-tags-for-resource example list the tags for the specified project resource.

```bash
aws iot1click-projects list-tags-for-resource \
```

Output:

```json
{
   "tags": {
      "Manager": "Li Juan",
      "Account": "45215"
   }
}
```

For more information, see Using AWS IoT 1-Click with the AWS CLI in the AWS IoT 1-Click Developer Guide.

- For API details, see ListProjects in AWS CLI Command Reference.

**tag-resource**

The following code example shows how to use tag-resource.

AWS CLI

To add tags to a project resource

The following tag-resource example adds two tags to the specified project resource.
Contents of `devices-tag-resource.json`:

```json
{
  "resourceArn": "arn:aws:iot1click:us-west-2:123456789012:projects/AnytownDumpsters",
  "tags": {
    "Account": "45215",
    "Manager": "Li Juan"
  }
}
```

This command produces no output.

For more information, see [Using AWS IoT 1-Click with the AWS CLI](https://docs.aws.amazon.com/iot1-click/latest/developerguide/) in the *AWS IoT 1-Click Developer Guide*.

- For API details, see [TagResource](https://docs.aws.amazon.com/cli/latest/reference/iot1click-projects/tag-resource/) in *AWS CLI Command Reference*.

### untag-resource

The following code example shows how to use `untag-resource`.

**AWS CLI**

**To remove tags from a project resource**

The following `untag-resource` example removes the tag with the key name `Manager` from the specified project.

```bash
aws iot1click-projects untag-resource \
  --resource-arn "arn:aws:iot1click:us-west-2:123456789012:projects/AnytownDumpsters" \
  --tag-keys "Manager"
```

This command produces no output.

For more information, see [Using AWS IoT 1-Click with the AWS CLI](https://docs.aws.amazon.com/iot1-click/latest/developerguide/) in the *AWS IoT 1-Click Developer Guide*.
update-placement

The following code example shows how to use update-placement.

AWS CLI

To update the "attributes" key-value pairs of a placement

The following update-placement example update the "attributes" key-value pairs of a placement.

```
aws iot1click-projects update-placement \
  --cli-input-json file://update-placement.json
```

Contents of `update-placement.json`:

```
{
  "projectName": "AnytownDumpsters",
  "placementName": "customer217",
  "attributes": {
    "phone": "123-456-7890",
    "location": "123 Any Street Anytown, USA 10001"
  }
}
```

This command produces no output.

For more information, see Using AWS IoT 1-Click with the AWS CLI in the AWS IoT 1-Click Developer Guide.

- For API details, see UpdatePlacement in AWS CLI Command Reference.

update-project

The following code example shows how to use update-project.

AWS CLI

To update settings for a project
The following update-project example updates the description for a project.

```
aws iot1click-projects update-project \
    --project-name AnytownDumpsters \ 
    --description "All dumpsters (yard waste, recycling, garbage) in the Anytown region."
```

This command produces no output.

For more information, see Using AWS IoT 1-Click with the AWS CLI in the AWS IoT 1-Click Developer Guide.
- For API details, see UpdateProject in AWS CLI Command Reference.

AWS IoT Analytics examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS IoT Analytics.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics
- Actions

Actions

batch-put-message

The following code example shows how to use batch-put-message.

AWS CLI

To send a message to a channel
The following batch-put-message example sends a message to the specified channel.

```bash
aws iotanalytics batch-put-message \
   --cli-binary-format raw-in-base64-out \
   --cli-input-json file://batch-put-message.json
```

Contents of `batch-put-message.json`:

```json
{
   "channelName": "mychannel",
   "messages": [
      {
         "messageId": "0001",
         "payload": "eyAidGVtcGVyYXR1cmUiOiAyMCB9"
      }
   ]
}
```

Output:

```json
{
   "batchPutMessageErrorEntries": []
}
```

For more information, see [BatchPutMessage](#) in the [AWS IoT Analytics API Reference](#).
- For API details, see [BatchPutMessage](#) in [AWS CLI Command Reference](#).

**cancel-pipeline-reprocessing**

The following code example shows how to use `cancel-pipeline-reprocessing`.

**AWS CLI**

**To cancel the reprocessing of data through a pipeline**

The following `cancel-pipeline-reprocessing` example cancels the reprocessing of data through the specified pipeline.

```bash
aws iotanalytics cancel-pipeline-reprocessing \
   --pipeline-name mypipeline \
```
This command produces no output.

For more information, see `CancelPipelineReprocessing` in the AWS IoT Analytics API Reference.

- For API details, see `CancelPipelineReprocessing` in AWS CLI Command Reference.

**create-channel**

The following code example shows how to use `create-channel`.

**AWS CLI**

**To create a channel**

The following `create-channel` example creates a channel with the specified configuration. A channel collects data from an MQTT topic and archives the raw, unprocessed messages before publishing the data to a pipeline.

```bash
aws iotanalytics create-channel \
   --cli-input-json file://create-channel.json
```

**Contents of `create-channel.json`:**

```json
{
   "channelName": "mychannel",
   "retentionPeriod": {
      "unlimited": true
   },
   "tags": [
      {
         "key": "Environment",
         "value": "Production"
      }
   ]
}
```

**Output:**

```json
{
}
```
For more information, see CreateChannel in the AWS IoT Analytics API Reference.

- For API details, see CreateChannel in AWS CLI Command Reference.

create-dataset

The following code example shows how to use create-dataset.

AWS CLI

To create a dataset

The following create-dataset example creates a dataset. A dataset stores data retrieved from a data store by applying a queryAction (a SQL query) or a containerAction (executing a containerized application). This operation creates the skeleton of a dataset. You can populate the dataset manually by calling CreateDatasetContent or automatically according to a trigger you specify.

```bash
aws iotanalytics create-dataset \
   --cli-input-json file://create-dataset.json
```

Contents of create-dataset.json:

```json
{
   "datasetName": "mydataset",
   "actions": [
   {
      "actionName": "myDatasetAction",
      "queryAction": {
         "sqlQuery": "SELECT * FROM mydatastore"
      }
   }
   ],
   "retentionPeriod": {
      "unlimited": true
   }
}
```
For more information, see CreateDataset in the AWS IoT Analytics API Reference.

- For API details, see CreateDataset in AWS CLI Command Reference.

create-dataset-content

The following code example shows how to use create-dataset-content.

AWS CLI

To create the content of a dataset

The following create-dataset-content example creates the content of the specified dataset by applying a queryAction (an SQL query) or a containerAction (executing a containerized application).

```
aws iotanalytics create-dataset-content \
--dataset-name mydataset
```

Output:

```json
{
...}
```
create-datastore

The following code example shows how to use create-datastore.

AWS CLI

To create a data store

The following create-datastore example creates a data store, which is a repository for messages.

aws iotanalytics create-datastore \
    --cli-input-json file://create-datastore.json

Contents of create-datastore.json:

```json
{
    "datastoreName": "mydatastore",
    "retentionPeriod": {
        "numberOfDays": 90
    },
    "tags": [
        {
            "key": "Environment",
            "value": "Production"
        }
    ]
}
```

Output:

```json
{
    "datastoreName": "mydatastore",
```
create-pipeline

The following code example shows how to use create-pipeline.

AWS CLI

Create an IoT Analytics Pipeline

The following create-pipeline example creates a pipeline. A pipeline consumes messages from a channel and allows you to process the messages before storing them in a data store. You must specify both a channel and a data store activity and, optionally, as many as 23 additional activities in the pipelineActivities array.

```
aws iotanalytics create-pipeline \
    --cli-input-json file://create-pipeline.json
```

Contents of create-pipeline.json:

```
{
    "pipelineName": "mypipeline",
    "pipelineActivities": [
        {
            "channel": {
                "name": "myChannelActivity",
                "channelName": "mychannel",
                "next": "myMathActivity"
            }
        },
        {
            "datastore": {
                "name": "myDatastoreActivity",
                "datastoreName": "mydatastore"
            }
        }
    ]
}
```
The following code example shows how to use `delete-channel`.

### AWS CLI

#### Delete an IoT Analytics Channel

The following `delete-channel` example deletes the specified channel.

```
aws iotanalytics delete-channel
```
--channel-name mychannel

This command produces no output.

For more information, see DeleteChannel in the AWS IoT Analytics API Reference.

- For API details, see DeleteChannel in AWS CLI Command Reference.

delete-dataset

The following code example shows how to use delete-dataset.

AWS CLI

To delete a dataset

The following delete-dataset example deletes the specified dataset. You don't have to delete the content of the dataset before you perform this operation.

/aws iotanalytics delete-dataset \\
   --dataset-name mydataset

This command produces no output.

For more information, see DeleteDataset in the AWS IoT Analytics API Reference.

- For API details, see DeleteDataset in AWS CLI Command Reference.

delete-dataset-content

The following code example shows how to use delete-dataset-content.

AWS CLI

To delete dataset content

The following delete-dataset-content example deletes the content of the specified dataset.

/aws iotanalytics delete-dataset-content \\
   --dataset-name mydataset
This command produces no output.

For more information, see DeleteDatasetContent in the AWS IoT Analytics API Reference.

- For API details, see DeleteDatasetContent in AWS CLI Command Reference.

**delete-datastore**

The following code example shows how to use delete-datastore.

**AWS CLI**

**To delete a data store**

The following delete-datastore example deletes the specified data store.

```bash
aws iotanalytics delete-datastore \
   --datastore-name mydatastore
```

This command produces no output.

For more information, see DeleteDatastore in the AWS IoT Analytics API Reference.

- For API details, see DeleteDatastore in AWS CLI Command Reference.

**delete-pipeline**

The following code example shows how to use delete-pipeline.

**AWS CLI**

**To delete a pipeline**

The following delete-pipeline example deletes the specified pipeline.

```bash
aws iotanalytics delete-pipeline \
   --pipeline-name mypipeline
```

This command produces no output.

For more information, see DeletePipeline in the AWS IoT Analytics API Reference.

- For API details, see DeletePipeline in AWS CLI Command Reference.
describe-channel

The following code example shows how to use describe-channel.

**AWS CLI**

**To retrieve information about a channel**

The following describe-channel example displays details, including statistics, for the specified channel.

```bash
aws iotanalytics describe-channel \
   --channel-name mychannel \
   --include-statistics
```

**Output:**

```json
{
   "statistics": {
      "size": {
         "estimatedSizeInBytes": 402.0,
         "estimatedOn": 1561504380.0
      }
   },
   "channel": {
      "status": "ACTIVE",
      "name": "mychannel",
      "lastUpdateTime": 1557860351.001,
      "creationTime": 1557860351.001,
      "retentionPeriod": {
         "unlimited": true
      },
      "arn": "arn:aws:iotanalytics:us-west-2:123456789012:channel/mychannel"
   }
}
```

For more information, see [DescribeChannel](https://docs.aws.amazon.com/iotanalytics/latest/APIReference/API_DescribeChannel.html) in the *AWS IoT Analytics API Reference*.

- For API details, see [DescribeChannel](https://docs.aws.amazon.com/cli/latest/reference/iotanalytics/describe-channel.html) in *AWS CLI Command Reference*.

describe-dataset

The following code example shows how to use describe-dataset.
To retrieve information about a dataset

The following describe-dataset example displays details for the specified dataset.

```bash
aws iotanalytics describe-dataset \
   --dataset-name mydataset
```

Output:

```
{
   "dataset": {
      "status": "ACTIVE",
      "contentDeliveryRules": [],
      "name": "mydataset",
      "lastUpdateTime": 1557859240.658,
      "triggers": [],
      "creationTime": 1557859240.658,
      "actions": [
         {
            "actionName": "query_32",
            "queryAction": {
               "sqlQuery": "SELECT * FROM mydatastore",
               "filters": []
            }
         }
      ],
      "retentionPeriod": {
         "numberOfDays": 90,
         "unlimited": false
      },
   }
}
```

For more information, see [DescribeDataset](https://docs.aws.amazon.com/iotanalytics/latest/APIReference/API_DescribeDataset.html) in the *AWS IoT Analytics API Reference*.

- For API details, see [DescribeDataset](https://docs.aws.amazon.com/cli/latest/reference/iotanalytics/describe-dataset.html) in *AWS CLI Command Reference*.

**describe-datastore**

The following code example shows how to use describe-datastore.
**AWS CLI**

**To retrieve information about a data store**

The following `describe-datastore` example displays details, including statistics, for the specified data store.

```bash
aws iotanalytics describe-datastore \
   --datastore-name mydatastore \
   --include-statistics
```

Output:

```json
{
   "datastore": {
      "status": "ACTIVE",
      "name": "mydatastore",
      "lastUpdateTime": 1557858971.02,
      "creationTime": 1557858971.02,
      "retentionPeriod": {
         "unlimited": true
      },
   },
   "statistics": {
      "size": {
         "estimatedSizeInBytes": 397.0,
         "estimatedOn": 1561592040.0
      }
   }
}
```

For more information, see [DescribeDatastore](#) in the AWS IoT Analytics API Reference.
- For API details, see [DescribeDatastore](#) in AWS CLI Command Reference.

**describe-logging-options**

The following code example shows how to use `describe-logging-options`.

**AWS CLI**

**To retrieve the current logging options**
The following describe-logging-options example displays the current AWS IoT Analytics logging options.

```bash
aws iotanalytics describe-logging-options
```

This command produces no output. Output:

```json
{
   "loggingOptions": {
      "roleArn": "arn:aws:iam::123456789012:role/service-role/myIoTAnalyticsRole",
      "enabled": true,
      "level": "ERROR"
   }
}
```

For more information, see `DescribeLoggingOptions` in the *AWS IoT Analytics API Reference*.

- For API details, see `DescribeLoggingOptions` in *AWS CLI Command Reference*.

**describe-pipeline**

The following code example shows how to use describe-pipeline.

**AWS CLI**

**To retrieve information about a pipeline**

The following describe-pipeline example displays details for the specified pipeline.

```bash
aws iotanalytics describe-pipeline \
   --pipeline-name mypipeline
```

Output:

```json
{
   "pipeline": {
      "activities": [
         {
            "channel": {
               "channelName": "mychannel",
               "name": "mychannel_28",
               
```
For more information, see [DescribePipeline](https://docs.aws.amazon.com/iotanalytics/latest/APIReference/API_DescribePipeline.html) in the *AWS IoT Analytics API Reference*.

- For API details, see [DescribePipeline](https://docs.aws.amazon.com/iotanalytics/latest/APIReference/API_DescribePipeline.html) in *AWS CLI Command Reference*.

### get-dataset-content

The following code example shows how to use `get-dataset-content`.

**AWS CLI**

**To retrieve the contents of a dataset**

The following `get-dataset-content` example retrieves the contents of a dataset as presigned URIs.

```bash
aws iotanalytics get-dataset-content --dataset-name mydataset
```

**Output:**

```python
{
    "next": "mydatastore_29",
    "name": "mypipeline",
    "lastUpdateTime": 1561676362.515,
    "creationTime": 1557859124.432,
    "reprocessingSummaries": [
        {
            "status": "SUCCEEDED",
            "creationTime": 1561676362.189,
            "id": "6ad2764f-fb13-4de3-b101-4e74af03b043"
        }
    ],
    "arn": "arn:aws:iotanalytics:us-west-2:123456789012:pipeline/mypipeline"
}
```
The following code example shows how to use `list-channels`.

**AWS CLI**

To retrieve a list of channels

The following `list-channels` example displays summary information for the available channels.

```bash
aws iotanalytics list-channels
```

Output:

```json
{
   "channelSummaries": [
   {
       "status": "ACTIVE",
       "channelName": "mychannel",
   }
   ]
}
```
For more information, see ListChannels in the AWS IoT Analytics API Reference.

- For API details, see ListChannels in AWS CLI Command Reference.

**list-dataset-contents**

The following code example shows how to use list-dataset-contents.

**AWS CLI**

**To list information about dataset contents**

The following list-dataset-contents example lists information about dataset contents that have been created.

```
aws iotanalytics list-dataset-contents \
   --dataset-name mydataset
```

**Output:**

```
{
   "datasetContentSummaries": [
      {
         "status": {
            "state": "SUCCEEDED"
         },
         "scheduleTime": 1557863215.995,
         "version": "b10ea2a9-66c1-4d99-8d1f-518113b738d0",
         "creationTime": 1557863215.995
      }
   ]
}
```

For more information, see ListDatasetContents in the AWS IoT Analytics API Reference.

- For API details, see ListDatasetContents in AWS CLI Command Reference.
list-datasets

The following code example shows how to use list-datasets.

AWS CLI

To retrieve information about datasets

The following list-datasets example lists summary information about available datasets.

```bash
aws iotanalytics list-datasets
```

Output:

```json
{
   "datasetSummaries": [
      {
         "status": "ACTIVE",
         "datasetName": "mydataset",
         "lastUpdateTime": 1557859240.658,
         "triggers": [],
         "creationTime": 1557859240.658,
         "actions": [
            {
               "actionName": "query_32",
               "actionType": "QUERY"
            }
         ]
      }
   ]
}
```

For more information, see ListDatasets in the AWS IoT Analytics API Reference.

- For API details, see ListDatasets in AWS CLI Command Reference.

list-datastores

The following code example shows how to use list-datastores.

AWS CLI

To retrieve a list of data stores
The following list-datastores example displays summary information about the available data stores.

```bash
aws iotanalytics list-datastores
```

Output:

```json
{
   "datastoreSummaries": [
      {
         "status": "ACTIVE",
         "datastoreName": "mydatastore",
         "creationTime": 1557858971.02,
         "lastUpdateTime": 1557858971.02
      }
   ]
}
```

For more information, see ListDatastores in the AWS IoT Analytics API Reference.

- For API details, see ListDatastores in AWS CLI Command Reference.

list-pipelines

The following code example shows how to use list-pipelines.

**AWS CLI**

**To retrieve a list of pipelines**

The following list-pipelines example displays a list of available pipelines.

```bash
aws iotanalytics list-pipelines
```

Output:

```json
{
   "pipelineSummaries": [
      {
         "pipelineName": "mypipeline",
         "creationTime": 1557859124.432,
```

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For more information, see ListPipelines in the AWS IoT Analytics API Reference.

- For API details, see ListPipelines in AWS CLI Command Reference.

**list-tags-for-resource**

The following code example shows how to use list-tags-for-resource.

**AWS CLI**

**To list tags for a resource**

The following list-tags-for-resource example Lists the tags that you have attached to the specified resource.

```bash
aws iotanalytics list-tags-for-resource \
```

**Output:**

```json
{
   "tags": [
      {
         "value": "bar",
         "key": "foo"
      }
   ]
}
```

For more information, see ListTagsForResource in the AWS IoT Analytics API Reference.

- For API details, see ListTagsForResource in AWS CLI Command Reference.

**put-logging-options**

The following code example shows how to use put-logging-options.
AWS CLI

To set or update logging options

The following put-logging-options example sets or updates the AWS IoT Analytics logging options. If you update the value of any loggingOptions field, it can take up to one minute for the change to take effect. Also, if you change the policy attached to the role you specified in the "roleArn" field (for example, to correct an invalid policy) it can take up to five minutes for that change to take effect.

```
aws iotanalytics put-logging-options \
    --cli-input-json file://put-logging-options.json
```

Contents of put-logging-options.json:

```json
{
    "loggingOptions": {
    "roleArn": "arn:aws:iam::123456789012:role/service-role/myIoTAnalyticsRole",
    "level": "ERROR",
    "enabled": true
    }
}
```

This command produces no output.

For more information, see PutLoggingOptions in the AWS IoT Analytics API Reference.

- For API details, see PutLoggingOptions in AWS CLI Command Reference.

run-pipeline-activity

The following code example shows how to use run-pipeline-activity.

AWS CLI

To simulate a pipeline activity

The following run-pipeline-activity example simulates the results of running a pipeline activity on a message payload.

```
aws iotanalytics run-pipeline-activity \
```
--pipeline-activity file://maths.json \
--payloads file://payloads.json

Contents of maths.json:

```json
{
   "math": {
      "name": "MyMathActivity",
      "math": "((temp - 32) * 5.0) / 9.0",
      "attribute": "tempC"
   }
}
```

Contents of payloads.json:

```
[
   "{"humidity": 52, "temp": 68 }",
   "{"humidity": 52, "temp": 32 }"
]
```

Output:

```
{
   "logResult": "",
   "payloads": [
      "eyJodW1pZGl0eSI6NTIsInRlbXAiOjY4LCJ0ZW1wQyI6MjB9",
      "eyJodW1pZGl0eSI6NTIsInRlbXAiOjMyLCJ0ZW1wQyI6MH0="
   ]
}
```

For more information, see RunPipelineActivity in the AWS IoT Analytics API Reference.

- For API details, see RunPipelineActivity in AWS CLI Command Reference.

**sample-channel-data**

The following code example shows how to use sample-channel-data.

**AWS CLI**

To retrieve sample messages from a channel
The following sample-channel-data example retrieves a sample of messages from the specified channel ingested during the specified timeframe. You can retrieve up to 10 messages.

```bash
aws iotanalytics sample-channel-data \
   --channel-name mychannel
```

Output:

```json
{  
   "payloads": [  
      "eyAidGVtcGVyYXR1cmUiOiAyMCB9",
      "eyAiZm9vIjogImJhciIgfQ=="
   ]
}
```

For more information, see [SampleChannelData](#) in the *AWS IoT Analytics API Reference*.

- For API details, see [SampleChannelData](#) in *AWS CLI Command Reference*.

### start-pipeline-reprocessing

The following code example shows how to use `start-pipeline-reprocessing`.

**AWS CLI**

**To start pipeline reprocessing**

The following `start-pipeline-reprocessing` example starts the reprocessing of raw message data through the specified pipeline.

```bash
aws iotanalytics start-pipeline-reprocessing \
   --pipeline-name mypipeline
```

Output:

```json
{  
   "reprocessingId": "6ad2764f-fb13-4de3-b101-4e74af03b043"
}
```

For more information, see [StartPipelineReprocessing](#) in the *AWS IoT Analytics API Reference*. 
For API details, see `StartPipelineReprocessing` in *AWS CLI Command Reference.*

### tag-resource

The following code example shows how to use `tag-resource`.

**AWS CLI**

**To add or modify tags for a resource**

The following `tag-resource` example adds to or modifies the tags attached to the specified resource.

```bash
aws iotanalytics tag-resource \
    --resource-arn "arn:aws:iotanalytics:us-west-2:123456789012:channel/mychannel" \
    --tags "[{"key": "Environment", "value": "Production"}]"
```

This command produces no output.

For more information, see `TagResource` in the *AWS IoT Analytics API Reference.*

For API details, see `TagResource` in *AWS CLI Command Reference.*

### untag-resource

The following code example shows how to use `untag-resource`.

**AWS CLI**

**To remove tags from a resource**

The following `untag-resource` example removes the tags with the specified key names from the specified resource.

```bash
aws iotanalytics untag-resource \
    --resource-arn "arn:aws:iotanalytics:us-west-2:123456789012:channel/mychannel" \
    --tag-keys "["Environment"]"
```

This command produces no output.

For more information, see `UntagResource` <https://docs.aws.amazon.com/iotanalytics/latest/APIReference/API_UntagResource.html> in the *AWS IoT Analytics API Reference.*
• For API details, see UntagResource in AWS CLI Command Reference.

update-channel

The following code example shows how to use update-channel.

AWS CLI

To modify a channel

The following update-channel example modifies the settings for the specified channel.

```
aws iotanalytics update-channel \
   --cli-input-json file://update-channel.json
```

Contents of update-channel.json:

```
{
    "channelName": "mychannel",
    "retentionPeriod": {
        "numberOfDays": 92
    }
}
```

This command produces no output.

For more information, see UpdateChannel in the AWS IoT Analytics API Reference.

• For API details, see UpdateChannel in AWS CLI Command Reference.

update-dataset

The following code example shows how to use update-dataset.

AWS CLI

To update a dataset

The following update-dataset example modifies the settings of the specified dataset.

```
aws iotanalytics update-dataset \
   --cli-input-json file://update-dataset.json
```
Contents of update-dataset.json:

```json
{
    "datasetName": "mydataset",
    "actions": [
        {
            "actionName": "myDatasetUpdateAction",
            "queryAction": {
                "sqlQuery": "SELECT * FROM mydatastore"
            }
        }
    ],
    "retentionPeriod": {
        "numberOfDays": 92
    }
}
```

This command produces no output.

For more information, see UpdateDataset <https://docs.aws.amazon.com/iotanalytics/latest/APIReference/API_UpdateDataset.html> in the AWS IoT Analytics API Reference.

- For API details, see UpdateDataset in AWS CLI Command Reference.

update-datastore

The following code example shows how to use update-datastore.

AWS CLI

**To update a data store**

The following update-datastore example modifies the settings of the specified data store.

```bash
aws iotanalytics update-datastore \
    --cli-input-json file://update-datastore.json
```

Contents of update-datastore.json:

```json
{
    "datastoreName": "mydatastore",
    "retentionPeriod": {
```
The following code example shows how to use `update-pipeline`.

**AWS CLI**

To update a pipeline

The following `update-pipeline` example modifies the settings of the specified pipeline. You must specify both a channel and a data store activity and, optionally, as many as 23 additional activities, in the `pipelineActivities` array.

```
aws iotanalytics update-pipeline \
   --cli-input-json file://update-pipeline.json
```

Contents of `update-pipeline.json`:

```json
{
   "pipelineName": "mypipeline",
   "pipelineActivities": [
   {
      "channel": {
         "name": "myChannelActivity",
         "channelName": "mychannel",
         "next": "myMathActivity"
      }
   },
   {
      "datastore": {
         "name": "myDatastoreActivity",
         "datastoreName": "mydatastore"
      }
   }
}
```
This command produces no output.

For more information, see `UpdatePipeline` in the `AWS IoT Analytics API Reference`.

- For API details, see `UpdatePipeline` in `AWS CLI Command Reference`.

**Device Advisor examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Device Advisor.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**
- **Actions**

**Actions**

*create-suite-definition*

The following code example shows how to use `create-suite-definition`. 
Example 1: To create an IoT Device Advisor test suite

The following create-suite-definition example creates a device advisor test suite in the AWS IoT with the specified suite definition configuration.

```bash
code
aws iotdeviceadvisor create-suite-definition
   --suite-definition-configuration '{
       "suiteDefinitionName": "TestSuiteName",
       "devices": [{"thingArn": "arn:aws:iot:us-east-1:123456789012:thing/MyIotThing"}],
       "intendedForQualification": false,
       "rootGroup": {
           "configuration": {},
           "tests": [{"name": "MQTT Connect", "configuration": {
               "EXECUTION_TIMEOUT": 120
           },
           "tests": [{"name": "MQTT_Connect", "configuration": {},
               "test": {
                   "id": "MQTT_Connect",
                   "testCase": null,
                   "version": "0.0.0"
               }
           ]}
       }
   }

Output:

```json
{
   "suiteDefinitionId": "0jtsgio7yenu",
   "suiteDefinitionArn": "arn:aws:iotdeviceadvisor:us-east-1:123456789012:suitedefinition/0jtsgio7yenu",
   "suiteDefinitionName": "TestSuiteName",
   "createdAt": "2022-12-02T11:38:13.263000-05:00"
}
```

For more information, see Create a test suite definition in the AWS IoT Core Developer Guide.

Example 2: To create an IoT Device Advisor Latest Qualification test suite

The following create-suite-definition example creates a device advisor qualification test suite with the latest version in the AWS IoT with the specified suite definition configuration.

```bash
code
aws iotdeviceadvisor create-suite-definition
   --suite-definition-configuration '{
       "suiteDefinitionName": "TestSuiteName",
       "devices": [{"thingArn": "arn:aws:iot:us-east-1:123456789012:thing/MyIotThing"}]
```
Output:

```
{
  "suiteDefinitionId": "txgsuolk2myj",
  "suiteDefinitionArn": "arn:aws:iotdeviceadvisor:us-east-1:123456789012:suitedefinition/txgsuolk2myj",
  "suiteDefinitionName": "TestSuiteName",
  "createdAt": "2022-12-02T11:38:13.263000-05:00"
}
```

For more information, see [Create a test suite definition](https://docs.aws.amazon.com/iot/core/latest/developer-guide/iot-core-api-create-suitedefinition.html) in the *AWS IoT Core Developer Guide*.

- For API details, see [CreateSuiteDefinition](https://docs.aws.amazon.com/iot/latest/developerguide/iot-cli-create-suitedefinition.html) in *AWS CLI Command Reference*.

**delete-suite-definition**

The following code example shows how to use delete-suite-definition.

**AWS CLI**

**To delete the IoT Device Advisor test suite**

The following delete-suite-definition example deletes the device advisor test suite with the specified suite definition ID.

```
aws iotdeviceadvisor delete-suite-definition \
  --suite-definition-id 0jtsgio7yenu
```

This command produces no output.

For more information, see [DeleteSuiteDefinition](https://docs.aws.amazon.com/iot/latest/developerguide/iot-cli-delete-suitedefinition.html) in the *AWS IoT API Reference*.

- For API details, see [DeleteSuiteDefinition](https://docs.aws.amazon.com/iot/latest/developerguide/iot-cli-delete-suitedefinition.html) in *AWS CLI Command Reference*.

**get-endpoint**

The following code example shows how to use get-endpoint.
**Example 1: To get the information about an IoT Device Advisor Account-level endpoint**

The following `get-endpoint` example gets the information about a device advisor Account-level test endpoint.

```bash
aws iotdeviceadvisor get-endpoint
```

Output:

```
{
  "endpoint": "t6y4c143x9sfo.deviceadvisor.iot.us-east-1.amazonaws.com"
}
```

**Example 2: To get the information about an IoT Device Advisor Device-level endpoint**

The following `get-endpoint` example gets the information about a device advisor device-level test endpoint with the specified thing-arn or certificate-arn.

```bash
aws iotdeviceadvisor get-endpoint \
  --thing-arn arn:aws:iot:us-east-1:123456789012:thing/MyIotThing
```

Output:

```
{
  "endpoint": "tdb7719be5t6y4c143x9sfo.deviceadvisor.iot.us-east-1.amazonaws.com"
}
```

For more information, see [Get a test endpoint](https://docs.aws.amazon.com/iot-core/latest/developerguide/test-endpoint.html) in the *AWS IoT Core Developer Guide*.

- For API details, see [GetEndpoint](https://awscli.amazonaws.com/v2/documentation/api/2020-11-01/iotdeviceadvisor/get-endpoint.html) in *AWS CLI Command Reference*.

---

**get-suite-definition**

The following code example shows how to use `get-suite-definition`.

**AWS CLI**

**To get the information about an IoT Device Advisor test suite**
The following get-suite-definition example get the information about a device advisor test suite with the specified suite definition ID.

```bash
aws iotdeviceadvisor get-suite-definition \
   --suite-definition-id qqcsmtyyjabl
```

Output:

```
{
    "suiteDefinitionId": "qqcsmtyyjabl",
    "suiteDefinitionArn": "arn:aws:iotdeviceadvisor:us-east-1:123456789012:suitedefinition/qqcsmtyyjabl",
    "suiteDefinitionVersion": "v1",
    "latestVersion": "v1",
    "suiteDefinitionConfiguration": {
        "suiteDefinitionName": "MQTT connection",
        "devices": [],
        "intendedForQualification": false,
        "isLongDurationTest": false,
        "rootGroup": "{"configuration":{},"tests":[]}
    },
    "createdAt": "2022-11-11T22:28:52.389000-05:00",
    "lastModifiedAt": "2022-11-11T22:28:52.389000-05:00",
    "tags": {}
}
```

For more information, see Get a test suite definition in the AWS IoT Core Developer Guide.

- For API details, see GetSuiteDefinition in AWS CLI Command Reference.

**get-suite-run**

The following code example shows how to use get-suite-run.

**AWS CLI**

To get the information about an IoT Device Advisor test suite run status
The following `get-suite-run` example gets the information about a device advisor test suite run status with the specified suite definition ID and suite run ID.

```
aws iotdeviceadvisor get-suite-run \
   --suite-definition-id qqcsmtyyjabl \
   --suite-run-id nzlyhva18oa
```

Output:

```
{
    "suiteDefinitionId": "qqcsmtyyjabl",
    "suiteDefinitionVersion": "v1",
    "suiteRunId": "nzlyhva18oa",
    "suiteRunArn": "arn:aws:iotdeviceadvisor:us-east-1:123456789012:suiterun/qqcsmtyyjabl/nzlyhva18oa",
    "suiteRunConfiguration": {
        "primaryDevice": {
            "thingArn": "arn:aws:iot:us-east-1:123456789012:thing/MyIotThing",
            "certificateArn": "arn:aws:iot:us-east-1:123456789012:cert/certFile"
        },
        "parallelRun": false
    },
    "testResult": {
        "groups": [
            {
                "groupId": "uta5d9j1kvwc",
                "groupName": "Test group 1",
                "tests": [
                    {
                        "testCaseRunId": "2ve2twrqyr0s",
                        "testCaseDefinitionId": "awr8pq5vc9yp",
                        "testCaseDefinitionName": "MQTT Connect",
                        "status": "PASS",
                        "startTime": "2022-11-12T00:01:53.693000-05:00",
                        "endTime": "2022-11-12T00:02:15.443000-05:00",
                        "logUrl": "https://console.aws.amazon.com/cloudwatch/home?region=us-east-1#logEventViewer:group=/aws/iot/deviceadvisor/qqcsmtyyjabl;stream=nzlyhva18oa_2ve2twrqyr0s",
                        "warnings": "null",
                        "failure": "null"
                    }
                ]
            }
        ]
    }
}
```
get-suite-run-report

The following code example shows how to use `get-suite-run-report`.

**AWS CLI**

To get the information about an IoT Device Advisor qualifying test suite run report

The following `get-suite-run-report` example gets the report download link for a successful device advisor qualifying test suite run with the specified suite definition ID and suite run ID.

```bash
aws iotdeviceadvisor get-suite-run-report
  --suite-definition-id ztvb5aek4w4x
  --suite-run-id p6awv83nre6v
```

Output:

```json
{
}
```

For more information, see [Get a qualification report for a successful qualification test suite run](https://docs.aws.amazon.com/iotdeviceadvisor/latest/developerguide/qualify-testsuite.html) in the *AWS IoT Core Developer Guide*.


list-suite-definitions

The following code example shows how to use `list-suite-definitions`.

```bash
aws iotdeviceadvisor list-suite-definitions
```

For more information, see [Get a test suite run](https://docs.aws.amazon.com/iotdeviceadvisor/latest/developerguide/testsuite.html) in the *AWS IoT Core Developer Guide*.

AWS CLI

Example 1: To list the IoT Device Advisor test suites you created

The following `list-suite-definitions` example lists up to 25 device advisor test suites you created in AWS IoT. If you have more than 25 test suites, the "nextToken" will be shown in the output. You can use this "nextToken" to show the rest of the test suites you created.

```
aws iotdeviceadvisor list-suite-definitions
```

Output:

```
{
    "suiteDefinitionInformationList": [
        {
            "suiteDefinitionId": "3hsn88h4p2g5",
            "suiteDefinitionName": "TestSuite1",
            "defaultDevices": [
                {
                    "thingArn": "arn:aws:iot:us-east-1:123456789012:thing/MyIotThing"
                }
            ],
            "intendedForQualification": false,
            "isLongDurationTest": false,
            "protocol": "MqttV3_1_1",
            "createdAt": "2022-11-17T14:15:56.830000-05:00"
        },
        {
            ......
        }
    ],
    "nextToken": "nextTokenValue"
}
```

Example 2: To list the IoT Device Advisor test suites you created with the specified settings

The following `list-suite-definitions` example lists device advisor test suites you created in AWS IoT with the specified max-result number. If you have more test suites than the max number, the "nextToken" will be shown in the output. If you have "nextToken", you can use "nextToken" to show the test suites you created that weren't shown before.
aws iotdeviceadvisor list-suite-definitions \
   --max-result 1 \
   --next-token "nextTokenValue"

Output:

```javascript
{
   "suiteDefinitionInformationList": [ 
      {
        "suiteDefinitionId": "ztvb5aew4w4x",
        "suiteDefinitionName": "TestSuite2",
        "defaultDevices": [],
        "intendedForQualification": true,
        "isLongDurationTest": false,
        "protocol": "MqttV3_1_1",
        "createdAt": "2022-11-17T14:15:56.830000-05:00"
      }
   ],
   "nextToken": "nextTokenValue"
}
```

For more information, see [ListSuiteDefinitions](#) in the *AWS IoT API Reference*.

- For API details, see [ListSuiteDefinitions](#) in *AWS CLI Command Reference*.

### list-suite-runs

The following code example shows how to use list-suite-runs.

#### AWS CLI

**Example 1: To list all information about the specified IoT Device Advisor test suite runs status**

The following list-suite-runs example lists all information about a device advisor test suite runs status with the specified suite definition ID. If you have more than 25 test suite runs, the "nextToken" will be shown in the output. You can use this "nextToken" to show the rest of the test suite runs.

```bash
aws iotdeviceadvisor list-suite-runs \
   --suite-definition-id ztvb5aew4w4x
```
Example 2: To list information about the specified IoT Device Advisor test suite runs status with the specified settings

The following `list-suite-runs` example lists information about a device advisor test suite runs status with the specified suite definition ID and the specified max-result number. If you have more test suite runs than the max number, the "nextToken" will be shown in the output. If you have "nextToken", you can use "nextToken" to show the test suite runs that weren't shown before.

```
aws iotdeviceadvisor list-suite-runs \
   --suite-definition-id qqcsmtyyjaml \
   --max-result 1 \
   --next-token "nextTokenValue"
```

Output:

```
{
   "suiteRunsList": [
     {
       "suiteDefinitionId": "qqcsmtyyjaml",
       "suiteDefinitionVersion": "v1",
       "suiteDefinitionName": "MQTT connection",
       "suiteRunId": "gz9vm2s6d2jy",
       "createdAt": "2022-12-01T16:33:14.212000-05:00",
       "startedAt": "2022-12-01T16:33:15.710000-05:00",
       "endAt": "2022-12-01T16:42:03.323000-05:00",
       "status": "PASS",
       "passed": 6,
       "failed": 0
     }
   ]
}
```
For more information, see ListSuiteRuns in the AWS IoT API Reference.

- For API details, see ListSuiteRuns in AWS CLI Command Reference.

list-tags-for-resource

The following code example shows how to use list-tags-for-resource.

AWS CLI

To list the tags attached to an IoT Device Advisor resource

The following list-tags-for-resource example lists the tags attached to a device advisor resource. The device advisor resource can be a Suitedefinition-Arn or a Suiterun-Arn.

```
aws iotdeviceadvisor list-tags-for-resource \
   --resource-arn arn:aws:iotdeviceadvisor:us-east-1:123456789012:suitedefinition/ba0uyjpg38ny
```

Output:

```
{
   "tags": {
      "TestTagKey": "TestTagValue"
   }
}
```

For more information, see ListTagsForResource in the AWS IoT API Reference and Resource types defined by AWS IoT Core Device Advisor in the Service Authorization Reference.

- For API details, see ListTagsForResource in AWS CLI Command Reference.
**start-suite-run**

The following code example shows how to use `start-suite-run`.

**AWS CLI**

To start an IoT Device Advisor test suite run

The following `start-suite-run` example lists the available widgets in your AWS account.

```
aws iotdeviceadvisor start-suite-run \
   --suite-definition-id qqcsmtyyjabl \
   --suite-definition-version v1 \
```

Output:

```
{
   "suiteRunId": "pwmucgw7lt9s",
   "suiteRunArn": "arn:aws:iotdeviceadvisor:us-east-1:123456789012:suiterun/qqcsmtyyjabl/pwmucgw7lk9s",
   "createdAt": "2022-12-02T15:43:05.581000-05:00"
}
```

For more information, see [Start a test suite run](https://docs.aws.amazon.com/iot-deviceadvisor/latest/developerguide/start-suite-run.html) in the *AWS IoT Core Developer Guide*.

- For API details, see [StartSuiteRun](https://docs.aws.amazon.com/cli/latest/reference/iot-deviceadvisor/start-suite-run.html) in *AWS CLI Command Reference*.

**stop-suite-run**

The following code example shows how to use `stop-suite-run`.

**AWS CLI**

To stop an IoT Device Advisor test suite that is currently running

The following `stop-suite-run` example stops a device advisor test suite that is currently running with the specified suite definition ID and suite run ID.

```
aws iotdeviceadvisor stop-suite-run \
   --suite-definition-id qqcsmtyyjabl \
```

This command produces no output.

For more information, see Stop a test suite run in the AWS IoT Core Developer Guide.
- For API details, see StopSuiteRun in AWS CLI Command Reference.

**tag-resource**

The following code example shows how to use tag-resource.

AWS CLI

**To add to and modify the existing tags of an IoT Device Advisor resource**

The following tag-resource example adds to and modifies the existing tags of a device advisor resource with the specified resource arn and tags. The device advisor resource can be a Suitedefinition-Arn or a Suiterun-Arn.

```
aws iotdeviceadvisor tag-resource \
   --resource-arn arn:aws:iotdeviceadvisor:us-east-1:123456789012:suitedefinition/ba0uyjpg38ny \
   --tags '{"TagKey": "TagValue"}"
```

This command produces no output.

For more information, see TagResource in the AWS IoT API Reference and Resource types defined by AWS IoT Core Device Advisor in the Service Authorization Reference.
- For API details, see TagResource in AWS CLI Command Reference.

**untag-resource**

The following code example shows how to use untag-resource.

AWS CLI

**To remove the existing tags from an IoT Device Advisor resource**

The following untag-resource example removes the existing tags from a device advisor resource with the specified resource arn and tag key. The device advisor resource can be a Suitedefinition-Arn or a Suiterun-Arn.
This command produces no output.

For more information, see UntagResource in the AWS IoT API Reference and Resource types defined by AWS IoT Core Device Advisor in the Service Authorization Reference.

For API details, see UntagResource in AWS CLI Command Reference.

update-suite-definition

The following code example shows how to use `update-suite-definition`.

**AWS CLI**

**Example 1: To update an IoT Device Advisor test suite**

The following `update-suite-definition` example updates a device advisor test suite in the AWS IoT with the specified suite definition ID and suite definition configuration.

```bash
aws iotdeviceadvisor update-suite-definition \
    --suite-definition-id 3hsn88h4p2g5 \
    --suite-definition-configuration '{ \
        "suiteDefinitionName": "TestSuiteName", \
        "devices": [{"thingArn": "arn:aws:iot:us-east-1:123456789012:thing/MyIoTThing"}], \
        "intendedForQualification": false, \
        "rootGroup": {"configuration": {}, "tests": [{"name": "MQTT Connect", "configuration": {"EXECUTION_TIMEOUT": 120}, "tests": [{"name": "MQTT_Connect", "configuration": {}, "test": {"id": "MQTT_Connect", "testCase": null, "version": "0.0.0"}}]}}], \
        "devicePermissionRoleArn": "arn:aws:iam::123456789012:role/Myrole"}'
```

Output:

```
{
    "suiteDefinitionId": "3hsn88h4p2g5",
    "suiteDefinitionName": "TestSuiteName",
    "suiteDefinitionVersion": "v3",
```
Example 2: To update an IoT Device Advisor Qualification test suite

The following update-suite-definition example updates a device advisor qualification test suite in the AWS IoT with the specified suite definition ID and suite definition configuration.

```bash
aws iotdeviceadvisor update-suite-definition \
   --suite-definition-id txgsuolk2myj \
   --suite-definition-configuration '{
   "suiteDefinitionName": "TestSuiteName", 
   "devices": [{'thingArn":"arn:aws:iot:us-east-1:123456789012:thing/MyIotThing"}], 
   "intendedForQualification": true, 
   "rootGroup": "", 
   "devicePermissionRoleArn": "arn:aws:iam::123456789012:role/Myrole"}'
```

Output:

```json
{
   "suiteDefinitionId": "txgsuolk2myj",
   "suiteDefinitionName": "TestSuiteName",
   "suiteDefinitionVersion": "v3",
   "createdAt": "2022-11-17T14:15:56.830000-05:00",
   "lastUpdatedAt": "2022-12-02T16:02:45.857000-05:00"
}
```

For more information, see [UpdateSuiteDefinition](https://docs.aws.amazon.com/iot/latest/apireference/API_UpdateSuiteDefinition.html) in the [AWS IoT API Reference](https).

- For API details, see [UpdateSuiteDefinition](https://docs.aws.amazon.com/cli/latest/reference/iotdeviceadvisor/update-suite-definition.html) in [AWS CLI Command Reference](https).

**AWS IoT data examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS IoT data.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.
Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics
• Actions

Actions

Get the shadow

The following code example shows how to get the shadow for an AWS IoT thing.

AWS CLI

To get a thing shadow document

The following get-thing-shadow example gets the thing shadow document for the specified IoT thing.

aws iot-data get-thing-shadow \
   --thing-name MyRPi \
   output.txt

The command produces no output on the display, but the following shows the contents of output.txt:

```json
{
   "state":{
      "reported":{
         "moisture":"low"
      }
   },
   "metadata":{
      "reported":{
         "moisture":{
            "timestamp":1560269319
         }
      }
   }
}
```
Update the shadow

The following code example shows how to update the shadow for an AWS IoT thing.

AWS CLI

To update a thing shadow

The following update-thing-shadow example modifies the current state of the device shadow for the specified thing and saves it to the file output.txt.

```bash
aws iot-data update-thing-shadow
   --thing-name MyRPi
   --payload "{"state":{"reported":{"moisture":"okay"}}}" \
   "output.txt"
```

The command produces no output on the display, but the following shows the contents of output.txt:

```json
{
   "state": {
      "reported": {
         "moisture": "okay"
      }
   },
   "metadata": {
      "reported": {
         "moisture": {
            "timestamp": 1560270036
         }
      }
   },
   "version": 2,
   "timestamp": 1560270036
}
```
For more information, see Device Shadow Service Data Flow in the AWS IoT Developers Guide.

- For API details, see UpdateThingShadow in AWS CLI Command Reference.

**delete-thing-shadow**

The following code example shows how to use delete-thing-shadow.

**AWS CLI**

**To delete a device's shadow document**

The following delete-thing-shadow example deletes the entire shadow document for the device named MyRPi.

```
aws iot-data delete-thing-shadow \
   --thing-name MyRPi \
   "output.txt"
```

The command produces no output on the display, but output.txt contains information that confirms the version and timestamp of the shadow document that you deleted.

```
{"version":2,"timestamp":1560270384}
```

For more information, see Using Shadows in the AWS IoT Developers Guide.

- For API details, see DeleteThingShadow in AWS CLI Command Reference.

**AWS IoT Events examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS IoT Events.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.
Topics

- Actions

Actions

**batch-put-message**

The following code example shows how to use `batch-put-message`.

**AWS CLI**

**To send messages (inputs) to AWS IoT Events**

The following `batch-put-message` example sends a set of messages to the AWS IoT Events system. Each message payload is transformed into the input you specify (inputName) and ingested into any detectors that monitor that input. If multiple messages are sent, the order in which the messages are processed isn't guaranteed. To guarantee ordering, you must send messages one at a time and wait for a successful response.

```
aws iotevents-data batch-put-message
   --cli-input-json file://highPressureMessage.json
```

Contents of `highPressureMessage.json`:

```json
{
   "messages": [
      {
         "messageId": "00001",
         "inputName": "PressureInput",
         "payload": "{"motorid": "Fulton-A32", "sensorData": {"pressure": 80, "temperature": 39} }"
      }
   ]
}
```

Output:

```json
{
   "BatchPutMessageErrorEntries": []
}
```
For more information, see BatchPutMessage in the AWS IoT Events API Reference.

- For API details, see BatchPutMessage in AWS CLI Command Reference.

**batch-update-detector**

The following code example shows how to use batch-update-detector.

**AWS CLI**

**To update a detector (instance)**

The following `batch-update-detector` example updates the state, variable values, and timer settings of one or more detectors (instances) of a specified detector model.

```
aws iotevents-data batch-update-detector \
   --cli-input-json file://budFulton-A32.json
```

Contents of `budFulton-A32.json`:

```
{
   "detectors": [
      {
         "messageId": "00001",
         "detectorModelName": "motorDetectorModel",
         "keyValue": "Fulton-A32",
         "state": {
            "stateName": "Normal",
            "variables": [
               {
                  "name": "pressureThresholdBreached",
                  "value": "0"
               }
            ],
            "timers": [ ]
         }
      }
   ]
}
```

Output:
For more information, see `BatchUpdateDetector` in the *AWS IoT Events API Reference*.

- For API details, see `BatchUpdateDetector` in *AWS CLI Command Reference*.

**create-detector-model**

The following code example shows how to use `create-detector-model`.

**AWS CLI**

**To create a detector model**

The following `create-detector-model` example creates a detector model with its configuration specified by a parameter file.

```
aws iotevents create-detector-model  
   --cli-input-json file://motorDetectorModel.json
```

**Contents of `motorDetectorModel.json`:**

```json
{
   "detectorModelName": "motorDetectorModel",
   "detectorModelDefinition": {
      "states": [
         {
            "stateName": "Normal",
            "onEnter": {
               "events": [
                  {
                     "eventName": "init",
                     "condition": "true",
                     "actions": [
                        {
                           "setVariable": {
                              "variableName": "pressureThresholdBreached",
                              "value": "0"
                           }
                        }
                     ]
                  }
               ]
            }
         }
      ]
   }
}
```
Actions and scenarios

```json
{
    "transitionEvents": [
        {
            "eventName": "Overpressurized",
            "condition": "$input.PressureInput.sensorData.pressure &gt; 70",
            "actions": [
                {
                    "setVariable": {
                        "variableName": "pressureThresholdBreached",
                        "value": "$variable.pressureThresholdBreached + 3"
                    }
                }
            ],
            "nextState": "Dangerous"
        }
    ],
    "onEnter": {
        "events": [
            {
                "eventName": "Pressure Threshold Breached",
                "condition": "$variable.pressureThresholdBreached &gt; 1",
                "actions": [
                    {
                        "sns": {
                            "targetArn": "arn:aws:sns:us-east-1:123456789012:underPressureAction"
                        }
                    }
                ]
            }
        ]
    },
    "onInput": {
```
"events": [
    {
        "eventName": "Overpressurized",
        "condition": "${input.PressureInput.sensorData.pressure > 70",
        "actions": [
            {
                "setVariable": {
                    "variableName": "pressureThresholdBreached",
                    "value": "3"
                }
            }
        ]
    },
    {
        "eventName": "Pressure Okay",
        "condition": "${input.PressureInput.sensorData.pressure \leq 70",
        "actions": [
            {
                "setVariable": {
                    "variableName": "pressureThresholdBreached",
                    "value": "$variable.pressureThresholdBreached - 1"
                }
            }
        ]
    }
],
"transitionEvents": [
    {
        "eventName": "BackToNormal",
        "condition": "${input.PressureInput.sensorData.pressure \leq 70 && $variable.pressureThresholdBreached \leq 1",
        "nextState": "Normal"
    }
],
"onExit": {
    "events": [
        {
            "eventName": "Normal Pressure Restored",
            "condition": "true",
            "actions": [
                "setVariable": {
                    "variableName": "pressureThresholdBreached",
                    "value": "0"
                }
            ]
        }
    ]
}
```json
{
  "sns": {
    "targetArn": "arn:aws:sns:us-east-1:123456789012:pressureClearedAction"
  }
}
```

Output:

```json
{
  "detectorModelConfiguration": {
    "status": "ACTIVATING",
    "lastUpdateTime": 1560796816.077,
    "roleArn": "arn:aws:iam::123456789012:role/IoTEventsRole",
    "creationTime": 1560796816.077,
    "key": "motorid",
    "detectorModelName": "motorDetectorModel",
    "detectorModelVersion": "1"
  }
}
```

For more information, see [CreateDetectorModel](https://docs.aws.amazon.com/iot-events/latest/APIReference/API_CreateDetectorModel.html) in the [AWS IoT Events API Reference](https://docs.aws.amazon.com/iot-events/latest/APIReference/)

- For API details, see [CreateDetectorModel](https://docs.aws.amazon.com/cli/latest/reference/iotevents/create-detector-model.html) in [AWS CLI Command Reference](https://docs.aws.amazon.com/cli/latest/reference/iotevents/create-detector-model.html).

**create-input**

The following code example shows how to use `create-input`.

---

*Actions and scenarios*
AWS CLI

To create an input

The following create-input example creates an input.

```
aws iotevents create-input  
   --cli-input-json file://pressureInput.json
```

Contents of pressureInput.json:

```
{
   "inputName": "PressureInput",
   "inputDescription": "Pressure readings from a motor",
   "inputDefinition": {
      "attributes": [
         { "jsonPath": "sensorData.pressure" },
         { "jsonPath": "motorid" }
      ]
   }
}
```

Output:

```
{
   "inputConfiguration": {
      "status": "ACTIVE",
      "inputArn": "arn:aws:iotevents:us-west-2:123456789012:input/PressureInput",
      "lastUpdateTime": 1560795312.542,
      "creationTime": 1560795312.542,
      "inputName": "PressureInput",
      "inputDescription": "Pressure readings from a motor"
   }
}
```

For more information, see CreateInput in the AWS IoT Events API Reference.

- For API details, see CreateInput in AWS CLI Command Reference.

delete-detector-model

The following code example shows how to use delete-detector-model.
AWS CLI

To delete a detector model

The following delete-detector-model example deletes the specified detector model. Any active instances of the detector model are also deleted.

```bash
aws iotevents delete-detector-model \\
   --detector-model-name motorDetectorModel
```

This command produces no output.

For more information, see `DeleteDetectorModel` in the *AWS IoT Events API Reference*.
- For API details, see `DeleteDetectorModel` in *AWS CLI Command Reference*.

delete-input

The following code example shows how to use delete-input.

AWS CLI

To delete an input

The following delete-input example deletes the specified input.

```bash
aws iotevents delete-input \\
   --input-name PressureInput
```

This command produces no output.

For more information, see `DeleteInput` in the *AWS IoT Events API Reference*.
- For API details, see `DeleteInput` in *AWS CLI Command Reference*.

describe-detector

The following code example shows how to use describe-detector.

AWS CLI

To get information about a detector (instance).
The following `describe-detector` example displays details for the specified detector (instance).

```bash
aws iotevents-data describe-detector \
   --detector-model-name motorDetectorModel \
   --key-value "Fulton-A32"
```

Output:

```json
{
   "detector": {
      "lastUpdateTime": 1560797852.776,
      "creationTime": 1560797852.775,
      "state": {
         "variables": [
            {
               "name": "pressureThresholdBreached",
               "value": "3"
            }
         ],
         "stateName": "Dangerous",
         "timers": []
       },
       "keyValue": "Fulton-A32",
       "detectorModelName": "motorDetectorModel",
       "detectorModelVersion": "1"
   }
}
```

For more information, see [DescribeDetector](https://docs.aws.amazon.com/iot-events/latest/APIReference/API_DescribeDetector.html) in the *AWS IoT Events API Reference*.

- For API details, see [DescribeDetector](https://docs.aws.amazon.com/cli/latest/reference/iotevents-data/describe-detector.html) in *AWS CLI Command Reference*.

### describe-detector-model

The following code example shows how to use `describe-detector-model`.

**AWS CLI**

To get information about a detector model
The following describe-detector-model example displays details for the specified detector model. Because the version parameter is not specified, information about the latest version is returned.

```bash
aws iotevents describe-detector-model \
   --detector-model-name motorDetectorModel
```

Output:

```json
{
   "detectorModel": {
      "detectorModelConfiguration": {
         "status": "ACTIVE",
         "lastUpdateTime": 1560796816.077,
         "roleArn": "arn:aws:iam::123456789012:role/IoTEventsRole",
         "creationTime": 1560796816.077,
         "key": "motorid",
         "detectorModelName": "motorDetectorModel",
         "detectorModelVersion": "1"
      },
      "detectorModelDefinition": {
         "states": [
            {
               "onInput": {
                  "transitionEvents": [
                     {
                        "eventName": "Overpressurized",
                        "actions": [
                           {
                              "setVariable": {
                                 "variableName": "pressureThresholdBreached",
                                 "value": "$variable.pressureThresholdBreached + 3"
                              }
                           }
                        ]
                        "condition": "$input.PressureInput.sensorData.pressure > 70",
                        "nextState": "Dangerous"
                     }
```
"events": []
},
"stateName": "Overpressurized",
"onEnter": {
"events": [
{
"eventName": "init",
"actions": [
{
"setVariable": {
"variableName": "pressureThresholdBreached",
"value": "0"
}
}
],
"condition": "true"
}
],
"onInput": {
"transitionEvents": [
{
"eventName": "BackToNormal",
"actions": [],
"condition": "$input.PressureInput.sensorData.pressure <= 70 && $variable.pressureThresholdBreached <= 1",
"nextState": "Normal"
}
],
"events": [
{
"eventName": "Overpressurized",
"actions": [
{
"setVariable": {

}}
"variableName": "pressureThresholdBreached",
            "value": "3"
        }
    ],
    "condition": "$input.PressureInput.sensorData.pressure > 70"
},
{
    "eventName": "Pressure Okay",
    "actions": [
        {
            "setVariable": {
                "variableName": "pressureThresholdBreached",
                "value": "$variable.pressureThresholdBreached - 1"
            }
        }
    ],
    "condition": "$input.PressureInput.sensorData.pressure <= 70"
}]
},
"stateName": "Dangerous",
"onEnter": {
    "events": [
        {
            "eventName": "Pressure Threshold Breached",
            "actions": [
                {
                    "sns": {
                        "targetArn": "arn:aws:sns:us-east-1:123456789012:underPressureAction"
                    }
                }
            ],
            "condition": "$variable.pressureThresholdBreached > 1"
        }
    ],
    "condition": "$variable.pressureThresholdBreached > 1"
},
}
"onExit": {
  "events": [
  {
    "eventName": "Normal Pressure Restored",
    "actions": [
    {
      "sns": {
        "targetArn": "arn:aws:sns:us-east-1:123456789012:pressureClearedAction"
      }
    }
    ],
    "condition": "true"
  }
  ]},
  "initialStateName": "Normal"
}

For more information, see [DescribeDetectorModel](#) in the [AWS IoT Events API Reference](#).

- For API details, see [DescribeDetectorModel](#) in [AWS CLI Command Reference](#).

describe-input

The following code example shows how to use describe-input.

AWS CLI

**To get information about an input**

The following describe-input example displays details for the specified input.

```bash
aws iotevents describe-input \
   --input-name PressureInput
```

Output:

```json
{
```
For more information, see DescribeInput in the AWS IoT Events API Reference.

• For API details, see DescribeInput in AWS CLI Command Reference.

describe-logging-options

The following code example shows how to use describe-logging-options.

AWS CLI

To get information about logging settings

The following describe-logging-options example retrieves the current settings of the AWS IoT Events logging options.

```bash
aws iotevents describe-logging-options
```

Output:

```json
{
```
"loggingOptions": {
    "roleArn": "arn:aws:iam::123456789012:role/IoTEventsRole",
    "enabled": false,
    "level": "ERROR"
}
}

For more information, see `DescribeLoggingOptions` in the *AWS IoT Events API Reference*.

- For API details, see `DescribeLoggingOptions` in *AWS CLI Command Reference*.

**list-detector-model-versions**

The following code example shows how to use `list-detector-model-versions`.

**AWS CLI**

To get information about versions of a detector model

The following `list-detector-model-versions` example Lists all the versions of a detector model. Only the metadata associated with each detector model version is returned.

```
aws iotevents list-detector-model-versions \
  --detector-model-name motorDetectorModel
```

Output:

```
{
    "detectorModelVersionSummaries": [
        {
            "status": "ACTIVE",
            "lastUpdateTime": 1560796816.077,
            "roleArn": "arn:aws:iam::123456789012:role/IoTEventsRole",
            "creationTime": 1560796816.077,
            "detectorModelName": "motorDetectorModel",
            "detectorModelVersion": "1"
        }
    ]
}
```
For more information, see ListDetectorModelVersions in the AWS IoT Events API Reference.

- For API details, see ListDetectorModelVersions in AWS CLI Command Reference.

list-detector-models

The following code example shows how to use list-detector-models.

AWS CLI

To get a list of your detector models

The following list-detector-models example Lists the detector models you have created. Only the metadata associated with each detector model is returned.

```bash
aws iotevents list-detector-models
```

Output:

```json
{
  "detectorModelSummaries": [
    {
      "detectorModelName": "motorDetectorModel",
      "creationTime": 1552072424.212,
      "detectorModelDescription": "Detect overpressure in a motor."
    }
  ]
}
```

For more information, see ListDetectorModels in the AWS IoT Events API Reference.

- For API details, see ListDetectorModels in AWS CLI Command Reference.

list-detectors

The following code example shows how to use list-detectors.

AWS CLI

To get a list of detectors for a detector model

The following list-detectors example lists the detectors (the instances of a detector model) in your account.
aws iotevents-data list-detectors \
   --detector-model-name motorDetectorModel

Output:

```json
{
   "detectorSummaries": [
   {
   "lastUpdateTime": 1558129925.2,
   "creationTime": 1552073155.527,
   "state": {
   "stateName": "Normal"
   },
   "keyValue": "Fulton-A32",
   "detectorModelName": "motorDetectorModel",
   "detectorModelVersion": "1"
   }
   ]
}
```

For more information, see ListDetectors in the *AWS IoT Events API Reference*.

- For API details, see ListDetectors in *AWS CLI Command Reference*.

### list-inputs

The following code example shows how to use list-inputs.

**AWS CLI**

**To list inputs**

The following list-inputs example lists the inputs you have created in your account.

aws iotevents list-inputs

This command produces no output. Output:

```json
{
   
```
For more information, see [ListInputs](#) in the *AWS IoT Events API Reference*.

- For API details, see [ListInputs](#) in *AWS CLI Command Reference*.

### list-tags-for-resource

The following code example shows how to use `list-tags-for-resource`.

**AWS CLI**

To list tags assigned to a resource.

The following `list-tags-for-resource` example lists the tag key names and values you have assigned to the resource.

```bash
aws iotevents list-tags-for-resource \
  --resource-arn "arn:aws:iotevents:us-west-2:123456789012:input/PressureInput"
```

Output:

```json
{
  "tags": [
    {
      "value": "motor",
      "key": "deviceType"
    }
  ]
}
```

For more information, see [ListTagsForResource](#) in the *AWS IoT Events API Reference*.

- For API details, see [ListTagsForResource](#) in *AWS CLI Command Reference*.
put-logging-options

The following code example shows how to use put-logging-options.

AWS CLI

To set logging options

The following put-logging-options example sets or updates the AWS IoT Events logging options. If you update the value of any loggingOptions` field, it can take up to one minute for the change to take effect. Also, if you change the policy attached to the role you specified in the `roleArn field (for example, to correct an invalid policy) it can take up to five minutes for that change to take effect.

```
aws iotevents put-logging-options \
   --cli-input-json file://logging-options.json
```

Contents of logging-options.json:

```json
{
   "loggingOptions": {
      "roleArn": "arn:aws:iam::123456789012:role/IoTEventsRole",
      "level": "DEBUG",
      "enabled": true,
      "detectorDebugOptions": [
         {
            "detectorModelName": "motorDetectorModel",
            "keyValue": "Fulton-A32"
         }
      ]
   }
}
```

This command produces no output.

For more information, see PutLoggingOptions in the AWS IoT Events API Reference.

- For API details, see PutLoggingOptions in AWS CLI Command Reference.

tag-resource

The following code example shows how to use tag-resource.
AWS CLI

To add tags to a resource

The following tag-resource example adds or modifies (if key deviceType already exists) the tag attached the specified resource.

```
aws iotevents tag-resource \
   --cli-input-json file://pressureInput.tag.json
```

Contents of `pressureInput.tag.json`:

```json
{
   "resourceArn": "arn:aws:iotevents:us-west-2:123456789012:input/PressureInput",
   "tags": [
      {
         "key": "deviceType",
         "value": "motor"
      }
   ]
}
```

This command produces no output.

For more information, see TagResource in the AWS IoT Events API Reference.

- For API details, see TagResource in AWS CLI Command Reference.

untag-resource

The following code example shows how to use untag-resource.

AWS CLI

To remove tags from a resource

The following untag-resource example removes the tag with the specified key name from the specified resource.

```
aws iotevents untag-resource \
   --resource-arn arn:aws:iotevents:us-west-2:123456789012:input/PressureInput \
   --tagkeys deviceType
```
This command produces no output.

For more information, see UntagResource in the AWS IoT Events API Reference.

• For API details, see UntagResource in AWS CLI Command Reference.

**update-detector-model**

The following code example shows how to use update-detector-model.

**AWS CLI**

To update a detector model

The following update-detector-model example updates the specified detector model. Detectors (instances) spawned by the previous version are deleted and then re-created as new inputs arrive.

```
aws iotevents update-detector-model \
--cli-input-json file://motorDetectorModel.update.json
```

Contents of motorDetectorModel.update.json:

```
{
    "detectorModelName": "motorDetectorModel",
    "detectorModelDefinition": {
        "states": [
            {
                "stateName": "Normal",
                "onEnter": {
                    "events": [
                        {
                            "eventName": "init",
                            "condition": "true",
                            "actions": [
                                {
                                    "setVariable": {
                                        "variableName": "pressureThresholdBreached",
                                        "value": "0"
                                    }
                                }
                            ]
                        }
                    ]
                }
            }
        ]
    }
}
```
},
"onInput": {
  "transitionEvents": [
    {
      "eventName": "Overpressurized",
      "condition": "$input PressureInput.sensorData.pressure > 70",
      "actions": [
        {
          "setVariable": {
            "variableName": "pressureThresholdBreached",
            "value": "$variable.pressureThresholdBreached + 3"
          }
        }
      ],
      "nextState": "Dangerous"
    }
  ],
  "onEnter": {
    "events": [
      {
        "eventName": "Pressure Threshold Breached",
        "condition": "$variable.pressureThresholdBreached > 1",
        "actions": [
          {
            "sns": {
              "targetArn": "arn:aws:sns:us-east-1:123456789012:underPressureAction"
            }
          }
        ]
      }
    ]
  }
},
"onInput": {  
  "events": [
    {
      "eventName": "Overpressurized",

"condition": "\$input.PressureInput.sensorData.pressure > 70",
"actions": [
    
    "setVariable": {
        "variableName": "pressureThresholdBreached",
        "value": "3"
    }
]
],
{
    "eventName": "Pressure Okay",
    "condition": "\$input.PressureInput.sensorData.pressure <= 70",
    "actions": [
        
        "setVariable": {
            "variableName": "pressureThresholdBreached",
            "value": "$variable.pressureThresholdBreached - 1"
        }
    ]
}
],
"transitionEvents": [
    
    "eventName": "BackToNormal",
    "condition": "\$input.PressureInput.sensorData.pressure <= 70 && $variable.pressureThresholdBreached <= 1",
    "nextState": "Normal"
]
],
"onExit": {
    "events": [
        
        "eventName": "Normal Pressure Restored",
        "condition": "true",
        "actions": [
            
            "sns": {
            
            
        
    ]
}
Output:

```json
{
   "detectorModelConfiguration": {
      "status": "ACTIVATING",
      "lastUpdateTime": 1560799387.719,
      "roleArn": "arn:aws:iam::123456789012:role/IoTEventsRole",
      "creationTime": 1560799387.719,
      "key": "motorid",
      "detectorModelName": "motorDetectorModel",
      "detectorModelVersion": "2"
   }
}
```

For more information, see `UpdateDetectorModel` in the *AWS IoT Events API Reference*.

- For API details, see `UpdateDetectorModel` in *AWS CLI Command Reference*.

**update-input**

The following code example shows how to use `update-input`.

**AWS CLI**

To update an input
The following update-input example updates the specified input with a new description and definition.

```bash
aws iotevents update-input \
  --cli-input-json file://pressureInput.json
```

Contents of `pressureInput.json`:

```json
{
    "inputName": "PressureInput",
    "inputDescription": "Pressure readings from a motor",
    "inputDefinition": {
        "attributes": [
            { "jsonPath": "sensorData.pressure" },
            { "jsonPath": "motorid" }
        ]
    }
}
```

Output:

```json
{
    "inputConfiguration": {
        "status": "ACTIVE",
        "inputArn": "arn:aws:iotevents:us-west-2:123456789012:input/PressureInput",
        "lastUpdateTime": 1560795976.458,
        "creationTime": 1560795312.542,
        "inputName": "PressureInput",
        "inputDescription": "Pressure readings from a motor"
    }
}
```

For more information, see [UpdateInput](https://docs.aws.amazon.com/iot-events/latest/APIReference/API_UpdateInput.html) in the *AWS IoT Events API Reference*.

- For API details, see [UpdateInput](https://docs.aws.amazon.com/cli/latest/reference/iotevents/update-input.html) in *AWS CLI Command Reference*.

### AWS IoT Events-Data examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS IoT Events-Data.
*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**
- **Actions**

**Actions**

**batch-put-message**

The following code example shows how to use `batch-put-message`.

**AWS CLI**

**To send messages (inputs) to AWS IoT Events**

The following `batch-put-message` example sends a set of messages to the AWS IoT Events system. Each message payload is transformed into the input you specify (inputName) and ingested into any detectors that monitor that input. If multiple messages are sent, the order in which the messages are processed isn't guaranteed. To guarantee ordering, you must send messages one at a time and wait for a successful response.

```bash
aws iotevents-data batch-put-message \
    --cli-binary-format raw-in-base64-out \
    --cli-input-json file://highPressureMessage.json
```

Contents of `highPressureMessage.json`:

```json
{
    "messages": [
        {
            "messageId": "00001",
            "inputName": "PressureInput",
```
"payload": "{"motorid": "Fulton-A32", "sensorData": {"pressure": 80, "temperature": 39} }"
]
}

Output:

{
        "BatchPutMessageErrorEntries": []
}

For more information, see BatchPutMessage in the AWS IoT Events Developer Guide.

• For API details, see BatchPutMessage in AWS CLI Command Reference.

**batch-update-detector**

The following code example shows how to use batch-update-detector.

**AWS CLI**

**To update a detector (instance)**

The following batch-update-detector example updates the state, variable values, and timer settings of one or more detectors (instances) of a specified detector model.

```
aws iotevents-data batch-update-detector \
   --cli-input-json file://budFulton-A32.json
```

Contents of budFulton-A32.json:

```
{
    "detectors": [
        {
            "messageId": "00001",
            "detectorModelName": "motorDetectorModel",
            "keyValue": "Fulton-A32",
            "state": {
                "stateName": "Normal",
                "variables": [
                    {
                    }
                ]
            }
        }
    ]
}
```
Output:

```json
{
    "batchUpdateDetectorErrorEntries": []
}
```

For more information, see `BatchUpdateDetector` in the *AWS IoT Events Developer Guide*.

- For API details, see `BatchUpdateDetector` in *AWS CLI Command Reference*.

### create-detector-model

The following code example shows how to use `create-detector-model`.

**AWS CLI**

**To create a detector model**

The following `create-detector-model` example creates a detector model.

```bash
aws iotevents create-detector-model \ 
   --cli-input-json file://motorDetectorModel.json
```

Contents of `motorDetectorModel.json`:

```json
{
    "detectorModelName": "motorDetectorModel",
    "detectorModelDefinition": {
        "states": [
            {
                "stateName": "Normal",
                "onEnter": {
```
"events": [ 
   
   "eventName": "init",
   "condition": "true",
   "actions": [ 
      
      "setVariable": { 
         "variableName": "pressureThresholdBreached",
         "value": "0"
      }
   ]
]
,
"onInput": { 
   "transitionEvents": [ 
      
      "eventName": "Overpressurized",
      "condition": "\$input.PressureInput.sensorData.pressure > 70",
      "actions": [ 
         
         "setVariable": { 
            "variableName": "pressureThresholdBreached",
            "value": "\$variable.pressureThresholdBreached + 3"
         }
      ],
      "nextState": "Dangerous"
   ]
],

"stateName": "Dangerous",
"onEnter": { 
   "events": [ 
      
      "eventName": "Pressure Threshold Breached",
      "condition": "\$variable.pressureThresholdBreached &gt; 1",
      "actions": [ 
         
      ]
   ]
}
{  
    "sns": {  
        "targetArn": "arn:aws:sns:us-east-1:123456789012:underPressureAction"
    }
}  
},  
"onInput": {  
    "events": [  
    {  
        "eventName": "Overpressurized",
        "condition": "$input.PressureInput.sensorData.pressure > 70",
        "actions": [  
        {  
            "setVariable": {  
                "variableName": "pressureThresholdBreached",
                "value": "3"
            }
        }
        ]
    },  
    {  
        "eventName": "Pressure Okay",
        "condition": "$input.PressureInput.sensorData.pressure &lt;= 70",
        "actions": [  
        {  
            "setVariable": {  
                "variableName": "pressureThresholdBreached",
                "value": "$variable.pressureThresholdBreached - 1"
            }
        }
        ]
    }
    ],  
    "transitionEvents": [  
    {  
        "eventName": "BackToNormal",
        "status": "GotoState"  
    },  
    {  
        "eventName": "Normal"
    }
    ]
}
"condition": "$input.PressureInput.sensorData.pressure \leq 70 \& \& \& \& $variable.pressureThresholdBreached \leq 1",
"nextState": "Normal"
}
},
"onExit": {
  "events": [
    {
      "eventName": "Normal Pressure Restored",
      "condition": "true",
      "actions": [
        {
          "sns": {
            "targetArn": "arn:aws:sns:us-east-1:123456789012:pressureClearedAction"
          }
        }
      ]
    }
  ]
}
],
"initialStateName": "Normal"
},
"key": "motorid",
"roleArn": "arn:aws:iam::123456789012:role/IoTEventsRole"
}

Output:

{
  "detectorModelConfiguration": {
    "status": "ACTIVATING",
    "lastUpdateTime": 1560796816.077,
    "roleArn": "arn:aws:iam::123456789012:role/IoTEventsRole",
    "creationTime": 1560796816.077,
    "key": "motorid",
    "detectorModelName": "motorDetectorModel",
    "detectorModelVersion": "1"}
create-input

The following code example shows how to use create-input.

AWS CLI

To create an input

The following create-input example creates an input.

```
aws iotevents create-input \
   --cli-input-json file://pressureInput.json
```

Contents of pressureInput.json:

```
{
   "inputName": "PressureInput",
   "inputDescription": "Pressure readings from a motor",
   "inputDefinition": {
      "attributes": [
         { "jsonPath": "sensorData.pressure" },
         { "jsonPath": "motorid" }
      ]
   }
}
```

Output:

```
{
   "inputConfiguration": {
      "status": "ACTIVE",
      "inputArn": "arn:aws:iotevents:us-west-2:123456789012:input/PressureInput",
      "lastUpdateTime": 1560795312.542,
      "creationTime": 1560795312.542,
      "inputName": "PressureInput",
      "inputDescription": "Pressure readings from a motor"
   }
}
```
For more information, see `CreateInput` in the *AWS IoT Events Developer Guide*.

- For API details, see `CreateInput` in *AWS CLI Command Reference*.

---

### delete-detector-model

The following code example shows how to use `delete-detector-model`.

**AWS CLI**

**To delete a detector model**

The following `delete-detector-model` example deletes a detector model. Any active instances of the detector model are also deleted.

```
aws iotevents delete-detector-model \
  --detector-model-name motorDetectorModel
```

This command produces no output.

For more information, see `DeleteDetectorModel` in the *AWS IoT Events Developer Guide*.

- For API details, see `DeleteDetectorModel` in *AWS CLI Command Reference*.

---

### delete-input

The following code example shows how to use `delete-input`.

**AWS CLI**

**To delete an input**

The following `delete-input` example deletes an input.

```
aws iotevents delete-input \
  --input-name PressureInput
```

This command produces no output.

For more information, see `DeleteInput` in the *AWS IoT Events Developer Guide*.
For API details, see `DeleteInput` in *AWS CLI Command Reference*.

**describe-detector**

The following code example shows how to use `describe-detector`.

### AWS CLI

**To get information about a detector (instance)**

The following `describe-detector` example returns information about the specified detector (instance).

```
aws iotevents-data describe-detector \
    --detector-model-name motorDetectorModel \
    --key-value "Fulton-A32"
```

**Output:**

```
{
    "detector": {
        "lastUpdateTime": 1560797852.776,
        "creationTime": 1560797852.775,
        "state": {
            "variables": [
                {
                    "name": "pressureThresholdBreached",
                    "value": "3"
                }
            ],
            "stateName": "Dangerous",
            "timers": []
        },
        "keyValue": "Fulton-A32",
        "detectorModelName": "motorDetectorModel",
        "detectorModelVersion": "1"
    }
}
```

For more information, see `DescribeDetector` in the *AWS IoT Events Developer Guide*.

• For API details, see `DescribeDetector` in *AWS CLI Command Reference*. 
describe-detector-model

The following code example shows how to use describe-detector-model.

**AWS CLI**

**To get information about a detector model**

The following describe-detector-model example describes a detector model. If the version parameter is not specified, the command returns information about the latest version.

```bash
aws iotevents describe-detector-model \
  --detector-model-name motorDetectorModel
```

**Output:**

```json
{
  "detectorModel": {
    "detectorModelConfiguration": {
      "status": "ACTIVE",
      "lastUpdateTime": 1560796816.077,
      "roleArn": "arn:aws:iam::123456789012:role/IoTEventsRole",
      "creationTime": 1560796816.077,
      "key": "motorid",
      "detectorModelName": "motorDetectorModel",
      "detectorModelVersion": "1"
    },
    "detectorModelDefinition": {
      "states": [
        {
          "onInput": {
            "transitionEvents": [
              {
                "eventName": "Overpressurized",
                "actions": [
                  {
                    "setVariable": {
                      "variableName": "$variable.pressureThresholdBreached",
                      "value": "$variable.pressureThresholdBreached + 3"
                    }
                  }
                ]
              }
            ]
          }
        }
      ]
    }
  }
}
```
"condition": "$input.PressureInput.sensorData.pressure > 70",
  "nextState": "Dangerous"
},
  "events": []
},
"stateName": "Normal",
"onEnter": {
  "events": [
    {
      "eventName": "init",
      "actions": [
        {
          "setVariable": {
            "variableName": "pressureThresholdBreached",
            "value": "0"
          }
        }
      ],
      "condition": "true"
    }
  ],
  "onExit": {
    "events": []
  }
},
"onInput": {
  "transitionEvents": [
    {
      "eventName": "BackToNormal",
      "actions": [],
      "condition": "$input.PressureInput.sensorData.pressure <= 70 && $variable.pressureThresholdBreached <= 1",
      "nextState": "Normal"
    }
  ],
}}
"events": [  
  
  "eventName": "Overpressurized",
  "actions": [

  "setVariable": {
  "variableName": "pressureThresholdBreached",
  "value": "3"
  }
  
  ],

  "condition": "$input.PressureInput.sensorData.pressure > 70"
  },
  
  "eventName": "Pressure Okay",
  "actions": [

  "setVariable": {
  "variableName": "pressureThresholdBreached",
  "value": "$variable.pressureThresholdBreached - 1"
  }
  
  ],

  "condition": "$input.PressureInput.sensorData.pressure <= 70"
  ]}

  },

  "stateName": "Dangerous",

  "onEnter": {

  "events": [

  "eventName": "Pressure Threshold Breached",
  "actions": [

  "sns": {
  "targetArn": "arn:aws:sns:us-east-1:123456789012:underPressureAction"
  }

  ]}
For more information, see DescribeDetectorModel in the AWS IoT Events Developer Guide.

- For API details, see DescribeDetectorModel in AWS CLI Command Reference.

describe-input

The following code example shows how to use describe-input.

AWS CLI

To get information about an input

The following describe-input example retrieves the details of an input.

```bash
aws iotevents describe-input
```
--input-name PressureInput

Output:

```json
{
  "input": {
    "inputConfiguration": {
      "status": "ACTIVE",
      "inputArn": "arn:aws:iotevents:us-west-2:123456789012:input/PressureInput",
      "lastUpdateTime": 1560795312.542,
      "creationTime": 1560795312.542,
      "inputName": "PressureInput",
      "inputDescription": "Pressure readings from a motor"
    },
    "inputDefinition": {
      "attributes": [
        {
          "jsonPath": "sensorData.pressure"
        },
        {
          "jsonPath": "motorid"
        }
      ]
    }
  }
}
```

For more information, see [DescribeInput](#) in the *AWS IoT Events Developer Guide*.

- For API details, see [DescribeInput](#) in *AWS CLI Command Reference*.

**describe-logging-options**

The following code example shows how to use describe-logging-options.

**AWS CLI**

To get information about logging settings

The following describe-logging-options example retrieves the current AWS IoT Events logging options.
aws iotevents describe-logging-options

Output:

```
{
    "loggingOptions": {
        "roleArn": "arn:aws:iam::123456789012:role/IoTEventsRole",
        "enabled": false,
        "level": "ERROR"
    }
}
```

For more information, see DescribeLoggingOptions in the AWS IoT Events Developer Guide.

- For API details, see DescribeLoggingOptions in AWS CLI Command Reference.

list-detector-model-versions

The following code example shows how to use list-detector-model-versions.

AWS CLI

**To get information about versions of a detector model**

The following list-detector-model-versions example lists all the versions of a detector model. Only the metadata associated with each detector model version is returned.

```
aws iotevents list-detector-model-versions \
    --detector-model-name motorDetectorModel
```

Output:

```
{
    "detectorModelVersionSummaries": [
        {
            "status": "ACTIVE",
            "lastUpdateTime": 1560796816.077,
            "roleArn": "arn:aws:iam::123456789012:role/IoTEventsRole",
            "creationTime": 1560796816.077,
```

'detectorModelName': 'motorDetectorModel',
  'detectorModelVersion': '1'
  ]
}
}

For more information, see ListDetectorModelVersions in the AWS IoT Events Developer Guide*.  
- For API details, see ListDetectorModelVersions in AWS CLI Command Reference.

**list-detector-models**

The following code example shows how to use list-detector-models.

**AWS CLI**

**To get a list of your detector models**

The following list-detector-models example lists the detector models you have created. Only the metadata associated with each detector model is returned.

```
aws iotevents list-detector-models
```

Output:

```
{
  "detectorModelSummaries": [
    {
      "detectorModelName": "motorDetectorModel",
      "creationTime": 1552072424.212
    }
  ]
}
```

For more information, see ListDetectorModels in the AWS IoT Events Developer Guide*.  
- For API details, see ListDetectorModels in AWS CLI Command Reference.

**list-detectors**

The following code example shows how to use list-detectors.

"detectorModelSummaries": [  
  
  ]
}  

For more information, see ListDetectorModels in the AWS IoT Events Developer Guide*.  
- For API details, see ListDetectorModels in AWS CLI Command Reference.

**list-detectors**

The following code example shows how to use list-detectors.
AWS CLI

To get a list of detectors for a detector model

The following `list-detectors` example lists detectors (the instances of a detector model).

```
aws iotevents-data list-detectors \
   --detector-model-name motorDetectorModel
```

Output:

```
{
   "detectorSummaries": [
      {
         "lastUpdateTime": 1558129925.2,
         "creationTime": 1552073155.527,
         "state": {
            "stateName": "Normal"
         },
         "keyValue": "Fulton-A32",
         "detectorModelName": "motorDetectorModel",
         "detectorModelVersion": "1"
      }
   ]
}
```

For more information, see `ListDetectors` in the AWS IoT Events Developer Guide*.

- For API details, see `ListDetectors` in AWS CLI Command Reference.

list-inputs

The following code example shows how to use `list-inputs`.

AWS CLI

To list inputs

The following `list-inputs` example lists the inputs that you've created.

```
aws iotevents list-inputs
```
Output:

```json
{
    "status": "ACTIVE",
    "inputArn": "arn:aws:iotevents:us-west-2:123456789012:input/PressureInput",
    "lastUpdateTime": 1551742986.768,
    "creationTime": 1551742986.768,
    "inputName": "PressureInput",
    "inputDescription": "Pressure readings from a motor"
}
```

For more information, see [ListInputs](https://docs.aws.amazon.com/iot-events/latest/developerguide/) in the *AWS IoT Events Developer Guide*.

- For API details, see [ListInputs](https://docs.aws.amazon.com/iot-cli/latest/developerguide/) in *AWS CLI Command Reference*.

### list-tags-for-resource

The following code example shows how to use `list-tags-for-resource`.

**AWS CLI**

**To list tags assigned to a resource**

The following `list-tags-for-resource` example lists the tags (metadata) you have assigned to the resource.

```
aws iotevents list-tags-for-resource \
    --resource-arn "arn:aws:iotevents:us-west-2:123456789012:input/PressureInput"
```

Output:

```json
{
    "tags": [
        {
            "value": "motor",
            "key": "deviceType"
        }
    ]
}
```

For more information, see [ListTagsForResource](https://docs.aws.amazon.com/iot-events/latest/developerguide/) in the *AWS IoT Events Developer Guide*.

- For API details, see [ListTagsForResource](https://docs.aws.amazon.com/iot-cli/latest/developerguide/) in *AWS CLI Command Reference*.
**put-logging-options**

The following code example shows how to use `put-logging-options`.

**AWS CLI**

**To set logging options**

The following `list-tags-for-resource` example sets or updates the AWS IoT Events logging options. If you update the value of any `loggingOptions` field, it takes up to one minute for the change to take effect. Also, if you change the policy attached to the role you specified in the `roleArn` field (for example, to correct an invalid policy) it takes up to five minutes for that change to take effect.

```bash
aws iotevents put-logging-options \
   --cli-input-json file://logging-options.json
```

Contents of `logging-options.json`:

```json
{
   "loggingOptions": {
      "roleArn": "arn:aws:iam::123456789012:role/IoTEventsRole",
      "level": "DEBUG",
      "enabled": true,
      "detectorDebugOptions": [
         {
            "detectorModelName": "motorDetectorModel",
            "keyValue": "Fulton-A32"
         }
      ]
   }
}
```

This command produces no output.

For more information, see [PutLoggingOptions](https://docs.aws.amazon.com/iot-events/latest/developerguide/put-logging-options.html) in the *AWS IoT Events Developer Guide*.

- For API details, see [PutLoggingOptions](https://docs.aws.amazon.com/cli/latest/reference/iot-events/put-logging-options.html) in *AWS CLI Command Reference*.

**tag-resource**

The following code example shows how to use `tag-resource`.
AWS CLI

To add tags to a resource

The following `tag-resource` example adds to or modifies the tags of the given resource. Tags are metadata that can be used to manage a resource.

```
aws iotevents tag-resource \
    --cli-input-json file://pressureInput.tag.json
```

Contents of `pressureInput.tag.json`:

```
{
    "resourceArn": "arn:aws:iotevents:us-west-2:123456789012:input/PressureInput",
    "tags": [
        {
            "key": "deviceType",
            "value": "motor"
        }
    ]
}
```

This command produces no output.

For more information, see `TagResource` in the *AWS IoT Events Developer Guide*.
- For API details, see `TagResource` in *AWS CLI Command Reference*.

untag-resource

The following code example shows how to use `untag-resource`.

AWS CLI

To remove tags from a resource

The following `untag-resource` example removes the specified tags from the resource.

```
aws iotevents untag-resource \
    --cli-input-json file://pressureInput.untag.json
```

Contents of `pressureInput.untag.json`:
This command produces no output.

For more information, see UntagResource in the *AWS IoT Events Developer Guide*.

- For API details, see UntagResource in *AWS CLI Command Reference*.

### update-detector-model

The following code example shows how to use update-detector-model.

**AWS CLI**

**To update a detector model**

The following `update-detector-model` example updates a detector model. Detectors (instances) spawned by the previous version are deleted and then re-created as new inputs arrive.

```bash
aws iotevents update-detector-model \
    --cli-input-json file://motorDetectorModel.update.json
```

Contents of motorDetectorModel.update.json:

```json
{
    "detectorModelName": "motorDetectorModel",
    "detectorModelDefinition": {
        "states": [
            {
                "stateName": "Normal",
                "onEnter": {
                    "events": [
                        {
                            "eventName": "init",
                            "condition": "true",
                            "actions": [
                        ```


```json
{
  "setVariable": {
    "variableName": "pressureThresholdBreached",
    "value": "0"
  }
}

"onInput": {
  "transitionEvents": [
    {
      "eventName": "Overpressurized",
      "condition": "$input.PressureInput.sensorData.pressure > 70",
      "actions": [
        {
          "setVariable": {
            "variableName": "pressureThresholdBreached",
            "value": "$variable.pressureThresholdBreached + 3"
          }
        }
      ],
      "nextState": "Dangerous"
    }
  ],
  "onEnter": {
    "events": [
      {
        "eventName": "Pressure Threshold Breached",
        "condition": "$variable.pressureThresholdBreached > 1",
        "actions": [
          {
            "sns": {
              "targetArn": "arn:aws:sns:us-east-1:123456789012:underPressureAction"
            }
          }
        ]
      }
    ]
  }
}
```


```
{
  "onInput": {
    "events": [
      {
        "eventName": "Overpressurized",
        "condition": "$input.PressureInput.sensorData.pressure > 70",
        "actions": [
          {
            "setVariable": {
              "variableName": "pressureThresholdBreached",
              "value": "3"
            }
          }
        ]
      },
      {
        "eventName": "Pressure Okay",
        "condition": "$input.PressureInput.sensorData.pressure <= 70",
        "actions": [
          {
            "setVariable": {
              "variableName": "pressureThresholdBreached",
              "value": "$variable.pressureThresholdBreached - 1"
            }
          }
        ]
      }
    ],
    "transitionEvents": [
      {
        "eventName": "BackToNormal",
        "condition": "$input.PressureInput.sensorData.pressure <= 70 && $variable.pressureThresholdBreached <= 1",
        "nextState": "Normal"
      }
    ]
  },
  "onExit": {
    "events": [
      {
        "eventName": "Normal Pressure Restored",
        "condition": "true",
        "actions": [
          {
            "setVariable": {
              "variableName": "pressureThresholdBreached",
              "value": "0"
            }
          }
        ]
      }
    ]
  }
}
```


```json
{
    "sns": {
        "targetArn": "arn:aws:sns:us-east-1:123456789012:pressureClearedAction"
    }
}
```

Output:

```json
{
    "detectorModelConfiguration": {
        "status": "ACTIVATING",
        "lastUpdateTime": 1560799387.719,
        "roleArn": "arn:aws:iam::123456789012:role/IoTEventsRole",
        "creationTime": 1560799387.719,
        "detectorModelArn": "arn:aws:iotevents:us-west-2:123456789012:dete
```}

For more information, see [UpdateDetectorModel](#) in the AWS IoT Events Developer Guide.*.

- For API details, see [UpdateDetectorModel](#) in [AWS CLI Command Reference](#).

**update-input**

The following code example shows how to use update-input.

{ "sn
AWS CLI

To update an input

The following update-input example updates an input.

```bash
aws iotevents update-input \
   --cli-input-json file://pressureInput.json
```

Contents of pressureInput.json:

```json
{
   "inputName": "PressureInput",
   "inputDescription": "Pressure readings from a motor",
   "inputDefinition": {
      "attributes": [
         { "jsonPath": "sensorData.pressure" },
         { "jsonPath": "motorid" }
      ]
   }
}
```

Output:

```json
{
   "inputConfiguration": {
      "status": "ACTIVE",
      "inputArn": "arn:aws:iotevents:us-west-2:123456789012:input/PressureInput",
      "lastUpdateTime": 1560795976.458,
      "creationTime": 1560795312.542,
      "inputName": "PressureInput",
      "inputDescription": "Pressure readings from a motor"
   }
}
```

For more information, see [UpdateInput](https://docs.aws.amazon.com/iot-events/latest/developerguide/update-input.html) in the *AWS IoT Events Developer Guide*.

- For API details, see [UpdateInput](https://docs.aws.amazon.com/cli/latest/reference/iotevents/update-input.html) in *AWS CLI Command Reference*. 

Actions and scenarios
AWS IoT Greengrass examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS IoT Greengrass.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics
- Actions

**Actions**

associate-role-to-group

The following code example shows how to use `associate-role-to-group`.

**AWS CLI**

To associate a role with a Greengrass group

The following `associate-role-to-group` example associates the specified IAM role with a Greengrass group. The group role is used by local Lambda functions and connectors to access AWS services. For example, your group role might grant permissions required for CloudWatch Logs integration.

```
aws greengrass associate-role-to-group \
   --group-id 2494ee3f-7f8a-4e92-a78b-d205f808b84b \
   --role-arn arn:aws:iam::123456789012:role/GG-Group-Role
```

Output:

```
{
```
associate-service-role-to-account

The following code example shows how to use associate-service-role-to-account.

AWS CLI

To associate a service role with your AWS account

The following associate-service-role-to-account example associates an IAM service role, specified by its ARN, with AWS IoT Greengrass in your AWS account. You must have previously created the service role in IAM, and you must associate a policy document with it that allows AWS IoT Greengrass to assume this role.

```
aws greengrass associate-service-role-to-account \
   --role-arn "arn:aws:iam::123456789012:role/service-role/Greengrass_ServiceRole"
```

Output:

```
{
   "AssociatedAt": "2019-06-25T18:12:45Z"
}
```

For more information, see Greengrass Service Role in the AWS IoT Greengrass Developer Guide.

- For API details, see AssociateServiceRoleToAccount in AWS CLI Command Reference.

create-connector-definition

The following code example shows how to use create-connector-definition.

AWS CLI

To create a connector definition
The following `create-connector-definition` example example creates a connector definition and an initial connector definition version. The initial version contains one connector. All connectors in a version define values for their parameters.

```
aws greengrass create-connector-definition \
  --name MySNSConnector \
```

Output:

```
{
  "Arn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/connectors/b5c4ebfd-f672-49a3-83cd-31c7216a7bb8",
  "CreationTimestamp": "2019-06-19T19:30:01.300Z",
  "Id": "b5c4ebfd-f672-49a3-83cd-31c7216a7bb8",
  "LastUpdatedTimestamp": "2019-06-19T19:30:01.300Z",
  "LatestVersion": "63c57963-c7c2-4a26-a7e2-7bf478ea2623",
  "LatestVersionArn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/connectors/b5c4ebfd-f672-49a3-83cd-31c7216a7bb8/versions/63c57963-c7c2-4a26-a7e2-7bf478ea2623",
  "Name": "MySNSConnector"
}
```

For more information, see [Getting Started with Greengrass Connectors (CLI)](https://docs.aws.amazon.com/greengrass/latest/ug/gs-connector-cli.html) in the [AWS IoT Greengrass Developer Guide](https://docs.aws.amazon.com/greengrass/latest/ug/)

- For API details, see [CreateConnectorDefinition](https://docs.aws.amazon.com/transfer/latest/userguide/API_CreateConnectorDefinition.html) in [AWS CLI Command Reference](https://awscli.amazonaws.com/v2/documentation/api/)

### create-connector-definition-version

The following code example shows how to use `create-connector-definition-version`.

**AWS CLI**

**To create a connector definition version**

The following `create-connector-definition-version` example creates a connector definition version and associates it with the specified connector definition. All connectors in a version define values for their parameters.
aws greengrass create-connector-definition-version \
    --connector-definition-id "55d0052b-0d7d-44d6-b56f-21867215e118" \
    --connectors "[{"Id": "MyTwilioNotificationsConnector", \
        "DefaultFromPhoneNumber": "4254492999"}}]"

Output:

```
{
    "Arn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/connectors/55d0052b-0d7d-44d6-b56f-21867215e118/versions/33f709a0-c825-49cb-9eea-dc8964fbd635",
    "Id": "55d0052b-0d7d-44d6-b56f-21867215e118",
    "Version": "33f709a0-c825-49cb-9eea-dc8964fbd635"
}
```

- For API details, see [CreateConnectorDefinitionVersion](https://docs.aws.amazon.com/cli/latest/reference/greengrass/create-connector-definition-version.html) in *AWS CLI Command Reference*.

### create-core-definition

The following code example shows how to use `create-core-definition`.

**AWS CLI**

**Example 1: To create an empty core definition**

The following `create-core-definition` example creates an empty (no initial version) Greengrass core definition. Before the core is usable, you must use the `create-core-definition-version` command to provide the other parameters for the core.

```
aws greengrass create-core-definition \
    --name cliGroup_Core
```

Output:

```
{
```
Example 2: To create a core definition with an initial version

The following create-core-definition example creates a core definition that contains an initial core definition version. The version can contain one core only. Before you can create a core, you must first create and provision the corresponding AWS IoT thing. This process includes the following iot commands, which return the ThingArn and CertificateArn required for the create-core-definition command.

Create the AWS IoT thing that corresponds to the core device:

```bash
aws iot create-thing \
    --thing-name "MyCoreDevice"
```

Output:

```json
{
    "thingArn": "arn:aws:iot:us-west-2:123456789012:thing/MyCoreDevice",
    "thingName": "MyCoreDevice",
    "thingId": "cb419a19-9099-4515-9cec-e9b0e760608a"
}
```

Create public and private keys and the core device certificate for the thing. This example uses the create-keys-and-certificate command and requires write permissions to the current directory. Alternatively, you can use the create-certificate-from-csr command.

```bash
aws iot create-keys-and-certificate \
    --set-as-active \
    --certificate-pem-outfile "myCore.cert.pem" \
    --public-key-outfile "myCore.public.key" \
    --private-key-outfile "myCore.private.key"
```

Output:

```json

```
Create an AWS IoT policy that allows `iot` and `greengrass` actions. For simplicity, the following policy allows actions on all resources, but your policy should be more restrictive.

```
aws iot create-policy \
   --policy-name "Core_Devices" \
```

Output:

```
{
   "policyName": "Core_Devices",
}
```
Attach the policy to the certificate:

```bash
aws iot attach-policy \
    --policy-name "Core_Devices" \
    --target "arn:aws:iot:us-west-2:123456789012:cert/123a15ec415668c2349a76170b64ac0878231c1e21ec83c10e92a1EXAMPLExyz"
```

This command produces no output.

Attach the thing to the certificate:

```bash
aws iot attach-thing-principal \
    --thing-name "MyCoreDevice" \
    --principal "arn:aws:iot:us-west-2:123456789012:cert/123a15ec415668c2349a76170b64ac0878231c1e21ec83c10e92a1EXAMPLExyz"
```

This command produces no output.

Create the core definition:

```bash
aws greengrass create-core-definition \
    --name "MyCores" \
    --initial-version "{"Cores":[{"Id":"MyCoreDevice"},{"ThingArn":"arn:aws:iot:us-west-2:123456789012:thing/MyCoreDevice"},{"CertificateArn":"arn:aws:iot:us-west-2:123456789012:cert/123a15ec415668c2349a76170b64ac0878231c1e21ec83c10e92a1EXAMPLExyz"},{"SyncShadow":true}]}
```

Output:

```json
{
    "LatestVersionArn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/cores/582efe12-b05a-409e-9a24-a2ba1bcc4a12/versions/cc87b5b3-8f4b-465d-944c-1d6de5dbfcd8",
    "Name": "MyCores",
    "LastUpdatedTimestamp": "2019-09-18T00:11:06.197Z",
    "LatestVersion": "cc87b5b3-8f4b-465d-944c-1d6de5dbfcd8",
    "CreationTimestamp": "2019-09-18T00:11:06.197Z",
}
```
create-core-definition-version

The following code example shows how to use create-core-definition-version.

AWS CLI

To create a core definition version

The following create-core-definition-version example creates a core definition version and associates it with the specified core definition. The version can contain one core only. Before you can create a core, you must first create and provision the corresponding AWS IoT thing. This process includes the following iot commands, which return the ThingArn and CertificateArn required for the create-core-definition-version command.

Create the AWS IoT thing that corresponds to the core device:

```bash
aws iot create-thing \
   --thing-name "MyCoreDevice"
```

Output:

```json
{
   "thingArn": "arn:aws:iot:us-west-2:123456789012:thing/MyCoreDevice",
   "thingName": "MyCoreDevice",
   "thingId": "cb419a19-9099-4515-9ce9-b0e760608a"
}
```

Create public and private keys and the core device certificate for the thing. This example uses the create-keys-and-certificate command and requires write permissions to the current directory. Alternatively, you can use the create-certificate-from-csr command.
aws iot create-keys-and-certificate 
  --set-as-active 
  --certificate-pem-outfile "myCore.cert.pem" 
  --public-key-outfile "myCore.public.key" 
  --private-key-outfile "myCore.private.key"

Output:

```
{
  "certificateArn": "arn:aws:iot:us-west-2:123456789012:cert/123a15ec415668c2349a76170b64ac0878231c1e21ec83c10e92a1EXAMPLExyz",
  "certificatePem": "-----BEGIN CERTIFICATE-----
MIIDWTCAkGgAwIBATgIUCgq6EGqou6zFqWgIZRndgQEFW+gwDQYJKoZIhvc...KdGewQS
-----END CERTIFICATE-----",
  "keyPair": {
    "PublicKey": "-----BEGIN PUBLIC KEY-----
MIIBIjANBzrqhkiG9w0BAQFEAAOCAQ8AMIIBCgKCAQEAqKpRgnn6yq26U3y...wIDAQAB
-----END PUBLIC KEY-----",
    "PrivateKey": "-----BEGIN RSA PRIVATE KEY-----
MIIEowIABAKCAqKpRgnn6yq26U3yt5YFZquyukfRjbMXDcNOK4iMCxDR...fY4+te
-----END RSA PRIVATE KEY-----"
  },
  "certificateId": "123a15ec415668c2349a76170b64ac0878231c1e21ec83c10e92a1EXAMPLExyz"
}
```

Create an AWS IoT policy that allows iot and greengrass actions. For simplicity, the following policy allows actions on all resources, but your policy should be more restrictive.

aws iot create-policy 
  --policy-name "Core_Devices" 

Output:

```
{
```

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"policyName": "Core_Devices",

**Attach the policy to the certificate:**

```
aws iot attach-policy 
   --policy-name "Core_Devices" 
   --target "arn:aws:iot:us-west-2:123456789012:cert/123a15ec415668c2349a76170b64ac0878231c1e21ec83c10e92a1EXAMPLExyz"
```

This command produces no output.

**Attach the thing to the certificate:**

```
aws iot attach-thing-principal 
   --thing-name "MyCoreDevice" 
   --principal "arn:aws:iot:us-west-2:123456789012:cert/123a15ec415668c2349a76170b64ac0878231c1e21ec83c10e92a1EXAMPLExyz"
```

This command produces no output.

**Create the core definition version:**

```
aws greengrass create-core-definition-version 
   --core-definition-id "582efe12-b05a-409e-9a24-a2ba1bcc4a12" 
   --cores "[{"Id":"MyCoreDevice"},{"ThingArn": "arn:aws:iot:us-west-2:123456789012:thing/MyCoreDevice","CertificateArn": "arn:aws:iot:us-west-2:123456789012:cert/123a15ec415668c2349a76170b64ac0878231c1e21ec83c10e92a1EXAMPLExyz","SyncShadow":true}]"
```

**Output:**

```json
{
   
}
```
For more information, see Configure the AWS IoT Greengrass Core in the AWS IoT Greengrass Developer Guide.

- For API details, see CreateCoreDefinitionVersion in AWS CLI Command Reference.

create-deployment

The following code example shows how to use create-deployment.

AWS CLI

To create a deployment for a version of a Greengrass group

The following create-deployment example deploys the specified version of a Greengrass group.

```
aws greengrass create-deployment \
    --deployment-type NewDeployment \
    --group-id "ce2e7d01-3240-4c24-b8e6-f6f6e7a9eeca" \
    --group-version-id "dc40c1e9-e8c8-4d28-a84d-a9cad5f599c9"
```

Output:

```
{
    "DeploymentArn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/groups/ce2e7d01-3240-4c24-b8e6-f6f6e7a9eeca/deployments/bfceb608-4e97-45bc-af5c-460144270308",
    "DeploymentId": "bfceb608-4e97-45bc-af5c-460144270308"
}
```

For more information, see Getting Started with Connectors (CLI) in the AWS IoT Greengrass Developer Guide.

- For API details, see CreateDeployment in AWS CLI Command Reference.
create-device-definition

The following code example shows how to use create-device-definition.

AWS CLI

To create a device definition

The following create-device-definition example creates a device definition that contains an initial device definition version. The initial version defines two devices. Before you can create a Greengrass device, you must first create and provision the corresponding AWS IoT thing. This process includes the following iot commands that you must run to get the required information for the Greengrass command:

Create the AWS IoT thing that corresponds to the device:

```
aws iot create-thing \
    --thing-name "InteriorTherm"
```

Output:

```
{
    "thingName": "InteriorTherm",
    "thingId": "01d4763c-78a6-46c6-92be-7add080394bf"
}
```

Create public and private keys and the device certificate for the thing. This example uses the create-keys-and-certificate command and requires write permissions to the current directory. Alternatively, you can use the create-certificate-from-csr command:

```
aws iot create-keys-and-certificate \
    --set-as-active \n    --certificate-pem-outfile "myDevice.cert.pem" \n    --public-key-outfile "myDevice.public.key" \n    --private-key-outfile "myDevice.private.key"
```

Output:

```
{
```
Create an AWS IoT policy that allows iot and greengrass actions. For simplicity, the following policy allows actions on all resources, but your policy can be more restrictive:

```bash
aws iot create-policy
--policy-name "GG_Devices"
```

Output:

```json
{
    "policyName": "GG_Devices",
}
```

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Attach the policy to the certificate:

```
aws iot attach-policy
  --policy-name "GG_Devices"
  --target "arn:aws:iot:us-west-2:123456789012:cert/66a415ec415668c2349a76170b64ac0878231c1e21ec83c10e92a18bd568eb92"
```

Attach the thing to the certificate

```
aws iot attach-thing-principal
  --thing-name "InteriorTherm"
  --principal "arn:aws:iot:us-west-2:123456789012:cert/66a415ec415668c2349a76170b64ac0878231c1e21ec83c10e92a18bd568eb92"
```

After you create and configure the IoT thing as shown above, use the ThingArn and CertificateArn from the first two commands in the following example.

```
aws greengrass create-device-definition
  --name "Sensors"
```

Output:

```
{
  "Name": "Sensors",
  "LastUpdatedTimestamp": "2019-09-11T00:11:06.197Z",
  "LatestVersion": "3b5cc510-58c1-44b5-9d98-4ad858ffa795",
  "CreationTimestamp": "2019-09-11T00:11:06.197Z",
  "Id": "f9ba083d-5ad4-4534-9f86-026a45df1ccd",
  "Arn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/devices/f9ba083d-5ad4-4534-9f86-026a45df1ccd"
}```
For API details, see `createDeviceDefinition` in *AWS CLI Command Reference*.

`create-device-definition-version`

The following code example shows how to use `create-device-definition-version`.

**AWS CLI**

**To create a device definition version**

The following `create-device-definition-version` example creates a device definition version and associates it with the specified device definition. The version defines two devices. Before you can create a Greengrass device, you must first create and provision the corresponding AWS IoT thing. This process includes the following `iot` commands that you must run to get the required information for the Greengrass command:

Create the AWS IoT thing that corresponds to the device:

```bash
aws iot create-thing \
  --thing-name "InteriorTherm"
```

Output:

```json
{
  "thingName": "InteriorTherm",
  "thingId": "01d4763c-78a6-46c6-92be-7add080394bf"
}
```

Create public and private keys and the device certificate for the thing. This example uses the `create-keys-and-certificate` command and requires write permissions to the current directory. Alternatively, you can use the `create-certificate-from-csr` command:

```bash
aws iot create-keys-and-certificate \
  --set-as-active \
  --certificate-pem-outfile "myDevice.cert.pem" \
  --public-key-outfile "myDevice.public.key"
```
Output:

```
{
    "certificateArn": "arn:aws:iot:us-west-2:123456789012:cert/66a415ec415668c2349a76170b64ac0878231c1e21ec83c10e92a18bd568eb92",
    "certificatePem": "-----BEGIN CERTIFICATE-----
MIIDWTCAkGgAwIBATgIUCgq6Eggq6EGgou6zFqWgIZRn6gQEFW+gwDQYJKoZIhvc...KdGewQS
-----END CERTIFICATE-----
",
    "keyPair": {
        "PublicKey": "-----BEGIN PUBLIC KEY-----
MIIBIjANBzrqhkiG9w0BAQEEFAA0QCAQ8AMMgAtKCAQApKPrn6yq26U3y...wIDAQAB
-----END PUBLIC KEY-----
",
        "PrivateKey": "-----BEGIN RSA PRIVATE KEY-----
MIIEowIABAKCAQEAqKPr6yq26U3yt5YFZquyuRjbM4DCxN4zMCjDR...fvY4+te
-----END RSA PRIVATE KEY-----
",
    "certificateId": "66a415ec415668c2349a76170b64ac0878231c1e21ec83c10e92a18bd568eb92"
}
```

Create an AWS IoT policy that allows `iot` and `greengrass` actions. For simplicity, the following policy allows actions on all resources, but your policy can be more restrictive:

```
aws iot create-policy \
    --policy-name "GG_Devices" \
```

Output:

```
{
    "policyName": "GG_Devices",
}```
After you create and configure the IoT thing as shown above, use the ThingArn and CertificateArn from the first two commands in the following example.

```
aws greengrass create-device-definition-version \
  --device-definition-id "f9ba083d-5ad4-4534-9f86-026a45df1ccd" \
```

Output:

```
{
  "Arn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/devices/f9ba083d-5ad4-4534-9f86-026a45df1ccd/versions/83c13984-6fed-447e-84d5-5b8aa45d5f71",
  "Version": "83c13984-6fed-447e-84d5-5b8aa45d5f71",
  "CreationTimestamp": "2019-09-11T00:15:09.838Z",
}
```
create-function-definition

The following code example shows how to use create-function-definition.

AWS CLI

To create a Lambda function definition

The following create-function-definition example creates a Lambda function definition and an initial version by providing a list of Lambda functions (in this case, a list of just one function named TempMonitorFunction) and their configurations. Before you can create the function definition, you need the Lambda function ARN. To create the function and its alias, use Lambda's create-function and publish-version commands. Lambda's create-function command requires the ARN of the execution role, even though AWS IoT Greengrass doesn't use that role because permissions are specified in the Greengrass group role. You can use the IAM create-role command to create an empty role to get an ARN to use with Lambda's create-function or you can use an existing execution role.

```
aws greengrass create-function-definition \
   --name MyGreengrassFunctions \
```

Output:

```
{
   "Arn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/functions/3b0d0080-87e7-48c6-b182-503ec743a08b",
   "CreationTimestamp": "2019-06-19T22:24:44.585Z",
   "Id": "3b0d0080-87e7-48c6-b182-503ec743a08b",
   "LastUpdatedTimestamp": "2019-06-19T22:24:44.585Z",
   "LatestVersion": "67f918b9-efb4-40b0-b87c-de8c9faf085b",
}```
For more information, see **How to Configure Local Resource Access Using the AWS Command Line Interface** in the **AWS IoT Greengrass Developer Guide**.

- For API details, see **CreateFunctionDefinition** in **AWS CLI Command Reference**.

### create-function-definition-version

The following code example shows how to use `create-function-definition-version`.

**AWS CLI**

**To create a version of the function definition**

The following `create-function-definition-version` example creates a new version of the specified function definition. This version specifies a single function whose ID is `Hello-World-function`, allows access to the file system, and specifies a maximum memory size and timeout period.

```bash
code example:
aws greengrass create-function-definition-version \
   --cli-input-json "{"FunctionDefinitionId": "e626e8c9-3b8f-4bf3-9cdc-d26ecdeb9fa3","Functions": [{"Id": "Hello-World-function", "FunctionArn": "arn:aws:lambda:us-west-2:123456789012:function:Greengrass_HelloWorld_Counter:gghw-alias","FunctionConfiguration": {"Environment": {"AccessSysfs": true},"Executable": "greengrassHelloWorldCounter.function_handler","MemorySize": 16000,"Pinned": false,"Timeout": 25}}]"
```

**Output:**

```json
{
   "Arn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/functions/e626e8c9-3b8f-4bf3-9cdc-d26ecdeb9fa3/versions/74abd1cc-637e-4abe-8684-9a67890f4043",
   "CreationTimestamp": "2019-06-25T22:03:43.376Z",
   "Id": "e626e8c9-3b8f-4bf3-9cdc-d26ecdeb9fa3",
   }
```
create-group

The following code example shows how to use create-group.

**AWS CLI**

**To create a Greeengrass group**

The following create-group example creates a group named cli-created-group.

```bash
aws greengrass create-group \
  --name cli-created-group
```

**Output:**

```json
{
    groups/4e22bd92-898c-436b-ade5-434d883ff749",
   "Id": "4e22bd92-898c-436b-ade5-434d883ff749",
   "LastUpdatedTimestamp": "2019-06-25T18:07:17.688Z",
   "Name": "cli-created-group"
}
```

For more information, see [Overview of the AWS IoT Greengrass Group Object Model](https://docs.aws.amazon.com/greengrass/latest/developerguide/gg-model.html) in the *AWS IoT Greengrass Developer Guide*.

- For API details, see [CreateGroup](https://docs.aws.amazon.com/cli/latest/reference/greengrass/create-group.html) in *AWS CLI Command Reference*.

create-group-certificate-authority

The following code example shows how to use create-group-certificate-authority.

**AWS CLI**

**To create a certificate authority (CA) for a group**
The following `create-group-certificate-authority` example creates or rotates a CA for the specified group.

```bash
aws greengrass create-group-certificate-authority \
   --group-id "8eaadd72-ce4b-4f15-892a-0cc4f3a343f1"
```

Output:

```json
{
   "GroupCertificateAuthorityArn": "arn:aws:greengrass:us-west-2:123456789012: Verdegrass/groups/8eaadd72-ce4b-4f15-892a-0cc4f3a343f1/certificateauthorities/d31630d674c4437f6c5dbc0dca56312a902171ce2d086c38e509c8EXAMPLEcc5"
}
```

For more information, see [AWS IoT Greengrass Security](https://docs.aws.amazon.com/iot-greengrass/latest/developerguide/aws-iot-greengrass-security.html) in the *AWS IoT Greengrass Developer Guide*.

- For API details, see [CreateGroupCertificateAuthority](https://docs.aws.amazon.com/cli/latest/reference/greengrass/create-group-certificate-authority.html) in *AWS CLI Command Reference*.

**create-group-version**

The following code example shows how to use `create-group-version`.

### AWS CLI

**To create a version of a Greengrass group**

The following `create-group-version` example creates a group version and associates it with the specified group. The version references the core, resource, connector, function, and subscription versions that contain the entities to include in this group version. You must create these entities before you can create the group version.

To create a resource definition with an initial version, use the `create-resource-definition` command. To create a connector definition with an initial version, use the `create-connector-definition` command. To create a function definition with an initial version, use the `create-function-definition` command. To create a subscription definition with an initial version, use the `create-subscription-definition` command. To retrieve the ARN of the latest core definition version, use the `get-group-version` command and specify the ID of the latest group version.

```bash
aws greengrass create-group-version \
```
--group-id "ce2e7d01-3240-4c24-b8e6-f6f6e7a9eeca" \
greengrass/definition/cores/6a630442-8708-4838-ad36-eb98849d975e/
versions/6c87151b-1fb4-4cb2-8b31-6ee715d8f8ba" \
greengrass/definition/resources/c8bb9ebc-c3fd-40a4-9c6a-568d75569d38/
vversions/a5f94d0b-f6bc-40f4-bb78-7a1c5fe13bab" \
greengrass/definition/connectors/55d0052b-0d7d-44d6-b56f-21867215e118/
vversions/78a3331b-895d-489d-8823-17b4f9f418a0" \
greengrass/definition/functions/3b0d0080-87e7-48c6-b182-503ec743a08b/
vversions/67f918b9-efb4-40b0-b87c-de8c9f9b085b" \
--subscription-definition-version-arn "arn:aws:greengrass:us-
west-2:123456789012:/greengrass/definition/subscriptions/9d611d57-5d5d-44bd-a3b4-
feccbdd69112/versions/aa645c47-ac90-420d-9091-8c7ffa4f103f"

Output:

```json
{
    "Arn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/groups/
ce2e7d01-3240-4c24-b8e6-f6f6e7a9eeca/versions/e10b0459-4345-4a09-88a4-1af1f5d34638",
    "CreationTimestamp": "2019-06-20T18:42:47.020Z",
    "Id": "ce2e7d01-3240-4c24-b8e6-f6f6e7a9eeca",
    "Version": "e10b0459-4345-4a09-88a4-1af1f5d34638"
}
```

For more information, see [Overview of the AWS IoT Greengrass Group Object Model](https://docs.aws.amazon.com/greengrass/latest/developer-guide/overview-group-object-model.html) in the [AWS IoT Greengrass Developer Guide](https://docs.aws.amazon.com/greengrass/latest/developer-guide/).

- For API details, see [CreateGroupVersion](https://docs.aws.amazon.com/cli/latest/reference/greengrass/create-group-version.html) in *AWS CLI Command Reference*.

**create-logger-definition**

The following code example shows how to use `create-logger-definition`.

**AWS CLI**

**To create a logger definition**

The following `create-logger-definition` example creates a logger definition that contains an initial logger definition version. The initial version defines three logging configurations:

1) system component logs on the file system of the core device, 2) user-defined Lambda
function logs on the file system of the core device, and 3) user-defined Lambda function logs in Amazon CloudWatch Logs. Note: For CloudWatch Logs integration, your group role must grant appropriate permissions.

```
aws greengrass create-logger-definition \
  --name "LoggingConfigs" \
  --initial-version "{"Loggers":[{"Id":"1","Component":"GreengrassSystem ","Level":"ERROR","Space":10240,"Type":"FileSystem"},{"Id":"2","Component":"Lambda","Level":"INFO","Space":10240,"Type":"FileSystem"},{"Id":"3","Component":"Lambda","Level":"INFO","Type":"AWSCloudWatch"}]}"
```

Output:

```
{
  "LatestVersionArn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/loggers/a454b62a-5d56-4ca9-bdc4-8254e1662cb0/versions/de1d9854-1588-4525-b25e-b378f60f2322",
  "Name": "LoggingConfigs",
  "LastUpdatedTimestamp": "2019-07-23T23:52:17.165Z",
  "LatestVersion": "de1d9854-1588-4525-b25e-b378f60f2322",
  "Id": "a454b62a-5d56-4ca9-bdc4-8254e1662cb0",
  "Arn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/loggers/a454b62a-5d56-4ca9-bdc4-8254e1662cb0"
}
```

For more information, see [Monitoring with AWS IoT Greengrass Logs](https://docs.aws.amazon.com/iot-greengrass/latest/UG/greengrass-logs.html) in the *AWS IoT Greengrass Developer Guide*.

- For API details, see [CreateLoggerDefinition](https://docs.aws.amazon.com/greengrass/latest/UG/greengrass-codecli-create-logger-definition.html) in *AWS CLI Command Reference*.

### create-logger-definition-version

The following code example shows how to use `create-logger-definition-version`.

**AWS CLI**

**To create a logger definition version**

The following `create-logger-definition-version` example creates a logger definition version and associates it with a logger definition. The version defines four logging...
configurations: 1) system component logs on the file system of the core device, 2) user-defined Lambda function logs on the file system of the core device, 3) system component logs in Amazon CloudWatch Logs, and 4) user-defined Lambda function logs in Amazon CloudWatch Logs. Note: For CloudWatch Logs integration, your group role must grant appropriate permissions.

```
aws greengrass create-logger-definition-version \
   --logger-definition-id "a454b62a-5d56-4ca9-bdc4-8254e1662cb0" \
   --loggers "[{{"Id":"1","Component":"GreengrassSystem","Level":"ERROR","Space":10240,"Type":"FileSystem"},{"Id":"2","Component":"Lambda","Level":"INFO","Space":10240,"Type":"FileSystem"},{"Id":"3","Component":"GreengrassSystem","Level":"WARN","Type":"AWSCloudWatch"},{"Id":"4","Component":"Lambda","Level":"INFO","Type":"AWSCloudWatch"}]"
```

Output:

```
{
   "Arn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/loggers/a454b62a-5d56-4ca9-bdc4-8254e1662cb0/versions/49aedb1e-01a3-4d39-9871-3a052573f1ea",
   "Version": "49aedb1e-01a3-4d39-9871-3a052573f1ea",
   "CreationTimestamp": "2019-07-24T00:04:48.523Z",
   "Id": "a454b62a-5d56-4ca9-bdc4-8254e1662cb0"
}
```

For more information, see Monitoring with AWS IoT Greengrass Logs in the AWS IoT Greengrass Developer Guide.

- For API details, see CreateLoggerDefinitionVersion in AWS CLI Command Reference.

create-resource-definition

The following code example shows how to use create-resource-definition.

**AWS CLI**

To create a resource definition

The following create-resource-definition example creates a resource definition that contains a list of resources to be used in a Greengrass group. In this example, an initial version of the resource definition is included by providing a list of resources. The list includes one
resource for a Twilio authorization token and the ARN for a secret stored in AWS Secrets Manager. You must create the secret before you can create the resource definition.

```
aws greengrass create-resource-definition \
  --name MyGreengrassResources \
```

Output:

```
{
  "Arn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/resources/c8bb9ebc-c3fd-40a4-9c6a-568d75569d38",
  "Id": "c8bb9ebc-c3fd-40a4-9c6a-568d75569d38",
  "LatestVersion": "a5f94d0b-f6bc-40f4-bb78-7a1c5fe13ba1",
  "LatestVersionArn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/resources/c8bb9ebc-c3fd-40a4-9c6a-568d75569d38/versions/a5f94d0b-f6bc-40f4-bb78-7a1c5fe13ba1",
  "Name": "MyGreengrassResources"
}
```

For more information, see How to Configure Local Resource Access Using the AWS Command Line Interface in the AWS IoT Greengrass Developer Guide.

- For API details, see CreateResourceDefinition in AWS CLI Command Reference.

**create-resource-definition-version**

The following code example shows how to use create-resource-definition-version.

**AWS CLI**

**To create a version of a resource definition**

The following create-resource-definition-version example creates a new version of a TwilioAuthToken.

```
aws greengrass create-resource-definition-version \
```
--resource-definition-id "c8bb9ebc-c3fd-40a4-9c6a-568d75569d38" \ 

Output:

```json
{
  "Arn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/resources/c8bb9ebc-c3fd-40a4-9c6a-568d75569d38/versions/b3bcada0-5fb6-42df-bf0b-1ee4f15e769e",
  "Id": "c8bb9ebc-c3fd-40a4-9c6a-568d75569d38",
  "Version": "b3bcada0-5fb6-42df-bf0b-1ee4f15e769e"
}
```

- For API details, see [CreateResourceDefinitionVersion](#) in AWS CLI Command Reference.

create-software-update-job

The following code example shows how to use `create-software-update-job`.

AWS CLI

**To create a software update job for a core**

The following `create-software-update-job` example creates an over-the-air (OTA) update job to update the AWS IoT Greengrass Core software on the core whose name is `MyFirstGroup_Core`. This command requires an IAM role that allows access to software update packages in Amazon S3 and includes `iot.amazonaws.com` as a trusted entity.

```bash
aws greengrass create-software-update-job \ 
  --update-targets-architecture armv7l \ 
  --update-targets ["arn:aws:iot:us-west-2:123456789012:thing/MyFirstGroup_Core \"] \ 
  --update-targets-operating-system raspbian \ 
  --software-to-update core \ 
  --s3-url-signer-role arn:aws:iam::123456789012:role/OTA_signer_role \ 
  --update-agent-log-level WARN
```
Output:

```json
{
   "IotJobId": "GreengrassUpdateJob_30b353e3-3af7-4786-be25-4c446663c09e",
   "IotJobArn": "arn:aws:iot:us-west-2:123456789012:job/GreengrassUpdateJob_30b353e3-3af7-4786-be25-4c446663c09e",
   "PlatformSoftwareVersion": "1.9.3"
}
```

For more information, see [OTA Updates of AWS IoT Greengrass Core Software](https://docs.aws.amazon.com/iot-greengrass/latest/developer-guide/ota-updates.html) in the *AWS IoT Greengrass Developer Guide*.

- For API details, see [CreateSoftwareUpdateJob](https://docs.aws.amazon.com/cli/latest/reference/greengrass/create-software-update-job.html) in *AWS CLI Command Reference*.

### `create-subscription-definition`

The following code example shows how to use `create-subscription-definition`.

#### AWS CLI

**To create a subscription definition**

The following `create-subscription-definition` example creates a subscription definition and specifies its initial version. The initial version contains three subscriptions: one for the MQTT topic to which the connector subscribes, one to allow a function to receive temperature readings from AWS IoT, and one to allow AWS IoT to receive status information from the connector. The example provides the ARN for the Lambda function alias that was created earlier by using Lambda's `create-alias` command.

```
aws greengrass create-subscription-definition
```

Output:
{  "Arn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/subscriptions/9d611d57-5d5d-44bd-a3b4-feccbddd69112",
   "Id": "9d611d57-5d5d-44bd-a3b4-feccbddd69112",
   "LastUpdatedTimestamp": "2019-06-19T22:34:26.677Z",
   "LatestVersion": "aa645c47-ac90-420d-9091-8c7ffa4f103f",
   "LatestVersionArn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/subscriptions/9d611d57-5d5d-44bd-a3b4-feccbddd69112/versions/aa645c47-ac90-420d-9091-8c7ffa4f103f"
}

For more information, see Getting Started with Connectors (CLI) in the AWS IoT Greengrass Developer Guide.

- For API details, see CreateSubscriptionDefinition in AWS CLI Command Reference.

create-subscription-definition-version

The following code example shows how to use create-subscription-definition-version.

AWS CLI

To create a new version of a subscription definition

The following create-subscription-definition-version example creates a new version of a subscription definition that contains three subscriptions: a trigger notification, a temperature input, and an output status.

```bash
aws greengrass create-subscription-definition-version \
   --subscription-definition-id "9d611d57-5d5d-44bd-a3b4-feccbddd69112" \ 
   --subscriptions "{"Id": "TriggerNotification", "Source": \
```

Output:
For API details, see `CreateSubscriptionDefinitionVersion` in *AWS CLI Command Reference*.

**delete-connector-definition**

The following code example shows how to use `delete-connector-definition`.

**AWS CLI**

**To delete a connector definition**

The following `delete-connector-definition` example deletes the specified Greengrass connector definition. If you delete a connector definition that is used by a group, that group can't be deployed successfully.

```
aws greengrass delete-connector-definition
  --connector-definition-id "b5c4ebfd-f672-49a3-83cd-31c7216a7bb8"
```

This command produces no output.

For API details, see `DeleteConnectorDefinition` in *AWS CLI Command Reference*.

**delete-core-definition**

The following code example shows how to use `delete-core-definition`.

**AWS CLI**

**To delete a core definition**

The following `delete-core-definition` example deletes the specified Greengrass core definition, including all versions. If you delete a core that is associated with a Greengrass group, that group can't be deployed successfully.
aws greengrass delete-core-definition \\   
   --core-definition-id "ff36cc5f-9f98-4994-b468-9d9b6dc52abd"

This command produces no output.

- For API details, see DeleteCoreDefinition in AWS CLI Command Reference.

### delete-device-definition

The following code example shows how to use delete-device-definition.

**AWS CLI**

To delete a device definition

The following delete-device-definition example deletes the specified device definition, including all of its versions. If you delete a device definition version that is used by a group version, the group version cannot be deployed successfully.

aws greengrass delete-device-definition \\
   --device-definition-id "f9ba083d-5ad4-4534-9f86-026a45df1ccd"

This command produces no output.

- For API details, see DeleteDeviceDefinition in AWS CLI Command Reference.

### delete-function-definition

The following code example shows how to use delete-function-definition.

**AWS CLI**

To delete a function definition

The following delete-function-definition example deletes the specified Greengrass function definition. If you delete a function definition that is used by a group, that group can't be deployed successfully.

aws greengrass delete-function-definition \\
   --function-definition-id "fd4b906a-dff3-4c1b-96eb-52ebfcfac06a"
This command produces no output.

- For API details, see DeleteFunctionDefinition in AWS CLI Command Reference.

**delete-group**

The following code example shows how to use delete-group.

**AWS CLI**

**To delete a group**

The following delete-group example deletes the specified Greengrass group.

```
aws greengrass delete-group \
--group-id "4e22bd92-898c-436b-ade5-434d883ff749"
```

This command produces no output.

- For API details, see DeleteGroup in AWS CLI Command Reference.

**delete-logger-definition**

The following code example shows how to use delete-logger-definition.

**AWS CLI**

**To delete a logger definition**

The following delete-logger-definition example deletes the specified logger definition, including all logger definition versions. If you delete a logger definition version that is used by a group version, the group version cannot be deployed successfully.

```
aws greengrass delete-logger-definition \
--logger-definition-id "a454b62a-5d56-4ca9-bdc4-8254e1662cb0"
```

This command produces no output.

For more information, see Monitoring with AWS IoT Greengrass Logs in the AWS IoT Greengrass Developer Guide.

- For API details, see DeleteLoggerDefinition in AWS CLI Command Reference.
delete-resource-definition

The following code example shows how to use delete-resource-definition.

AWS CLI

To delete a resource definition

The following delete-resource-definition example deletes the specified resource definition, including all resource versions. If you delete a resource definition that is used by a group, that group can't be deployed successfully.

```bash
aws greengrass delete-resource-definition \
  --resource-definition-id "ad8c101d-8109-4b0e-b97d-9cc5802ab658"
```

This command produces no output.

- For API details, see DeleteResourceDefinition in AWS CLI Command Reference.

delete-subscription-definition

The following code example shows how to use delete-subscription-definition.

AWS CLI

To delete a subscription definition

The following delete-subscription-definition example deletes the specified Greengrass subscription definition. If you delete a subscription that is being used by a group, that group can't be deployed successfully.

```bash
aws greengrass delete-subscription-definition \
  --subscription-definition-id "cd6f1c37-d9a4-4e90-be94-01a7404f5967"
```

This command produces no output.

- For API details, see DeleteSubscriptionDefinition in AWS CLI Command Reference.

disassociate-role-from-group

The following code example shows how to use disassociate-role-from-group.
To disassociate the role from a Greengrass group

The following `disassociate-role-from-group` example disassociates the IAM role from the specified Greengrass group.

```bash
aws greengrass disassociate-role-from-group \
   --group-id 2494ee3f-7f8a-4e92-a78b-d205f808b84b
```

Output:

```json
{
   "DisassociatedAt": "2019-09-10T20:05:49Z"
}
```

For more information, see [Configure the Group Role](https://docs.aws.amazon.com/iot-greengrass/latest/developerguide/configure-group-role.html) in the *AWS IoT Greengrass Developer Guide*.

- For API details, see [DisassociateRoleFromGroup](https://docs.aws.amazon.com/cli/latest/reference/greengrass/disassociate-role-from-group.html) in *AWS CLI Command Reference*.

**disassociate-service-role-from-account**

The following code example shows how to use `disassociate-service-role-from-account`.

**AWS CLI**

To disassociate a service role from your AWS account

The following `disassociate-service-role-from-account` example removes the service role that is associated with your AWS account. If you are not using the service role in any AWS Region, use the `delete-role-policy` command to detach the `AWSGreengrassResourceAccessRolePolicy` managed policy from the role, and then use the `delete-role` command to delete the role.

```bash
aws greengrass disassociate-service-role-from-account
```

Output:

```json
{
   "DisassociatedAt": "2019-06-25T22:12:55Z"
}
```
For more information, see Greengrass Service Role in the AWS IoT Greengrass Developer Guide.

- For API details, see DisassociateServiceRoleFromAccount in AWS CLI Command Reference.

get-associated-role

The following code example shows how to use get-associated-role.

AWS CLI

To get the role associated with a Greengrass group

The following get-associated-role example gets the IAM role that's associated with the specified Greengrass group. The group role is used by local Lambda functions and connectors to access AWS services.

```bash
aws greengrass get-associated-role \
   --group-id 2494ee3f-7f8a-4e92-a78b-d205f808b84b
```

Output:

```json
{
   "RoleArn": "arn:aws:iam::123456789012:role/GG-Group-Role",
   "AssociatedAt": "2019-09-10T20:03:30Z"
}
```

For more information, see Configure the Group Role in the AWS IoT Greengrass Developer Guide.

- For API details, see GetAssociatedRole in AWS CLI Command Reference.

get-bulk-deployment-status

The following code example shows how to use get-bulk-deployment-status.

AWS CLI

To check the status of your bulk deployment

The following get-bulk-deployment-status example retrieves status information for the specified bulk deployment operation. In this example, the file that specified the groups to be deployed has an invalid input record.
aws greengrass get-bulk-deployment-status \ 
   --bulk-deployment-id "870fb41b-6288-4e0c-bc76-a7ba4b4d3267"

Output:

```
{
   "BulkDeploymentMetrics": {
      "InvalidInputRecords": 1,
      "RecordsProcessed": 1,
      "RetryAttempts": 0
   },
   "BulkDeploymentStatus": "Completed",
   "CreatedAt": "2019-06-25T16:11:33.265Z",
   "tags": {}
}
```

For more information, see [Create Bulk Deployments for Groups](https://docs.aws.amazon.com/iot-greengrass/latest/developer-guide/create-bulk-deployment-groups.html) in the *AWS IoT Greengrass Developer Guide*.

- For API details, see [GetBulkDeploymentStatus](https://docs.aws.amazon.com/cli/latest/reference/greengrass/get-bulk-deployment-status.html) in *AWS CLI Command Reference*.

get-connectivity-info

The following code example shows how to use get-connectivity-info.

AWS CLI

**To get the connectivity information for a Greengrass core**

The following get-connectivity-info example displays the endpoints that devices can use to connect to the specified Greengrass core. Connectivity information is a list of IP addresses or domain names, with corresponding port numbers and optional customer-defined metadata.

```
aws greengrass get-connectivity-info \ 
   --thing-name "MyGroup_Core"
```

Output:

```
{
   "ConnectivityInfo": [
```
For API details, see GetConnectivityInfo in AWS CLI Command Reference.

get-connector-definition

The following code example shows how to use get-connector-definition.

AWS CLI

To retrieve information about a connector definition

The following get-connector-definition example retrieves information about the specified connector definition. To retrieve the IDs of your connector definitions, use the list-connector-definitions command.

```
aws greengrass get-connector-definition
```
get-connector-definition-version

The following code example shows how to use `get-connector-definition-version`.

**AWS CLI**

To retrieve information about a specific version of a connector definition

The following `get-connector-definition-version` example retrieves information about the specified version of the specified connector definition. To retrieve the IDs of all versions of the connector definition, use the `list-connector-definition-versions` command. To retrieve the ID of the last version added to the connector definition, use the `get-connector-definition` command and check the `LatestVersion` property.

```
aws greengrass get-connector-definition-version \
  --connector-definition-id "b5c4ebfd-f672-49a3-83cd-31c7216a7bb8" \ 
  --connector-definition-version-id "63c57963-c7c2-4a26-a7e2-7bf478ea2623"
```

Output:

```json
{
    " Arn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/ connectors/b5c4ebfd-f672-49a3-83cd-31c7216a7bb8",
    "CreationTimestamp": "2019-06-19T19:30:01.300Z",
    "Id": "b5c4ebfd-f672-49a3-83cd-31c7216a7bb8",
    "LastUpdatedTimestamp": "2019-06-19T19:30:01.300Z",
    "LatestVersion": "63c57963-c7c2-4a26-a7e2-7bf478ea2623",
    "LatestVersionArn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/ definition/connectors/b5c4ebfd-f672-49a3-83cd-31c7216a7bb8/versions/63c57963-c7c2-4a26-a7e2-7bf478ea2623",
    "Name": "MySNSConnector",
    "tags": {}
}
```
The following code example shows how to use `get-core-definition`.

**AWS CLI**

**To retrieve details for a Greengrass core definition**

The following `get-core-definition` example retrieves information about the specified core definition. To retrieve the IDs of your core definitions, use the `list-core-definitions` command.

```bash
aws greengrass get-core-definition \
--core-definition-id "c906ed39-a1e3-4822-a981-7b9bd57b4b46"
```

For more information, see [Integrate with Services and Protocols Using Greengrass Connectors](https://docs.aws.amazon.com/iot/greengrass/latest/developerguide/integrate-attach-definition.html) in the *AWS IoT Greengrass Developer Guide*.


```json
{
   "Arn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/connectors/b5c4ebfd-f672-49a3-83cd-31c7216a7bb8/versions/63c57963-c7c2-4a26-a7e2-7bf478ea2623",
   "CreationTimestamp": "2019-06-19T19:30:01.300Z",
   "Definition": {
      "Connectors": [
         {
            "ConnectorArn": "arn:aws:greengrass:us-west-2::/connectors/SNS/versions/1",
            "Id": "MySNSConnector",
            "Parameters": {
               "DefaultSNSArn": "arn:aws:sns:us-west-2:123456789012:GGConnectorTopic"
            }
         }
      ],
      "Id": "b5c4ebfd-f672-49a3-83cd-31c7216a7bb8",
      "Version": "63c57963-c7c2-4a26-a7e2-7bf478ea2623"
   }
}
```
For API details, see GetCoreDefinition in AWS CLI Command Reference.

**get-core-definition-version**

The following code example shows how to use get-core-definition-version.

**AWS CLI**

To retrieve details about a specific version of the Greengrass core definition

The following get-core-definition-version example retrieves information about the specified version of the specified core definition. To retrieve the IDs of all versions of the core definition, use the list-core-definition-versions command. To retrieve the ID of the last version added to the core definition, use the get-core-definition command and check the LatestVersion property.

```
aws greengrass get-core-definition-version \
   --core-definition-id "c906ed39-a1e3-4822-a981-7b9bd5b4b46" \ 
   --core-definition-version-id "42aeeac3-fd9d-4312-a8fd-ffa9404a20e0"
```

Output:

```json
{
    "Arn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/cores/c906ed39-a1e3-4822-a981-7b9bd5b4b46/versions/42aeeac3-fd9d-4312-a8fd-ffa9404a20e0",
    "LastUpdatedTimestamp": "2019-10-18T04:47:06.721Z",
    "Tags": {}
}
```
"Definition": {  
  "Cores": [
    {
      "CertificateArn": "arn:aws:iot:us-west-2:123456789012:cert/928dea7b82331b47c3ff77b0e763fc5e64e2f7c884e6ef391baed9b6b8e21b45",
      "Id": "1a39aac7-0885-4417-91f6-23e4cea6c511",
      "SyncShadow": false,
      "ThingArn": "arn:aws:iot:us-west-2:123456789012:thing/GGGroup4Pi3_Core"
    }
  ],
  "Id": "c906ed39-a1e3-4822-a981-7b9bd57b4b46",
  "Version": "42aeeac3-fd9d-4312-a8fd-ffa9404a20e0"
}

- For API details, see GetCoreDefinitionVersion in AWS CLI Command Reference.

get-deployment-status

The following code example shows how to use get-deployment-status.

AWS CLI

To retrieve the status of a deployment

The following get-deployment-status example retrieves the status for the specified deployment of the specified Greengrass group. To get the deployment ID, use the list-deployments command and specify the group ID.

```
aws greengrass get-deployment-status \
  --group-id "1013db12-8b58-45ff-acc7-704248f66731" \
  --deployment-id "1065b8a0-812b-4f21-9d5d-e89b232a530f"
```

Output:

```
{
  "DeploymentStatus": "Success",
  "DeploymentType": "NewDeployment",
  "UpdatedAt": "2019-06-18T17:04:44.761Z"
}
```
• For API details, see GetDeploymentStatus in AWS CLI Command Reference.

get-device-definition

The following code example shows how to use get-device-definition.

AWS CLI

To get a device definition

The following get-device-definition example retrieves information about the specified device definition. To retrieve the IDs of your device definitions, use the list-device-definitions command.

```
aws greengrass get-device-definition \
--device-definition-id "f9ba083d-5ad4-4534-9f86-026a45df1ccd"
```

Output:

```json
{
    "Name": "TemperatureSensors",
    "tags": {},
    "LastUpdatedTimestamp": "2019-09-11T00:19:03.698Z",
    "LatestVersion": "83c13984-6fed-447e-84d5-5b8aa45d5f71",
    "CreationTimestamp": "2019-09-11T00:11:06.197Z",
    "Id": "f9ba083d-5ad4-4534-9f86-026a45df1ccd",
    "Arn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/devices/f9ba083d-5ad4-4534-9f86-026a45df1ccd"
}
```

• For API details, see GetDeviceDefinition in AWS CLI Command Reference.

get-device-definition-version

The following code example shows how to use get-device-definition-version.

AWS CLI

To get a device definition version
The following get-device-definition-version example retrieves information about the specified version of the specified device definition. To retrieve the IDs of all versions of the device definition, use the list-device-definition-versions command. To retrieve the ID of the last version added to the device definition, use the get-device-definition command and check the LatestVersion property.

```
aws greengrass get-device-definition-version \\
    --device-definition-id "f9ba083d-5ad4-4534-9f86-026a45df1ccd" \\
    --device-definition-version-id "83c13984-6fed-447e-84d5-5b8aa45d5f71"
```

Output:

```
{
    "Definition": {
        "Devices": [
            {
                "CertificateArn": "arn:aws:iot:us-west-2:123456789012:cert/6c52ce1b47bde88a637e9ccdd45fe4e4c2c0a75a6866f8f63d980ee22fa51e02",
                "SyncShadow": true,
                "Id": "ExteriorTherm"
            },
            {
                "CertificateArn": "arn:aws:iot:us-west-2:123456789012:cert/66a415ec415668c2349a76170b64ac0878231c1e21ec83c10e92a18bd568eb92",
                "SyncShadow": true,
                "Id": "InteriorTherm"
            }
        ]
    },
    "Version": "83c13984-6fed-447e-84d5-5b8aa45d5f71",
    "CreationTimestamp": "2019-09-11T00:15:09.838Z",
    "Id": "f9ba083d-5ad4-4534-9f86-026a45df1ccd",
    "Arn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/devices/f9ba083d-5ad4-4534-9f86-026a45df1ccd/versions/83c13984-6fed-447e-84d5-5b8aa45d5f71"
}
```

- For API details, see [GetDeviceDefinitionVersion](#) in *AWS CLI Command Reference*. 
get-function-definition

The following code example shows how to use get-function-definition.

AWS CLI

To retrieve a function definition

The following get-function-definition example displays details for the specified function definition. To retrieve the IDs of your function definitions, use the list-function-definitions command.

    aws greengrass get-function-definition \
        --function-definition-id "063f5d1a-1dd1-40b4-9b51-56f8993d0f85"

Output:

    {
        "Arn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/functions/063f5d1a-1dd1-40b4-9b51-56f8993d0f85",
        "Id": "063f5d1a-1dd1-40b4-9b51-56f8993d0f85",
        "LatestVersion": "9748fda7-1589-4fcc-ac94-f5559e88678b",
        "LatestVersionArn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/functions/063f5d1a-1dd1-40b4-9b51-56f8993d0f85/versions/9748fda7-1589-4fcc-ac94-f5559e88678b",
        "tags": {}  
    }

- For API details, see GetFunctionDefinition in AWS CLI Command Reference.

get-function-definition-version

The following code example shows how to use get-function-definition-version.

AWS CLI

To retrieve details about a specific version of a Lambda function

The following get-function-definition-version retrieves information about the specified version of the specified function definition. To retrieve the IDs of all versions of
the function definition, use the `list-function-definition-versions` command. To retrieve the ID of the last version added to the function definition, use the `get-function-definition` command and check the `LatestVersion` property.

```bash
aws greengrass get-function-definition-version \
  --function-definition-id "063f5d1a-1dd1-40b4-9b51-56f8993d0f85" \
  --function-definition-version-id "9748fda7-1589-4fcc-ac94-f5559e88678b"
```

Output:

```
{
    "Arn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/functions/063f5d1a-1dd1-40b4-9b51-56f8993d0f85/versions/9748fda7-1589-4fcc-ac94-f5559e88678b",
    "CreationTimestamp": "2019-06-18T17:04:30.776Z",
    "Definition": {
        "Functions": [
            {
                "FunctionArn": "arn:aws:lambda:::function:GGIPDetector:1",
                "FunctionConfiguration": {
                    "Environment": {},
                    "MemorySize": 32768,
                    "Pinned": true,
                    "Timeout": 3
                },
                "Id": "26b69bdb-e547-46bc-9812-84ec04b6cc8c"
            },
            {
                "FunctionConfiguration": {
                    "EncodingType": "json",
                    "Environment": {
                        "Variables": {}
                    },
                    "MemorySize": 16384,
                    "Pinned": true,
                    "Timeout": 25
                },
                "Id": "384465a8-ee6b-48c6-b793-4c35f7bfae9b"
            }
        ]
    }
}
```
For API details, see **GetFunctionDefinitionVersion** in *AWS CLI Command Reference*.

---

**get-group**

The following code example shows how to use `get-group`.

**AWS CLI**

To retrieve information about a Greengrass group

The following `get-group` example retrieves information about the specified Greengrass group.

To retrieve the IDs of your groups, use the `list-groups` command.

```bash
code
aws greengrass get-group \\
   --group-id "1013db12-8b58-45ff-acc7-704248f66731"
```

**Output:**

```json
{
   "Id": "1013db12-8b58-45ff-acc7-704248f66731",
   "LatestVersion": "115136b3-cfd7-4462-b77f-8741a4b00e5e",
   "LatestVersionArn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/groups/1013db12-8b58-45ff-acc7-704248f66731/versions/115136b3-cfd7-4462-b77f-8741a4b00e5e",
   "Name": "GGGroup4Pi3",
   "tags": {}
}
```

For API details, see **GetGroup** in *AWS CLI Command Reference*.

---

**get-group-certificate-authority**

The following code example shows how to use `get-group-certificate-authority`.

---

Actions and scenarios
To retrieve the CA associated with a Greengrass group

The following `get-group-certificate-authority` example retrieves the certificate authority (CA) that is associated with the specified Greengrass group. To get the certificate authority ID, use the `list-group-certificate-authorities` command and specify the group ID.

```
aws greengrass get-group-certificate-authority \
  --group-id "1013db12-8b58-45ff-acc7-704248f66731" \
  --certificate-authority-id "f0430e1736ea8ed30cc5d5de9af67a7e3586bad9ae4d89c2a44163f65fdd8cf6"
```

Output:

```
{
    "GroupCertificateAuthorityArn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/groups/1013db12-8b58-45ff-acc7-704248f66731/certificateauthorities/f0430e1736ea8ed30cc5d5de9af67a7e3586bad9ae4d89c2a44163f65fdd8cf6",
    "GroupCertificateAuthorityId": "f0430e1736ea8ed30cc5d5de9af67a7e3586bad9ae4d89c2a44163f65fdd8cf6",
    "PemEncodedCertificate": "-----BEGIN CERTIFICATE-----MIICiTCCAfICCQD6m7oRw0uXOjANBgkqhkiG9w0BAQUFADCBWEXAMPLEGA1UEBhMCVVMx
    CzAjBGNVBAgTA1dBMRARwDEXAMPLEEwdTZWd0dGx1MQ8wDQYDVQQKEwZBbWF6b24fxDAS
    b24fxDASBgvBAEEMAQgA6QT0nQ21sYWMxHzAdBgkqhkiG9w0BCQEWG5vb251QGFrXyvb15j
    EXAMPLEMTEsN1MTwNDI0MjA0DQYJKoZIhvcNAQEBBQADgY0AMIGJAoGBAMaK0dn+a4GmW1WJ
    2iuUSwfEvY5WtCzADZ4nB+BLYgViK60CEXAMPLE93vUEIO3IyNoH/f0wYK8m9TrdHUdUzG3q3
    XwALG5M43q7Wgc/MbQITxOUSQ7c7ugFFdZQG8zSzwYEXAMPLEGpE
    "
}
```

• For API details, see GetGroupCertificateAuthority in AWS CLI Command Reference.
get-group-certificate-configuration

The following code example shows how to use get-group-certificate-configuration.

AWS CLI

To retrieve the configuration for the certificate authority used by the Greengrass group

The following get-group-certificate-configuration example retrieves the configuration for the certificate authority (CA) used by the specified Greengrass group.

```bash
aws greengrass get-group-certificate-configuration \\
   --group-id "1013db12-8b58-45ff-acc7-704248f66731"
```

Output:

```json
{
   "CertificateAuthorityExpiryInMilliseconds": 252460799000,
   "CertificateExpiryInMilliseconds": 604800000,
   "GroupId": "1013db12-8b58-45ff-acc7-704248f66731"
}
```

- For API details, see [GetGroupCertificateConfiguration](#) in AWS CLI Command Reference.

get-group-version

The following code example shows how to use get-group-version.

AWS CLI

To retrieve information about a version of a Greengrass group

The following get-group-version example retrieves information about the specified version of the specified group. To retrieve the IDs of all versions of the group, use the list-group-versions command. To retrieve the ID of the last version added to the group, use the get-group command and check the LatestVersion property.

```bash
aws greengrass get-group-version \\
   --group-id "1013db12-8b58-45ff-acc7-704248f66731" \\
   --group-version-id "115136b3-cfd7-4462-b77f-8741a4b00e5e"
```
Output:

```json
{
   groups/1013db12-8b58-45ff-acc7-704248f66731/versions/115136b3-cfd7-4462-
b77f-8741a4b00e5e",
   "CreationTimestamp": "2019-06-18T17:04:30.915Z",
   "Definition": {
      "CoreDefinitionVersionArn": "arn:aws:greengrass:us-west-2:123456789012:/
greengrass/definition/cores/c906ed39-a1e3-4822-a981-7b9bd57b4b46/versions/42aeec3-
fd9d-4312-a8fd-ffa9404a20e0",
greengrass/definition/functions/063f5d1a-1dd1-40b4-9b51-56f8993d0f85/
versions/9748fda7-1589-4fcc-ac94-f5559e88678b",
      "SubscriptionDefinitionVersionArn": "arn:aws:greengrass:us-
west-2:123456789012:/greengrass/definition/subscriptions/70e49321-83d5-45d2-
bc09-81f4917ae152/versions/88ae8699-12ac-4663-ba3f-4d7f0519140b"
   },
   "Id": "1013db12-8b58-45ff-acc7-704248f66731",
   "Version": "115136b3-cfd7-4462-b77f-8741a4b00e5e"
}
```


**get-logger-definition**

The following code example shows how to use `get-logger-definition`.

**AWS CLI**

To retrieve information about a logger definition

The following `get-logger-definition` example retrieves information about the specified logger definition. To retrieve the IDs of your logger definitions, use the `list-logger-definitions` command.

```bash
aws greengrass get-logger-definition \
   --logger-definition-id "49eeeb66-f1d3-4e34-86e3-3617262abf23"
```

Output:

```json
{
```
For API details, see GetLoggerDefinition in AWS CLI Command Reference.

**get-logger-definition-version**

The following code example shows how to use get-logger-definition-version.

**AWS CLI**

To retrieve information about a version of a logger definition

The following get-logger-definition-version example retrieves information about the specified version of the specified logger definition. To retrieve the IDs of all versions of the logger definition, use the list-logger-definition-versions command. To retrieve the ID of the last version added to the logger definition, use the get-logger-definition command and check the LatestVersion property.

```
aws greengrass get-logger-definition-version \
   --logger-definition-id "49eeeb66-f1d3-4e34-86e3-3617262abf23" \ 
   --logger-definition-version-id "5e3f6f64-a565-491e-8de0-3c0d8e0f2073"
```

Output:

```
{
   "Arn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/loggers/49eeeb66-f1d3-4e34-86e3-3617262abf23",
   "CreationTimestamp": "2019-05-08T16:10:13.809Z",
   "Id": "49eeeb66-f1d3-4e34-86e3-3617262abf23",
   "LastUpdatedTimestamp": "2019-05-08T16:10:13.809Z",
   "LatestVersion": "5e3f6f64-a565-491e-8de0-3c0d8e0f2073",
   "LatestVersionArn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/loggers/49eeeb66-f1d3-4e34-86e3-3617262abf23/versions/5e3f6f64-a565-491e-8de0-3c0d8e0f2073",
   "tags": {}
}
```

### get-resource-definition

The following code example shows how to use `get-resource-definition`.

**AWS CLI**

#### To retrieve information about a resource definition

The following `get-resource-definition` example retrieves information about the specified resource definition. To retrieve the IDs of your resource definitions, use the `list-resource-definitions` command.

```
aws greengrass get-resource-definition
  --resource-definition-id "ad8c101d-8109-4b0e-b97d-9cc5802ab658"
```

**Output:**

```
{
    "Arn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/resources/ad8c101d-8109-4b0e-b97d-9cc5802ab658",
    "CreationTimestamp": "2019-06-19T16:40:59.261Z",
    "Id": "ad8c101d-8109-4b0e-b97d-9cc5802ab658",
    "LastUpdatedTimestamp": "2019-06-19T16:40:59.261Z",
    "LatestVersion": "26e8829a-491a-464d-9c87-664bf6f6f2be",
    "LatestVersionArn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/resources/ad8c101d-8109-4b0e-b97d-9cc5802ab658/versions/26e8829a-491a-464d-9c87-664bf6f6f2be",
    "tags": {}
}
```


### get-resource-definition-version

The following code example shows how to use `get-resource-definition-version`.

```
aws greengrass get-resource-definition-version
  --resource-definition-id "ad8c101d-8109-4b0e-b97d-9cc5802ab658"
```

**Output:**

```
{
...
```

AWS CLI

To retrieve information about a specific version of a resource definition

The following `get-resource-definition-version` example retrieves information about the specified version of the specified resource definition. To retrieve the IDs of all versions of the resource definition, use the `list-resource-definition-versions` command. To retrieve the ID of the last version added to the resource definition, use the `get-resource-definition` command and check the `LatestVersion` property.

```bash
aws greengrass get-resource-definition-version
   --resource-definition-id "ad8c101d-8109-4b0e-b97d-9cc5802ab658"
   --resource-definition-version-id "26e8829a-491a-464d-9c87-664bf6f6f2be"
```

Output:

```json
{
   "Arn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/resources/ad8c101d-8109-4b0e-b97d-9cc5802ab658/versions/26e8829a-491a-464d-9c87-664bf6f6f2be",
   "CreationTimestamp": "2019-06-19T16:40:59.392Z",
   "Definition": {
      "Resources": [
         {
            "Id": "26ff3f7b-839a-4217-9fdc-a218308b3963",
            "Name": "usb-port",
            "ResourceDataContainer": {
               "LocalDeviceResourceData": {
                  "GroupOwnerSetting": {
                     "AutoAddGroupOwner": false
                  },
                  "SourcePath": "/dev/bus/usb"
               }
            }
         }
      ],
      "Id": "ad8c101d-8109-4b0e-b97d-9cc5802ab658",
      "Version": "26e8829a-491a-464d-9c87-664bf6f6f2be"
   }
}
```

- For API details, see [GetResourceDefinitionVersion](#) in *AWS CLI Command Reference*.
### get-service-role-for-account

The following code example shows how to use `get-service-role-for-account`.

**AWS CLI**

To retrieve the details for the service role that is attached to your account

The following `get-service-role-for-account` example retrieves information about the service role that is attached to your AWS account.

```bash
aws greengrass get-service-role-for-account
```

Output:

```json
{
    "AssociatedAt": "2018-10-18T15:59:20Z",
    "RoleArn": "arn:aws:iam::123456789012:role/service-role/Greengrass_ServiceRole"
}
```


### get-subscription-definition

The following code example shows how to use `get-subscription-definition`.

**AWS CLI**

To retrieve information about a subscription definition

The following `get-subscription-definition` example retrieves information about the specified subscription definition. To retrieve the IDs of your subscription definitions, use the `list-subscription-definitions` command.

```bash
aws greengrass get-subscription-definition \
    --subscription-definition-id "70e49321-83d5-45d2-bc09-81f4917ae152"
```

Output:

```json
Actions and scenarios 3867
```
For API details, see [GetSubscriptionDefinition](https://docs.aws.amazon.com/cli/latest/reference/greengrass/get-subscription-definition-version) in [AWS CLI Command Reference](https).

**get-subscription-definition-version**

The following code example shows how to use `get-subscription-definition-version`.

**AWS CLI**

**To retrieve information about a specific version of a subscription definition**

The following `get-subscription-definition-version` example retrieves information about the specified version of the specified subscription definition. To retrieve the IDs of all versions of the subscription definition, use the `list-subscription-definition-versions` command. To retrieve the ID of the last version added to the subscription definition, use the `get-subscription-definition` command and check the `LatestVersion` property.

```bash
aws greengrass get-subscription-definition-version \
  --subscription-definition-id "70e49321-83d5-45d2-bc09-81f4917ae152" \
  --subscription-definition-version-id "88ae8699-12ac-4663-ba3f-4d7f0519140b"
```

Output:

```json
{
    "Arn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/subscriptions/70e49321-83d5-45d2-bc09-81f4917ae152/versions/88ae8699-12ac-4663-ba3f-4d7f0519140b",
    "tags": {}
}
```
get-thing-runtime-configuration

The following code example shows how to use `get-thing-runtime-configuration`.

AWS CLI

To retrieve the runtime configuration of a Greengrass core

The following `get-thing-runtime-configuration` example retrieves the runtime configuration of a Greengrass core. Before you can retrieve the runtime configuration, you must use the `update-thing-runtime-configuration` command to create a runtime configuration for the core.

```bash
aws greengrass get-thing-runtime-configuration \  --thing-name SampleGreengrassCore
```

Output:

```json
{
   "RuntimeConfiguration": {
      "TelemetryConfiguration": {
         "ConfigurationSyncStatus": "OutOfSync",
         "Telemetry": "On"
      }
   }
}
```
For more information, see Configuring telemetry settings in the AWS IoT Greengrass Developer Guide.

- For API details, see GetThingRuntimeConfiguration in AWS CLI Command Reference.

list-bulk-deployment-detailed-reports

The following code example shows how to use list-bulk-deployment-detailed-reports.

AWS CLI

To list information about individual deployments in a bulk deployment

The following list-bulk-deployment-detailed-reports example displays information about the individual deployments in a bulk deployment operation, including status.

```
aws greengrass list-bulk-deployment-detailed-reports \\
    --bulk-deployment-id 42ce9c42-489b-4ed4-b905-8996aa50ef9d
```

Output:

```
{
    "Deployments": [
        {
            "DeploymentType": "NewDeployment",
            "DeploymentStatus": "Success",
            "DeploymentId": "123456789012:a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
            "DeploymentArn": "arn:aws:greengrass:us-west-2:123456789012:/
greengrass/groups/a1b2c3d4-5678-90ab-cdef-EXAMPLE33333/
deployments/123456789012:123456789012:a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
            "GroupArn": "arn:aws:greengrass:us-west-2:123456789012:/
greengrass/groups/a1b2c3d4-5678-90ab-cdef-EXAMPLE33333/
versions/123456789012:a1b2c3d4-5678-90ab-cdef-EXAMPLE44444",
            "CreatedAt": "2020-01-21T21:34:16.501Z"
        },
        {
            "DeploymentType": "NewDeployment",
            "DeploymentStatus": "Success",
            "DeploymentId": "123456789012:a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
            "DeploymentArn": "arn:aws:greengrass:us-west-2:123456789012:/
greengrass/groups/a1b2c3d4-5678-90ab-cdef-EXAMPLE33333/
deployments/123456789012:123456789012:a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
            "GroupArn": "arn:aws:greengrass:us-west-2:123456789012:/
greengrass/groups/a1b2c3d4-5678-90ab-cdef-EXAMPLE33333/
versions/123456789012:a1b2c3d4-5678-90ab-cdef-EXAMPLE44444",
            "CreatedAt": "2020-01-21T21:34:16.501Z"
        }
    ]
}
```
For more information, see [Create Bulk Deployments for Groups](https://docs.aws.amazon.com/iot-greengrass/latest/developerguide/create-bulk-deployments.html) in the *AWS IoT Greengrass Developer Guide*.

- For API details, see [ListBulkDeploymentDetailedReports](https://docs.aws.amazon.com/greengrass/latest/developerguide/awscui-list-bulk-deployment-detailed-reports.html) in *AWS CLI Command Reference*.

### list-bulk-deployments

The following code example shows how to use list-bulk-deployments.

#### AWS CLI

**To list bulk deployments**

The following `list-bulk-deployments` example lists all bulk deployments.

```
aws greengrass list-bulk-deployments
```

**Output:**

```json
{
   "BulkDeployments": [
   {
      "BulkDeploymentArn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/bulk/deployments/870fb41b-6288-4e0c-bc76-a7ba4b4d3267",
      "BulkDeploymentId": "870fb41b-6288-4e0c-bc76-a7ba4b4d3267",
      "CreatedAt": "2019-06-25T16:33:26Z"
   }
   ]
}
```
For more information, see Create Bulk Deployments for Groups in the AWS IoT Greengrass Developer Guide.

- For API details, see ListBulkDeployments in AWS CLI Command Reference.

list-connector-definition-versions

The following code example shows how to use list-connector-definition-versions.

AWS CLI

To list the versions that are available for a connector definition

The following list-connector-definition-versions example lists the versions that are available for the specified connector definition. Use the list-connector-definitions command to get the connector definition ID.

```
aws greengrass list-connector-definition-versions \
    --connector-definition-id "b5c4ebfd-f672-49a3-83cd-31c7216a7bb8"
```

Output:

```
{
    "Versions": [
    {
    "Arn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/connectors/b5c4ebfd-f672-49a3-83cd-31c7216a7bb8/versions/63c57963-c7c2-4a26-a7e2-7bf478ea2623",
    "CreationTimestamp": "2019-06-19T19:30:01.300Z",
    "Id": "b5c4ebfd-f672-49a3-83cd-31c7216a7bb8",
    "Version": "63c57963-c7c2-4a26-a7e2-7bf478ea2623"
    }
    ]
}
```

For more information, see Integrate with Services and Protocols Using Greengrass Connectors in the AWS IoT Greengrass Developer Guide.

- For API details, see ListConnectorDefinitionVersions in AWS CLI Command Reference.
list-connector-definitions

The following code example shows how to use list-connector-definitions.

AWS CLI

To list the Greengrass connectors that are defined

The following list-connector-definitions example lists all of the Greengrass connectors that are defined for your AWS account.

```
aws greengrass list-connector-definitions
```

Output:

```
{
   "Definitions": [
      {
         "Arn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/connectors/b5c4ebfd-f672-49a3-83cd-31c7216a7bb8",
         "CreationTimestamp": "2019-06-19T19:30:01.300Z",
         "Id": "b5c4ebfd-f672-49a3-83cd-31c7216a7bb8",
         "LastUpdatedTimestamp": "2019-06-19T19:30:01.300Z",
         "LatestVersion": "63c57963-c7c2-4a26-a7e2-7bf478ea2623",
         "LatestVersionArn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/connectors/b5c4ebfd-f672-49a3-83cd-31c7216a7bb8/versions/63c57963-c7c2-4a26-a7e2-7bf478ea2623",
         "Name": "MySNSConnector"
      }
   ]
}
```

For more information, see Integrate with Services and Protocols Using Greengrass Connectors in the AWS IoT Greengrass Developer Guide.

- For API details, see ListConnectorDefinitions in AWS CLI Command Reference.

list-core-definition-versions

The following code example shows how to use list-core-definition-versions.
AWS CLI

To list the versions of a Greengrass core definition

The following list-core-definitions example lists all versions of the specified Greengrass core definition. You can use the list-core-definitions command to get the version ID.

```
aws greengrass list-core-definition-versions \
  --core-definition-id "eaf280cb-138c-4d15-af36-6f681a1348f7"
```

Output:

```
{
   "Versions": [
      {
        "Id": "eaf280cb-138c-4d15-af36-6f681a1348f7",
        "Version": "467c36e4-c5da-440c-a97b-084e62593b4c"
      }
    ]
}
```

- For API details, see ListCoreDefinitionVersions in AWS CLI Command Reference.

list-core-definitions

The following code example shows how to use list-core-definitions.

AWS CLI

To list Greengrass core definitions

The following list-core-definitions example lists all of the Greengrass core definitions for your AWS account.

```
aws greengrass list-core-definitions
```

Output:
Actions and scenarios
}
]
}

- For API details, see ListCoreDefinitions in AWS CLI Command Reference.

list-deployments

The following code example shows how to use list-deployments.

AWS CLI

To list the deployments for a Greengrass group

The following list-deployments example lists the deployments for the specified Greengrass group. You can use the list-groups command to look up your group ID.

```bash
aws greengrass list-deployments \
  --group-id "1013db12-8b58-45ff-accc7-704248f66731"
```

Output:

```json
{
  "Deployments": [
    {
      "CreatedAt": "2019-06-18T17:04:32.702Z",
      "DeploymentId": "1065b8a0-812b-4f21-9d5d-e89b232a530f",
      "DeploymentType": "NewDeployment",
      "GroupArn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/groups/1013db12-8b58-45ff-accc7-704248f66731/versions/115136b3-cfd7-4462-b77f-8741a4b00e5e"
    }
  ]
}
```

- For API details, see ListDeployments in AWS CLI Command Reference.
list-device-definition-versions

The following code example shows how to use `list-device-definition-versions`.

**AWS CLI**

To list the versions of a device definition

The following `list-device-definition-versions` example displays the device definition versions associated with the specified device definition.

```bash
aws greengrass list-device-definition-versions \
  --device-definition-id "f9ba083d-5ad4-4534-9f86-026a45df1ccd"
```

Output:

```json
{
  "Versions": [
    {
      "Version": "83c13984-6fed-447e-84d5-5b8aa45d5f71",
      "CreationTimestamp": "2019-09-11T00:15:09.838Z",
      "Id": "f9ba083d-5ad4-4534-9f86-026a45df1ccd",
      "Arn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/devices/f9ba083d-5ad4-4534-9f86-026a45df1ccd/versions/83c13984-6fed-447e-84d5-5b8aa45d5f71"
    },
    {
      "Version": "3b5cc510-58c1-44b5-9d98-4ad858ffa795",
      "CreationTimestamp": "2019-09-11T00:11:06.197Z",
      "Id": "f9ba083d-5ad4-4534-9f86-026a45df1ccd",
      "Arn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/devices/f9ba083d-5ad4-4534-9f86-026a45df1ccd/versions/3b5cc510-58c1-44b5-9d98-4ad858ffa795"
    }
  ]
}
```

- For API details, see `ListDeviceDefinitionVersions` in *AWS CLI Command Reference*.

list-device-definitions

The following code example shows how to use `list-device-definitions`.
AWS CLI

To list your device definitions

The following list-device-definitions example displays details about the device definitions in your AWS account in the specified AWS Region.

```
aws greengrass list-device-definitions \\
   --region us-west-2
```

Output:

```
{
   "Definitions": [
   {
      "LatestVersionArn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/devices/50f3274c-3f0a-4f57-b114-6f46085281ab/versions/c777b0f5-1059-449b-beaa-f003ebc56c34",
      "LastUpdatedTimestamp": "2019-06-14T15:42:09.059Z",
      "LatestVersion": "c777b0f5-1059-449b-beaa-f003ebc56c34",
      "CreationTimestamp": "2019-06-14T15:42:09.059Z",
      "Id": "50f3274c-3f0a-4f57-b114-6f46085281ab",
      "Arn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/devices/50f3274c-3f0a-4f57-b114-6f46085281ab"
   },
   {
      "LatestVersionArn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/devices/e01951c9-6134-479a-969a-1a15cac11c40/versions/514d57aa-4ee6-401c-9fac-938a9f7a51e5",
      "Name": "TestDeviceDefinition",
      "LastUpdatedTimestamp": "2019-04-16T15:42:09.059Z",
      "LatestVersion": "514d57aa-4ee6-401c-9fac-938a9f7a51e5",
      "Id": "e01951c9-6134-479a-969a-1a15cac11c40",
      "Arn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/devices/e01951c9-6134-479a-969a-1a15cac11c40"
   },
   {
      "Name": "TemperatureSensors",
      "LastUpdatedTimestamp": "2019-09-10T00:19:03.698Z"
   }
   ]
}```
• For API details, see ListDeviceDefinitions in AWS CLI Command Reference.

list-function-definition-versions

The following code example shows how to use list-function-definition-versions.

AWS CLI

To list the versions of a Lambda function

The following list-function-definition-versions example lists all of the versions of the specified Lambda function. You can use the list-function-definitions command to get the ID.

```
aws greengrass list-function-definition-versions
   --function-definition-id "063f5d1a-1dd1-40b4-9b51-56f8993d0f85"
```

Output:

```
{
   "Versions": [
      {
         "Arn": "arn:aws:greengrass:us-west-2:123456789012:/
greengrass/definition/functions/063f5d1a-1dd1-40b4-9b51-56f8993d0f85/
versions/9748fda7-1589-4fcc-ac94-f5559e88678b",
         "CreationTimestamp": "2019-06-18T17:04:30.776Z",
         "Id": "063f5d1a-1dd1-40b4-9b51-56f8993d0f85",
         "Version": "9748fda7-1589-4fcc-ac94-f5559e88678b"
      },
      {
         "Arn": "arn:aws:greengrass:us-west-2:123456789012:/
greengrass/definition/functions/063f5d1a-1dd1-40b4-9b51-56f8993d0f85/
versions/9b08df77-26f2-4c29-93d2-769715edfcec",
```
• For API details, see ListFunctionDefinitionVersions in AWS CLI Command Reference.

list-function-definitions

The following code example shows how to use list-function-definitions.

AWS CLI

To list Lambda functions

The following list-function-definitions example lists all of the Lambda functions defined for your AWS account.

aws greengrass list-function-definitions

Output:

```json
{
    "Definitions": [
```
{
  "Arn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/functions/017970a5-8952-46dd-b1c1-020b3ae8e960",
  "CreationTimestamp": "2018-10-17T04:30:32.884Z",
  "Id": "017970a5-8952-46dd-b1c1-020b3ae8e960",
  "LastUpdatedTimestamp": "2018-10-17T04:32.884Z",
  "LatestVersion": "4380b302-790d-4ed8-92bf-02e88a4ebe15",
},
{
  "Arn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/functions/063f5d1a-1dd1-40b4-9b51-56f8993d0f85",
  "Id": "063f5d1a-1dd1-40b4-9b51-56f8993d0f85",
  "LatestVersion": "9748fda7-1589-4fca-ac94-f5559e88678b",
  "LatestVersionArn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/functions/063f5d1a-1dd1-40b4-9b51-56f8993d0f85/versions/9748fda7-1589-4fca-ac94-f5559e88678b"
},
{
  "Id": "6598e653-a262-440c-9967-e2697f64da7b",
  "LatestVersion": "38bc6cc6-d8e2-4975-979e-16c84748f1e4",
  "LatestVersionArn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/functions/6598e653-a262-440c-9967-e2697f64da7b/versions/38bc6cc6-d8e2-4975-979e-16c84748f1e4"
},
{
  "Arn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/functions/c668df84-fad2-491b-95f4-655d2cad7885",
  "CreationTimestamp": "2019-06-18T16:14:17.784Z",
  "Id": "c668df84-fad2-491b-95f4-655d2cad7885",
  "LastUpdatedTimestamp": "2019-06-18T16:14:17.784Z",
  "LatestVersion": "37dd6e8c-a60f-40ba-a137-71fae3ebded",
  "LatestVersionArn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/functions/c668df84-fad2-491b-95f4-655d2cad7885/versions/37dd6e8c-a60f-40ba-a137-71fae3ebded"
}
list-group-certificateAuthorities

The following code example shows how to use list-group-certificateAuthorities.

AWS CLI

To list the current CAs for a group

The following list-group-certificateAuthorities example lists the current certificate authorities (CAs) for the specified Greengrass group.

```
aws greengrass list-group-certificateAuthorities \
   --group-id "1013db12-8b58-45ff-acc7-704248f66731"
```

Output:

```
{
   "GroupCertificateAuthorities": [
      {
         "GroupCertificateAuthorityArn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/groups/1013db12-8b58-45ff-acc7-704248f66731/certificateAuthorities/f0430e1736ea8ed30cc5d5de9af67a7e3586bad9ae4d89c2a44163f65fdd8cf6",
         "GroupCertificateAuthorityId": "f0430e1736ea8ed30cc5d5de9af67a7e3586bad9ae4d89c2a44163f65fdd8cf6"
      }
   ]
}
```

• For API details, see ListGroupCertificateAuthorities in AWS CLI Command Reference.

list-group-versions

The following code example shows how to use list-group-versions.

• For API details, see ListGroupCertificateAuthorities in AWS CLI Command Reference.
AWS CLI

To list the versions of a Greengrass group

The following list-group-versions example lists the versions of the specified Greengrass group.

```bash
aws greengrass list-group-versions \
   --group-id "1013db12-8b58-45ff-acc7-704248f66731"
```

Output:

```json
{
   "Versions": [
      {
         "Arn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/groups/1013db12-8b58-45ff-acc7-704248f66731/versions/115136b3-cfd7-4462-b77f-8741a4b00e5e",
         "CreationTimestamp": "2019-06-18T17:04:30.915Z",
         "Id": "1013db12-8b58-45ff-acc7-704248f66731",
         "Version": "115136b3-cfd7-4462-b77f-8741a4b00e5e"
      },
      {
         "CreationTimestamp": "2019-06-18T17:03:52.663Z",
         "Id": "1013db12-8b58-45ff-acc7-704248f66731",
         "Version": "4340669d-d14d-44e3-920c-46c928750750"
      },
      {
         "Arn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/groups/1013db12-8b58-45ff-acc7-704248f66731/versions/1b06e099-2d5b-4f10-91b9-78c4e060f5da",
         "CreationTimestamp": "2019-06-18T17:02:44.189Z",
         "Id": "1013db12-8b58-45ff-acc7-704248f66731",
         "Version": "1b06e099-2d5b-4f10-91b9-78c4e060f5da"
      },
      {
         "Arn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/groups/1013db12-8b58-45ff-acc7-704248f66731/versions/2d3f27f1-3b43-4554-ab7a-73ec30477efe",
         "CreationTimestamp": "2019-06-18T17:01:42.401Z",
```

Actions and scenarios
list-groups

The following code example shows how to use list-groups.

AWS CLI

To list the Greengrass groups

The following list-groups example lists all Greengrass groups that are defined in your AWS account.

aws greengrass list-groups

Output:

```json
{
  "Groups": [
    {
      "Id": "1013db12-8b58-45ff-acc7-704248f66731",
      "Version": "d20f7ae9-3444-4c1c-b025-e2ede23cdd31"
    }
  ]
}
```
For API details, see ListGroups in AWS CLI Command Reference.

list-logger-definition-versions

The following code example shows how to use list-logger-definition-versions.

AWS CLI

To get a list of versions of a logger definition
The following `list-logger-definition-versions` example gets a list of all versions of the specified logger definition.

```
aws greengrass list-logger-definition-versions \
  --logger-definition-id "49eeeb66-f1d3-4e34-86e3-3617262abf23"
```

Output:

```
{
  "Versions": [
    {
      "Arn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/loggers/49eeeb66-f1d3-4e34-86e3-3617262abf23/versions/5e3f6f64-a565-491e-8de0-3c0d8e0f2073",
      "CreationTimestamp": "2019-05-08T16:10:13.866Z",
      "Id": "49eeeb66-f1d3-4e34-86e3-3617262abf23",
      "Version": "5e3f6f64-a565-491e-8de0-3c0d8e0f2073"
    },
    {
      "Arn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/loggers/49eeeb66-f1d3-4e34-86e3-3617262abf23/versions/3ec6d3af-eb85-48f9-a16d-1c795fe696d7",
      "CreationTimestamp": "2019-05-08T16:10:13.809Z",
      "Id": "49eeeb66-f1d3-4e34-86e3-3617262abf23",
      "Version": "3ec6d3af-eb85-48f9-a16d-1c795fe696d7"
    }
  ]
}
```

- For API details, see [ListLoggerDefinitionVersions](https://docs.aws.amazon.com/cli/latest/reference/greengrass/list-logger-definition-versions.html) in [AWS CLI Command Reference](https).

**list-logger-definitions**

The following code example shows how to use `list-logger-definitions`.

**AWS CLI**

**To get a list of logger definitions**

The following `list-logger-definitions` example lists all of the logger definitions for your AWS account.
aws greengrass list-logger-definitions

Output:

```json
{
   "Definitions": [
      {
         "Arn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/loggers/49eeeb66-f1d3-4e34-86e3-3617262abf23",
         "CreationTimestamp": "2019-05-08T16:10:13.809Z",
         "Id": "49eeeb66-f1d3-4e34-86e3-3617262abf23",
         "LastUpdatedTimestamp": "2019-05-08T16:10:13.809Z",
         "LatestVersion": "5e3f6f64-a565-491e-8de0-3c0d8e0f2073",
         "LatestVersionArn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/loggers/49eeeb66-f1d3-4e34-86e3-3617262abf23/versions/5e3f6f64-a565-491e-8de0-3c0d8e0f2073"
      }
   ]
}
```

- For API details, see [ListLoggerDefinitions](#) in *AWS CLI Command Reference*.

**list-resource-definition-versions**

The following code example shows how to use `list-resource-definition-versions`.

**AWS CLI**

To list the versions of a resource definition

The following `list-resource-definition-versions` example lists the versions for the specified Greengrass resource.

```
aws greengrass list-resource-definition-versions \
  --resource-definition-id "ad8c101d-8109-4b0e-b97d-9cc5802ab658"
```

Output:

```json
{
   "Versions": [
```

Actions and scenarios
For API details, see `ListResourceDefinitionVersions` in `AWS CLI Command Reference`.

**list-resource-definitions**

The following code example shows how to use `list-resource-definitions`.

**AWS CLI**

**To list the resources that are defined**

The following `list-resource-definitions` example lists the resources that are defined for AWS IoT Greengrass to use.

```bash
aws greengrass list-resource-definitions
```

Output:

```json
{
  "Definitions": [
    {
      "Arn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/resources/ad8c101d-8109-4b0e-b97d-9cc5802ab658/
        versions/26e8829a-491a-464d-9c87-664bf6f6f2be",
      "CreationTimestamp": "2019-06-19T16:40:59.392Z",
      "Id": "ad8c101d-8109-4b0e-b97d-9cc5802ab658",
      "Version": "26e8829a-491a-464d-9c87-664bf6f6f2be"
    },
    {
      "Arn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/resources/ad8c101d-8109-4b0e-b97d-9cc5802ab658/
        versions/432d92f6-12de-4ec9-a704-619a942a62aa",
      "CreationTimestamp": "2019-06-19T16:40:59.261Z",
      "Id": "ad8c101d-8109-4b0e-b97d-9cc5802ab658",
      "Version": "432d92f6-12de-4ec9-a704-619a942a62aa"
    }
  ]
}
```
For API details, see `ListResourceDefinitions` in *AWS CLI Command Reference*.

**list-subscription-definition-versions**

The following code example shows how to use `list-subscription-definition-versions`.

**AWS CLI**

**To list the versions of a subscription definition**

The following `list-subscription-definition-versions` example lists all versions of the specified subscription. You can use the `list-subscription-definitions` command to look up the subscription ID.

```
aws greengrass list-subscription-definition-versions \
   --subscription-definition-id "70e49321-83d5-45d2-bc09-81f4917ae152"
```

Output:

```json
{

```
```
"Versions": [
    {
      "Arn": "arn:aws:greengrass:us-west-2:123456789012:/
      greengrass/definition/subscriptions/70e49321-83d5-45d2-bc09-81f4917ae152/
      versions/88ae8699-12ac-4663-ba3f-4d7f0519140b",
      "CreationTimestamp": "2019-06-18T17:03:52.499Z",
      "Id": "70e49321-83d5-45d2-bc09-81f4917ae152",
      "Version": "88ae8699-12ac-4663-ba3f-4d7f0519140b"
    },
    {
      definition/subscriptions/70e49321-83d5-45d2-bc09-81f4917ae152/versions/7e320ba3-
      c369-4069-a2f0-90acbf7f219d6",
      "CreationTimestamp": "2019-06-18T17:03:52.392Z",
      "Id": "70e49321-83d5-45d2-bc09-81f4917ae152",
      "Version": "7e320ba3-c369-4069-a2f0-90acbf7f219d6"
    }
  ]
}

- For API details, see ListSubscriptionDefinitionVersions in AWS CLI Command Reference.

list-subscription-definitions

The following code example shows how to use list-subscription-definitions.

AWS CLI

To get a list subscription definitions

The following list-subscription-definitions example lists all of the AWS IoT Greengrass subscriptions that are defined in your AWS account.

aws greengrass list-subscription-definitions

Output:

```json
{
  "Definitions": [
    {
      definition/subscriptions/70e49321-83d5-45d2-bc09-81f4917ae152",
```
For API details, see `ListSubscriptionDefinitions` in *AWS CLI Command Reference*.

**list-tags-for-resource**

The following code example shows how to use `list-tags-for-resource`.

**AWS CLI**

To list the tags attached to a resource
The following `list-tags-for-resource` example lists the tags and their values that are attached to the specified resource.

```bash
aws greengrass list-tags-for-resource \
   --resource-arn "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/resources/ad8c101d-8109-4b0e-b97d-9cc5802ab658"
```

Output:

```json
{
   "tags": {
      "ResourceSubType": "USB",
      "ResourceType": "Device"
   }
}
```

For more information, see [Tagging Your Greengrass Resources](#) in the [AWS IoT Greengrass Developer Guide](#).

- For API details, see [ListTagsForResource](#) in [AWS CLI Command Reference](#).

### reset-deployments

The following code example shows how to use `reset-deployments`.

**AWS CLI**

**To clean up deployment information for a Greengrass group**

The following `reset-deployments` example cleans up deployment information for the specified Greengrass group. When you add the `--force` option, the deployment information is reset without waiting for the core device to respond.

```bash
aws greengrass reset-deployments \
   --group-id "1402daf9-71cf-4cfe-8be0-d5e80526d0d8" \
   --force
```

Output:

```json
{
}
```
"DeploymentArn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/groups/1402daf9-71cf-4cfe-8be0-d5e80526d0d8/deployments/7dd4e356-9882-46a3-9e28-6d21900c011a",
   "DeploymentId": "7dd4e356-9882-46a3-9e28-6d21900c011a"
}

For more information, see Reset Deployments in the AWS IoT Greengrass Developer Guide.

- For API details, see ResetDeployments in AWS CLI Command Reference.

start-bulk-deployment

The following code example shows how to use start-bulk-deployment.

AWS CLI

To start a bulk deployment operation

The following start-bulk-deployment example starts a bulk deployment operation, using a file stored in an S3 bucket to specify the groups to be deployed.

aws greengrass start-bulk-deployment \

Output:

{
   "BulkDeploymentArn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/bulk/deployments/870fb41b-6288-4e0c-bc76-a7ba4b4d3267",
   "BulkDeploymentId": "870fb41b-6288-4e0c-bc76-a7ba4b4d3267"
}

For more information, see Create Bulk Deployments for Groups in the AWS IoT Greengrass Developer Guide.

- For API details, see StartBulkDeployment in AWS CLI Command Reference.
stop-bulk-deployment

The following code example shows how to use stop-bulk-deployment.

AWS CLI

To stop a bulk deployment

The following stop-bulk-deployment example stops the specified bulk deployment. If you try to stop a bulk deployment that is complete, you receive an error: InvalidInputException: Cannot change state of finished execution.

```bash
aws greengrass stop-bulk-deployment \
    --bulk-deployment-id "870fb41b-6288-4e0c-bc76-a7ba4b4d3267"
```

This command produces no output.

For more information, see Create Bulk Deployments for Groups in the AWS IoT Greengrass Developer Guide.

- For API details, see StopBulkDeployment in AWS CLI Command Reference.

tag-resource

The following code example shows how to use tag-resource.

AWS CLI

To apply tags to a resource

The following tag-resource example applies two tags, ResourceType and ResourceSubType, to the specified Greengrass resource. This operation can both add new tags and values or update the value for existing tags. Use the untag-resource command to remove a tag.

```bash
aws greengrass tag-resource \
    --resource-arn "arn:aws:greengrass:us-west-2:123456789012:/greengrass/definition/resources/ad8c101d-8109-4b0e-b97d-9cc5802ab658" \
    --tags "ResourceType=Device,ResourceSubType=USB"
```

This command produces no output.
For more information, see Tagging Your Greengrass Resources in the AWS IoT Greengrass Developer Guide.

- For API details, see TagResource in AWS CLI Command Reference.

untag-resource

The following code example shows how to use untag-resource.

**AWS CLI**

To remove a tag and its value from a resource

The following untag-resource example removes the tag whose key is Category from the specified Greengrass group. If the key Category does not exist for the specified resource, no error is returned.

```
aws greengrass untag-resource \
  --resource-arn "arn:aws:greengrass:us-west-2:123456789012:/greengrass/groups/1013db12-8b58-45ff-acc7-704248f66731" \
  --tag-keys "Category"
```

This command produces no output.

For more information, see Tagging Your Greengrass Resources in the AWS IoT Greengrass Developer Guide.

- For API details, see UntagResource in AWS CLI Command Reference.

update-connectivity-info

The following code example shows how to use update-connectivity-info.

**AWS CLI**

To update the connectivity information for a Greengrass core

The following update-connectivity-info example changes the endpoints that devices can use to connect to the specified Greengrass core. Connectivity information is a list of IP addresses or domain names, with corresponding port numbers and optional customer-defined metadata. You might need to update connectivity information when the local network changes.
aws greengrass update-connectivity-info \
   --thing-name "MyGroup_Core" \
   --connectivity-info "[{"Metadata":null,"PortNumber":8883,"HostAddress":"127.0.0.1","Id":"localhost_127.0.0.1"},{"Metadata":null,"PortNumber":8883,"HostAddress":"192.168.1.3","Id":"localIP_192.168.1.3"}]"

Output:

{
   "Version": "312de337-59af-4cf9-a278-2a23bd39c300"
}

- For API details, see UpdateConnectivityInfo in AWS CLI Command Reference.

update-connector-definition

The following code example shows how to use update-connector-definition.

AWS CLI

To update the name for a connector definition

The following update-connector-definition example updates the name for the specified connector definition. If you want to update the details for the connector, use the create-connector-definition-version command to create a new version.

aws greengrass update-connector-definition \
   --connector-definition-id "55d0052b-0d7d-44d6-b56f-21867215e118" \
   --name "GreengrassConnectors2019"

For more information, see Integrate with Services and Protocols Using Connectors in the AWS IoT Greengrass Developer Guide.

- For API details, see UpdateConnectorDefinition in AWS CLI Command Reference.

update-core-definition

The following code example shows how to use update-core-definition.
**AWS CLI**

**To update a core definition**

The following update-core-definition example changes the name of the specified core definition. You can update only the name property of a core definition.

```bash
aws greengrass update-core-definition \   
  --core-definition-id "582efe12-b05a-409e-9a24-a2ba1bcc4a12" \   
  --name "MyCoreDevices"
```

This command produces no output.

For more information, see [Configure the AWS IoT Greengrass Core](https://docs.aws.amazon.com/iot-greengrass/latest/developerguide/overview.html) in the *AWS IoT Greengrass Developer Guide*.

- For API details, see [UpdateCoreDefinition](https://docs.aws.amazon.com/greengrass/latest/developerguide/api-agent-update-core-definition.html) in AWS CLI Command Reference.

**update-device-definition**

The following code example shows how to use update-device-definition.

**AWS CLI**

**To update a device definition**

The following update-device-definition example changes the name of the specified device definition. You can only update the name property of a device definition.

```bash
aws greengrass update-device-definition \   
  --device-definition-id "f9ba083d-5ad4-4534-9f86-026a45df1ccd" \   
  --name "TemperatureSensors"
```

This command produces no output.

- For API details, see [UpdateDeviceDefinition](https://docs.aws.amazon.com/greengrass/latest/developerguide/api-agent-update-device-definition.html) in AWS CLI Command Reference.

**update-function-definition**

The following code example shows how to use update-function-definition.
AWS CLI

To update the name for a function definition

The following update-function-definition example updates the name for the specified function definition. If you want to update the details for the function, use the create-function-definition-version command to create a new version.

/aws greengrass update-function-definition \  
   --function-definition-id "e47952bd-dea9-4e2c-a7e1-37bbe8807f46" \  
   --name ObsoleteFunction

This command produces no output.

For more information, see Run Local Lambda Functions in the AWS IoT Greengrass Developer Guide.

- For API details, see UpdateFunctionDefinition in AWS CLI Command Reference.

update-group

The following code example shows how to use update-group.

AWS CLI

To update the group name

The following update-group example updates the name of the specified Greengrass group. If you want to update the details for the group, use the create-group-version command to create a new version.

/aws greengrass update-group \  
   --group-id "1402daf9-71cf-4cfe-8be0-d5e80526d0d8" \  
   --name TestGroup4of6

For more information, see Configure AWS IoT Greengrass on AWS IoT in the AWS IoT Greengrass Developer Guide.

- For API details, see UpdateGroup in AWS CLI Command Reference.
update-group-certificate-configuration

The following code example shows how to use update-group-certificate-configuration.

AWS CLI

To update the expiry of a group's certificates

The following update-group-certificate-configuration example sets a 10-day expiry for the certificates generated for the specified group.

```
aws greengrass update-group-certificate-configuration \\
   --group-id "8eaadd72-ce4b-4f15-892a-0cc4f3a343f1" \\
   --certificate-expiry-in-milliseconds 864000000
```

Output:

```
{
   "CertificateExpiryInMilliseconds": 864000000,
   "CertificateAuthorityExpiryInMilliseconds": 2524607999000,
   "GroupId": "8eaadd72-ce4b-4f15-892a-0cc4f3a343f1"
}
```

For more information, see AWS IoT Greengrass Security in the AWS IoT Greengrass Developer Guide.

- For API details, see UpdateGroupCertificateConfiguration in AWS CLI Command Reference.

update-logger-definition

The following code example shows how to use update-logger-definition.

AWS CLI

To update a logger definition

The following update-logger-definition example changes the name of the specified logger definition. You can only update the name property of a logger definition.

```
aws greengrass update-logger-definition \\
   --logger-definition-id "a454b62a-5d56-4ca9-bdc4-8254e1662cb0" \\
   --name "LoggingConfigsForSensors"
```
This command produces no output.

For more information, see Monitoring with AWS IoT Greengrass Logs in the AWS IoT Greengrass Developer Guide.

- For API details, see UpdateLoggerDefinition in AWS CLI Command Reference.

**update-resource-definition**

The following code example shows how to use update-resource-definition.

**AWS CLI**

To update the name for a resource definition

The following update-resource-definition example updates the name for the specified resource definition. If you want to change the details for the resource, use the create-resource-definition-version command to create a new version.

```
aws greengrass update-resource-definition \
   --resource-definition-id "c8bb9ebc-c3fd-40a4-9c6a-568d75569d38" \
   --name GreengrassConnectorResources
```

This command produces no output.

For more information, see Access Local Resources with Lambda Functions and Connectors in the AWS IoT Greengrass Developer Guide.

- For API details, see UpdateResourceDefinition in AWS CLI Command Reference.

**update-subscription-definition**

The following code example shows how to use update-subscription-definition.

**AWS CLI**

To update the name for a subscription definition

The following update-subscription-definition example updates the name for the specified subscription definition. If you want to change details for the subscription, use the create-subscription-definition-version command to create a new version.

```
aws greengrass update-subscription-definition \
```

Actions and scenarios
--subscription-definition-id "fa81bc84-3f59-4377-a84b-5d0134da359b" \
--name "ObsoleteSubscription"

This command produces no output.

For more information, see title in the guide.

- For API details, see UpdateSubscriptionDefinition in AWS CLI Command Reference.

update-thing-runtime-configuration

The following code example shows how to use update-thing-runtime-configuration.

AWS CLI

To turn on telemetry in the runtime configuration of a Greengrass core

The following update-thing-runtime-configuration example updates the runtime configuration of a Greengrass core to turn on telemetry.

```
aws greengrass update-thing-runtime-configuration \
  --thing-name SampleGreengrassCore \
  --telemetry-configuration {"Telemetry":"On"}
```

This command produces no output.

For more information, see Configuring telemetry settings in the AWS IoT Greengrass Developer Guide.

- For API details, see UpdateThingRuntimeConfiguration in AWS CLI Command Reference.

AWS IoT Greengrass V2 examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS IoT Greengrass V2.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.
Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- **Actions**

**Actions**

associate-service-role-to-account

The following code example shows how to use associate-service-role-to-account.

**AWS CLI**

**To associate the Greengrass service role to your AWS account**

The following associate-service-role-to-account example associates a service role with AWS IoT Greengrass for your AWS account.

```bash
aws greengrassv2 associate-service-role-to-account \
  --role-arn arn:aws:iam::123456789012:role/service-role/Greengrass_ServiceRole
```

Output:

```
{
   "associatedAt": "2022-01-19T19:53Z"
}
```

For more information, see Greengrass service role in the *AWS IoT Greengrass V2 Developer Guide*.

- For API details, see AssociateServiceRoleToAccount in AWS CLI Command Reference.

batch-associate-client-device-with-core-device

The following code example shows how to use batch-associate-client-device-with-core-device.

**AWS CLI**

**To associate client devices with a core device**
The following `batch-associate-client-device-with-core-device` example associates two client devices with a core device.

```bash
aws greengrassv2 batch-associate-client-device-with-core-device \
--core-device-thing-name MyGreengrassCore \
--entries thingName=MyClientDevice1 thingName=MyClientDevice2
```

Output:

```json
{
    "errorEntries": []
}
```

For more information, see [Interact with local IoT devices](#) in the *AWS IoT Greengrass V2 Developer Guide*.

- For API details, see [BatchAssociateClientDeviceWithCoreDevice](#) in *AWS CLI Command Reference*.

### batch-disassociate-client-device-from-core-device

The following code example shows how to use `batch-disassociate-client-device-from-core-device`.

**AWS CLI**

**To disassociate client devices from a core device**

The following `batch-disassociate-client-device-from-core-device` example disassociates two client devices from a core device.

```bash
aws greengrassv2 batch-disassociate-client-device-from-core-device \
--core-device-thing-name MyGreengrassCore \
--entries thingName=MyClientDevice1 thingName=MyClientDevice2
```

Output:

```json
{
    "errorEntries": []
}
```
For more information, see [Interact with local IoT devices](https://docs.aws.amazon.com/iot-greengrass/latest/developerguide/interact-local-iot-devices.html) in the *AWS IoT Greengrass V2 Developer Guide*.

- For API details, see [BatchDisassociateClientDeviceFromCoreDevice](https://docs.aws.amazon.com/cli/latest/reference/greengrassv2/batch-disassociate-client-device-from-core-device.html) in *AWS CLI Command Reference*.

**cancel-deployment**

The following code example shows how to use `cancel-deployment`.

**AWS CLI**

**To cancel a deployment**

The following `cancel-deployment` example stops a continuous deployment to a thing group.

```bash
aws greengrassv2 cancel-deployment \
    --deployment-id a1b2c3d4-5678-90ab-cdef-EXAMPLE11111
```

**Output:**

```
{
   "message": "SUCCESS"
}
```

For more information, see [Cancel deployments](https://docs.aws.amazon.com/iot-greengrass/latest/developerguide/cancel-deployment.html) in the *AWS IoT Greengrass V2 Developer Guide*.

- For API details, see [CancelDeployment](https://docs.aws.amazon.com/cli/latest/reference/greengrassv2/cancel-deployment.html) in *AWS CLI Command Reference*.

**create-component-version**

The following code example shows how to use `create-component-version`.

**AWS CLI**

**Example 1: To create a component version from a recipe**

The following `create-component-version` example creates a version of a Hello World component from a recipe file.

```bash
aws greengrassv2 create-component-version \
    --inline-recipe fileb://com.example.HelloWorld-1.0.0.json
```
Contents of com.example.HelloWorld-1.0.0.json:

```json
{
    "RecipeFormatVersion": "2020-01-25",
    "ComponentName": "com.example.HelloWorld",
    "ComponentVersion": "1.0.0",
    "ComponentDescription": "My first AWS IoT Greengrass component.",
    "ComponentPublisher": "Amazon",
    "ComponentConfiguration": {
        "DefaultConfiguration": {
            "Message": "world"
        }
    },
    "Manifests": [
        {
            "Platform": {
                "os": "linux"
            },
            "Lifecycle": {
                "Run": "echo 'Hello {configuration:/Message}'"
            }
        }
    ]
}
```

Output:

```json
{
    "componentName": "com.example.HelloWorld",
    "componentVersion": "1.0.0",
    "creationTimestamp": "2021-01-07T16:24:33.650000-08:00",
    "status": {
        "componentState": "REQUESTED",
        "message": "NONE",
        "errors": {}
    }
}
```

For more information, see Create custom components and Upload components to deploy in the AWS IoT Greengrass V2 Developer Guide.
**Example 2: To create a component version from an AWS Lambda function**

The following `create-component-version` example creates a version of a Hello World component from an AWS Lambda function.

```bash
aws greengrassv2 create-component-version \
   --cli-input-json file://lambda-function-component.json
```

Contents of `lambda-function-component.json`:

```json
{
  "lambdaFunction": {
    "componentName": "com.example.HelloWorld",
    "componentVersion": "1.0.0",
    "componentLambdaParameters": {
      "eventSources": [
        {
          "topic": "hello/world/+",
          "type": "IOT_CORE"
        }
      ]
    }
  }
}
```

Output:

```json
{
  "componentName": "com.example.HelloWorld",
  "componentVersion": "1.0.0",
  "creationTimestamp": "2021-01-07T17:05:27.347000-08:00",
  "status": {
    "componentState": "REQUESTED",
    "message": "NONE",
    "errors": {}
  }
}
```
For more information, see Run AWS Lambda functions in the AWS IoT Greengrass V2 Developer Guide.

- For API details, see CreateComponentVersion in AWS CLI Command Reference.

create-deployment

The following code example shows how to use create-deployment.

AWS CLI

Example 1: To create a deployment

The following create-deployment example deploys the AWS IoT Greengrass Command Line Interface to a core device.

```bash
aws greengrassv2 create-deployment \
   --cli-input-json file://cli-deployment.json
```

Contents of cli-deployment.json:

```json
{
   "targetArn": "arn:aws:iot:us-west-2:123456789012:thing/MyGreengrassCore",
   "deploymentName": "Deployment for MyGreengrassCore",
   "components": {
      "aws.greengrass.Cli": {
         "componentVersion": "2.0.3"
      }
   },
   "deploymentPolicies": {
      "failureHandlingPolicy": "DO NOTHING",
      "componentUpdatePolicy": {
         "timeoutInSeconds": 60,
         "action": "NOTIFY_COMPONENTS"
      },
      "configurationValidationPolicy": {
         "timeoutInSeconds": 60
      }
   },
   "iotJobConfiguration": {}
}
```

Output:
Example 2: To create a deployment that updates component configurations

The following create-deployment example deploys the AWS IoT Greengrass nucleus component to a group of core devices. This deployment applies the following configuration updates for the nucleus component:

- Reset the target devices' proxy settings to their default no proxy settings.
- Reset the target devices' MQTT settings to their defaults.
- Sets the JVM options for the nucleus' JVM.
- Sets the logging level for the nucleus.

aws greengrassv2 create-deployment \
--cli-input-json file://nucleus-deployment.json

Contents of nucleus-deployment.json:

```json
{
    "deployId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
    "deploymentName": "Deployment for MyGreengrassCoreGroup",
    "components": {
        "aws.greengrass.Nucleus": {
            "componentVersion": "2.0.3",
            "configurationUpdate": {
                "reset": [
                    "/networkProxy",
                    "/mqtt"
                ],
                "merge": "{"jvmOptions":"-Xmx64m","logging":{"level":"WARN"}}"
            }
        }
    },
    "deploymentPolicies": {
        "failureHandlingPolicy": "ROLLBACK",
        "componentUpdatePolicy": {
```
Output:

```json
{
    "deploymentId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
    "iotJobId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE22222",
    "iotJobArn": "arn:aws:iot:us-west-2:123456789012:job/a1b2c3d4-5678-90ab-cdef-EXAMPLE22222"
}
```

For more information, see [Create deployments](https://docs.aws.amazon.com/iot-greengrass/v2/userguide/gsg-task-create-deployment.html) and [Update component configurations](https://docs.aws.amazon.com/iot-greengrass/v2/userguide/gsg-task-update-component-configuration.html) in the [AWS IoT Greengrass V2 Developer Guide](https://docs.aws.amazon.com/iot-greengrass/v2/userguide/gsg-task-update-component-configuration.html).


### delete-component

The following code example shows how to use delete-component.

**AWS CLI**

**To delete a component version**

The following delete-component example deletes a Hello World component.

```bash
aws greengrassv2 delete-component \
```

This command produces no output.

For more information, see [Manage components](https://docs.aws.amazon.com/iot-greengrass/v2/userguide/gsg-task-manage-components.html) in the [AWS IoT Greengrass V2 Developer Guide](https://docs.aws.amazon.com/iot-greengrass/v2/userguide/gsg-task-manage-components.html).

delete-core-device

The following code example shows how to use delete-core-device.

AWS CLI

To delete a core device

The following delete-core-device example deletes an AWS IoT Greengrass core device.

```
aws greengrassv2 delete-core-device \
   --core-device-thing-name MyGreengrassCore
```

This command produces no output.

For more information, see Uninstall the AWS IoT Greengrass Core software in the AWS IoT Greengrass V2 Developer Guide.

- For API details, see DeleteCoreDevice in AWS CLI Command Reference.

describe-component

The following code example shows how to use describe-component.

AWS CLI

To describe a component version

The following describe-component example describes a Hello World component.

```
aws greengrassv2 describe-component \
```

Output:

```
{
   "componentName": "com.example.HelloWorld",
   "componentVersion": "1.0.0",
   "creationTimestamp": "2021-01-07T17:12:11.133000-08:00",
   "publisher": "Amazon",
```

"description": "My first AWS IoT Greengrass component.",
"status": {
   "componentState": "DEPLOYABLE",
   "message": "NONE",
   "errors": {}
},
"platforms": [
   {
      "attributes": {
         "os": "linux"
      }
   }
]}

For more information, see Manage components in the AWS IoT Greengrass V2 Developer Guide.

- For API details, see DescribeComponent in AWS CLI Command Reference.

**disassociate-service-role-from-account**

The following code example shows how to use disassociate-service-role-from-account.

**AWS CLI**

To disassociate the Greengrass service role from your AWS account

The following disassociate-service-role-from-account example disassociates the Greengrass service role from AWS IoT Greengrass for your AWS account.

```bash
aws greengrassv2 disassociate-service-role-from-account
```

Output:

```json
{
   "disassociatedAt": "2022-01-19T19:26:09Z"
}
```

For more information, see Greengrass service role in the AWS IoT Greengrass V2 Developer Guide.

- For API details, see DisassociateServiceRoleFromAccount in AWS CLI Command Reference.
get-component

The following code example shows how to use get-component.

**AWS CLI**

**Example 1: To download a component's recipe in YAML format (Linux, macOS, or Unix)**

The following get-component example downloads a Hello World component's recipe to a file in YAML format. This command does the following:

- Uses the `--output` and `--query` parameters to control the command's output. These parameters extract the recipe blob from the command's output. For more information about controlling output, see [Controlling Command Output](#) in the AWS Command Line Interface User Guide. Uses the `base64` utility. This utility decodes the extracted blob to the original text. The blob that is returned by a successful get-component command is base64-encoded text. You must decode this blob to obtain the original text. Saves the decoded text to a file. The final section of the command (`>` com.example.HelloWorld-1.0.0.json) saves the decoded text to a file.

```bash
aws greengrassv2 get-component \
  --recipe-output-format YAML \n  --query recipe \n  --output text | base64 --decode > com.example.HelloWorld-1.0.0.json
```

For more information, see [Manage components](#) in the AWS IoT Greengrass V2 Developer Guide.

**Example 2: To download a component's recipe in YAML format (Windows CMD)**

The following get-component example downloads a Hello World component's recipe to a file in YAML format. This command uses the `certutil` utility.

```bash
aws greengrassv2 get-component ^
  --recipe-output-format YAML ^
  --query recipe ^
  --output text > com.example.HelloWorld-1.0.0.yaml.b64
```
Example 3: To download a component’s recipe in YAML format (Windows PowerShell)

The following get-component example downloads a Hello World component's recipe to a file in YAML format. This command uses the certutil utility.

```bash
aws greengrassv2 get-component \
  --recipe-output-format YAML \
  --query recipe \
  --output text > com.example.HelloWorld-1.0.0.yaml.b64

certutil -decode com.example.HelloWorld-1.0.0.yaml.b64
com.example.HelloWorld-1.0.0.yaml
```

For more information, see Manage components in the AWS IoT Greengrass V2 Developer Guide.

- For API details, see GetComponent in AWS CLI Command Reference.

get-component-version-artifact

The following code example shows how to use get-component-version-artifact.

AWS CLI

To get a URL to download a component artifact

The following get-component-version-artifact example gets a URL to download the local debug console component's JAR file.

```bash
aws greengrassv2 get-component-version-artifact \
  --artifact-name "Uvt6ZExQ9TKiAuLbfXBX_APdY0TWks3uc46tHFHTzBM=/aws.greengrass.LocalDebugConsole.jar"
```

Output:
For more information, see Manage components in the AWS IoT Greengrass V2 Developer Guide.

- For API details, see GetComponentVersionArtifact in AWS CLI Command Reference.

get-connectivity-info

The following code example shows how to use get-connectivity-info.

AWS CLI

To get the connectivity information for a Greengrass core device

The following get-connectivity-info example gets the connectivity information for a Greengrass core device. Client devices use this information to connect to the MQTT broker that runs on this core device.

```
aws greengrassv2 get-connectivity-info \
   --thing-name MyGreengrassCore
```

Output:

```
{
   "connectivityInfo": [
   {
      "id": "localIP_192.0.2.0",
      "hostAddress": "192.0.2.0",
      "portNumber": 8883
   }
   ]
}
```

For more information, see Manage core device endpoints in the AWS IoT Greengrass V2 Developer Guide.
For API details, see GetConnectivityInfo in AWS CLI Command Reference.

get-core-device

The following code example shows how to use get-core-device.

AWS CLI

To get a core device

The following get-core-device example gets information about an AWS IoT Greengrass core device.

```
aws greengrassv2 get-core-device \\
    --core-device-thing-name MyGreengrassCore
```

Output:

```
{
    "coreDeviceThingName": "MyGreengrassCore",
    "coreVersion": "2.0.3",
    "platform": "linux",
    "architecture": "amd64",
    "status": "HEALTHY",
    "lastStatusUpdateTimestamp": "2021-01-08T04:57:58.838000-08:00",
    "tags": {}
}
```

For more information, see Check core device status in the AWS IoT Greengrass V2 Developer Guide.

For API details, see GetCoreDevice in AWS CLI Command Reference.

get-deployment

The following code example shows how to use get-deployment.

AWS CLI

To get a deployment
The following get-deployment example gets information about the deployment of the AWS IoT Greengrass nucleus component to a group of core devices.

```bash
code
aws greengrassv2 get-deployment \\
  --deployment-id a1b2c3d4-5678-90ab-cdef-EXAMPLE11111
```

Output:

```
{
  "revisionId": "14",
  "deploymentId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
  "deploymentName": "Deployment for MyGreengrassCoreGroup",
  "deploymentStatus": "ACTIVE",
  "iotJobId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE22222",
  "iotJobArn": "arn:aws:iot:us-west-2:123456789012:job/a1b2c3d4-5678-90ab-cdef-EXAMPLE22222",
  "components": {
    "aws.greengrass.Nucleus": {
      "componentVersion": "2.0.3",
      "configurationUpdate": {
        "merge": "{"jvmOptions":"-Xmx64m","logging":{"level":"WARN"}}",
        "reset": ["/networkProxy","/mqtt"
      ]
    }
  }
  "deploymentPolicies": {
    "failureHandlingPolicy": "ROLLBACK",
    "componentUpdatePolicy": {
      "timeoutInSeconds": 60,
      "action": "NOTIFY_COMPONENTS"
    },
    "configurationValidationPolicy": {
      "timeoutInSeconds": 60
    }
  },
  "iotJobConfiguration": {},
  "creationTimestamp": "2021-01-07T17:21:20.691000-08:00",
```

Actions and scenarios
For more information, see Deploy components to devices in the AWS IoT Greengrass V2 Developer Guide.

- For API details, see GetDeployment in AWS CLI Command Reference.

get-service-role-for-account

The following code example shows how to use get-service-role-for-account.

AWS CLI

To get the Greengrass service role for your AWS account

The following get-service-role-for-account example gets the service role that's associated with AWS IoT Greengrass for your AWS account.

```bash
aws greengrassv2 get-service-role-for-account
```

Output:

```json
{
  "associatedAt": "2022-01-19T19:53Z",
  "roleArn": "arn:aws:iam::123456789012:role/service-role/Greengrass_ServiceRole"
}
```

For more information, see Greengrass service role in the AWS IoT Greengrass V2 Developer Guide.

- For API details, see GetServiceRoleForAccount in AWS CLI Command Reference.

list-client-devices-associated-with-core-device

The following code example shows how to use list-client-devices-associated-with-core-device.

AWS CLI

To list the client devices associated with a core device
The following `list-client-devices-associated-with-core-device` example lists all client devices associated with a core device.

```bash
aws greengrassv2 list-client-devices-associated-with-core-device
    --core-device-thing-name MyTestGreengrassCore
```

Output:

```json
{
    "associatedClientDevices": [
        {
            "thingName": "MyClientDevice2",
            "associationTimestamp": "2021-07-12T16:33:55.843000-07:00"
        },
        {
            "thingName": "MyClientDevice1",
            "associationTimestamp": "2021-07-12T16:33:55.843000-07:00"
        }
    ]
}
```


**list-component-versions**

The following code example shows how to use `list-component-versions`.

**AWS CLI**

To list the versions of a component

The following `list-component-versions` example lists all versions of a Hello World component.

```bash
aws greengrassv2 list-component-versions
```
Output:

```json
{
    "componentVersions": [
        {
            "componentName": "com.example.HelloWorld",
            "componentVersion": "1.0.1",
        },
        {
            "componentName": "com.example.HelloWorld",
            "componentVersion": "1.0.0",
        }
    ]
}
```

For more information, see [Manage components](#) in the *AWS IoT Greengrass V2 Developer Guide*.

- For API details, see [ListComponentVersions](#) in *AWS CLI Command Reference*.

**list-components**

The following code example shows how to use `list-components`.

**AWS CLI**

**To list components**

The following `list-components` example lists each component and its latest version defined in your AWS account in the current Region.

```bash
aws greengrassv2 list-components
```

**Output:**

```json
{
    "components": [
        {
```
For more information, see Manage components in the AWS IoT Greengrass V2 Developer Guide.

- For API details, see ListComponents in AWS CLI Command Reference.

### list-core-devices

The following code example shows how to use list-core-devices.

**AWS CLI**

**To list core devices**

The following list-core-devices example lists the AWS IoT Greengrass core devices in your AWS account in the current Region.

```
aws greengrassv2 list-core-devices
```

**Output:**

```json
{
   "coreDevices": [
      {
         "coreDeviceThingName": "MyGreengrassCore",
```
For more information, see Check core device status in the AWS IoT Greengrass V2 Developer Guide.

- For API details, see ListCoreDevices in AWS CLI Command Reference.

### list-deployments

The following code example shows how to use list-deployments.

#### AWS CLI

**To list deployments**

The following list-deployments example lists the latest revision of each deployment defined in your AWS account in the current Region.

```bash
aws greengrassv2 list-deployments
```

**Output:**

```json
{
    "deployments": [
        {
            "revisionId": "14",
            "deploymentId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
            "deploymentName": "Deployment for MyGreengrassCoreGroup",
            "creationTimestamp": "2021-01-07T17:21:20.691000-08:00",
            "deploymentStatus": "ACTIVE",
            "isLatestForTarget": false
        },
        {
            "targetArn": "arn:aws:iot:us-west-2:123456789012:thing/MyGreengrassCore",
            "revisionId": "1",
            "deploymentName": "Deployment for MyGreengrassCore",
            "creationTimestamp": "2021-01-07T17:21:20.691000-08:00",
            "deploymentStatus": "ACTIVE",
            "isLatestForTarget": false
        }
    ]
}
```
For more information, see Deploy components to devices in the AWS IoT Greengrass V2 Developer Guide.

- For API details, see ListDeployments in AWS CLI Command Reference.

list-effective-deployments

The following code example shows how to use list-effective-deployments.

AWS CLI

To list deployment jobs

The following list-effective-deployments example lists the deployments that apply to an AWS IoT Greengrass core device.

```
aws greengrassv2 list-effective-deployments \
   --core-device-thing-name MyGreengrassCore
```

Output:

```json
{
   "effectiveDeployments": [
      {
         "deploymentId": "a1b2c3d4-5678-9ab-cdef-EXAMPLE11111",
         "deploymentName": "Deployment for MyGreengrassCore",
         "iotJobId": "a1b2c3d4-5678-9ab-cdef-EXAMPLE33333",
         "targetArn": "arn:aws:iot:us-west-2:123456789012:thing/MyGreengrassCore",
         "coreDeviceExecutionStatus": "COMPLETED",
         "reason": "SUCCESSFUL",
         "creationTimestamp": "2021-01-06T16:10:42.442000-08:00",
         "modifiedTimestamp": "2021-01-08T17:21:27.830000-08:00"
      }
   ]
}
```
For more information, see Check core device status in the AWS IoT Greengrass V2 Developer Guide.

- For API details, see ListEffectiveDeployments in AWS CLI Command Reference.

list-installed-components

The following code example shows how to use list-installed-components.

AWS CLI

To list components installed on a core device

The following list-installed-components example lists the components that are installed on an AWS IoT Greengrass core device.

```bash
aws greengrassv2 list-installed-components \
   --core-device-thing-name MyGreengrassCore
```

Output:

```json
{
   "installedComponents": [
   {
      "componentName": "aws.greengrass.Cli",
   }
   ]
}
```
The following code example shows how to use `list-tags-for-resource`.

**AWS CLI**

**To list tags for a resource**

The following `list-tags-for-resource` example lists all tags for an AWS IoT Greengrass core device.

```bash
aws greengrassv2 list-tags-for-resource \
```

Output:

```json
{
   "tags": {
      "Owner": "richard-ro"e"
   }
}
```

For more information, see [Tag your resources](#) in the [AWS IoT Greengrass V2 Developer Guide](#).
For API details, see ListTagsForResource in AWS CLI Command Reference.

tag-resource

The following code example shows how to use tag-resource.

AWS CLI

To add a tag to a resource

The following tag-resource example adds an owner tag to an AWS IoT Greengrass core device. You can use this tag to control access to the core device based on who owns it.

```
aws greengrassv2 tag-resource \\
    --tags Owner=richard-roel
```

This command produces no output.

For more information, see Tag your resources in the AWS IoT Greengrass V2 Developer Guide.

For API details, see TagResource in AWS CLI Command Reference.

untag-resource

The following code example shows how to use untag-resource.

AWS CLI

To remove a tag from a resource

The following untag-resource example removes an owner tag from an AWS IoT Greengrass core device.

```
aws iotsitewise untag-resource \\
    --tag-keys Owner
```

This command produces no output.
For more information, see Tag your resources in the AWS IoT Greengrass V2 Developer Guide.

- For API details, see UntagResource in AWS CLI Command Reference.

update-connectivity-info

The following code example shows how to use update-connectivity-info.

AWS CLI

To update connectivity information for a Greengrass core device

The following update-connectivity-info example gets the connectivity information for a Greengrass core device. Client devices use this information to connect to the MQTT broker that runs on this core device.

```
aws greengrassv2 update-connectivity-info \
  --thing-name MyGreengrassCore \
  --cli-input-json file://core-device-connectivity-info.json
```

Contents of core-device-connectivity-info.json:

```
{
  "connectivityInfo": [
    {
      "hostAddress": "192.0.2.0",
      "portNumber": 8883,
      "id": "localIP_192.0.2.0"
    }
  ]
}
```

Output:

```
{
  "version": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111"
}
```

For more information, see Manage core device endpoints in the AWS IoT Greengrass V2 Developer Guide.

- For API details, see UpdateConnectivityInfo in AWS CLI Command Reference.
AWS IoT Jobs SDK release examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS IoT Jobs SDK release.

**Actions** are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

**Scenarios** are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**
- **Actions**

**Actions**

describe-job-execution

The following code example shows how to use describe-job-execution.

**AWS CLI**

**To get the details of a job execution**

The following describe-job-execution example retrieves the details of the latest execution of the specified job and thing.

```bash
aws iot-jobs-data describe-job-execution \
  --job-id SampleJob \
  --thing-name MotionSensor1 \
  --endpoint-url https://1234567890abcd.jobs.iot.us-west-2.amazonaws.com
```

**Output:**

```json
{
  "execution": {
```
For more information, see Devices and Jobs in the AWS IoT Developer Guide.

- For API details, see DescribeJobExecution in AWS CLI Command Reference.

get-pending-job-executions

The following code example shows how to use get-pending-job-executions.

**AWS CLI**

To get a list of all jobs that are not in a terminal status for a thing

The following get-pending-job-executions example displays a list of all jobs that aren't in a terminal state for the specified thing.

```
aws iot-jobs-data get-pending-job-executions \
    --thing-name MotionSensor1 \
    --endpoint-url https://1234567890abcd.jobs.iot.us-west-2.amazonaws.com
```

Output:

```
{
    "inProgressJobs": [
    ],
    "queuedJobs": [
      {
        "executionNumber": 2939653338,
        "jobId": "SampleJob",
        "lastUpdatedAt": 1567701875.743,
        "queuedAt": 1567701902.444,
        "status": "QUEUED",
        "thingName": "MotionSensor1",
        "versionNumber": 3
      }
    ]
}
```
For more information, see Devices and Jobs in the AWS IoT Developer Guide.

- For API details, see GetPendingJobExecutions in AWS CLI Command Reference.

**start-next-pending-job-execution**

The following code example shows how to use start-next-pending-job-execution.

**AWS CLI**

**To get and start the next pending job execution for a thing**

The following start-next-pending-job-execution example retrieves and starts the next job execution whose status is IN_PROGRESS or QUEUED for the specified thing.

```
aws iot-jobs-data start-next-pending-job-execution \
    --thing-name MotionSensor1 \
    --endpoint-url https://1234567890abbc.1ots.iot.us-west-2.amazonaws.com
```

**Output:**

```
{
   "execution": {
       "approximateSecondsBeforeTimedOut": 88,
       "executionNumber": 2939653338,
       "jobId": "SampleJob",
       "lastUpdatedAt": 1567714853.743,
       "queuedAt": 1567701902.444,
       "startedAt": 1567714871.690,
       "status": "IN_PROGRESS",
       "thingName": "MotionSensor1",
       "versionNumber": 3
   }
}
```

For more information, see Devices and Jobs in the AWS IoT Developer Guide.

- For API details, see StartNextPendingJobExecution in AWS CLI Command Reference.
update-job-execution

The following code example shows how to use update-job-execution.

AWS CLI

To update the status of a job execution

The following update-job-execution example updates the status of the specified job and thing.

```
aws iot-jobs-data update-job-execution \
    --job-id SampleJob \
    --thing-name MotionSensor1 \
    --status REMOVED \
    --endpoint-url https://1234567890abcd.jobs.iot.us-west-2.amazonaws.com
```

Output:

```
{
    "executionState": {
        "status": "REMOVED",
        "versionNumber": 3
    },
}
```

For more information, see Devices and Jobs in the AWS IoT Developer Guide.

- For API details, see UpdateJobExecution in AWS CLI Command Reference.

AWS IoT SiteWise examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS IoT SiteWise.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.
Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**
- [Actions](#)

**Actions**

associate-assets

The following code example shows how to use `associate-assets`.

**AWS CLI**

**To associate a child asset to a parent asset**

The following `associate-assets` example associates a wind turbine asset to a wind farm asset, where the wind turbine asset model exists as a hierarchy in the wind farm asset model.

```bash
aws iotsitewise associate-assets
  --asset-id a1b2c3d4-5678-90ab-cdef-44444EXAMPLE
  --hierarchy-id a1b2c3d4-5678-90ab-cdef-77777EXAMPLE
  --child-asset-id a1b2c3d4-5678-90ab-cdef-33333EXAMPLE
```

This command produces no output.

For more information, see [Associating assets](#) in the *AWS IoT SiteWise User Guide*.

- For API details, see [AssociateAssets](#) in *AWS CLI Command Reference*.

batch-associate-project-assets

The following code example shows how to use `batch-associate-project-assets`.

**AWS CLI**

**To associate an asset to a project**

The following `batch-associate-project-assets` example associates a wind farm asset to a project.

```bash
aws iotsitewise batch-associate-project-assets
```
This command produces no output.

For more information, see Adding assets to projects in the AWS IoT SiteWise Monitor Application Guide.
• For API details, see BatchAssociateProjectAssets in AWS CLI Command Reference.

batch-disassociate-project-assets

The following code example shows how to use batch-disassociate-project-assets.

AWS CLI

To disassociate an asset from a project

The following batch-disassociate-project-assets example disassociates a wind farm asset from a project.

```
aws iotsitewise batch-disassociate-project-assets \
   --project-id a1b2c3d4-5678-90ab-cdef-eееееEXAMPLE \
   --asset-ids a1b2c3d4-5678-90ab-cdef-44444EXAMPLE
```

This command produces no output.

For more information, see Adding assets to projects in the AWS IoT SiteWise Monitor Application Guide.
• For API details, see BatchDisassociateProjectAssets in AWS CLI Command Reference.

batch-put-asset-property-value

The following code example shows how to use batch-put-asset-property-value.

AWS CLI

To send data to asset properties

The following batch-put-asset-property-value example sends power and temperature data to the asset properties identified by property aliases.
```bash
aws iotsitewise batch-put-asset-property-value \
--cli-input-json file://batch-put-asset-property-value.json
```

Contents of `batch-put-asset-property-value.json`:

```json
{
   "entries": [
      {
         "entryId": "1575691200-company-windfarm-3-turbine-7-power",
         "propertyAlias": "company-windfarm-3-turbine-7-power",
         "propertyValues": [
            {
               "value": {
                  "doubleValue": 4.92
               },
               "timestamp": {
                  "timeInSeconds": 1575691200
               },
               "quality": "GOOD"
            }
         ]
      },
      {
         "entryId": "1575691200-company-windfarm-3-turbine-7-temperature",
         "propertyAlias": "company-windfarm-3-turbine-7-temperature",
         "propertyValues": [
            {
               "value": {
                  "integerValue": 38
               },
               "timestamp": {
                  "timeInSeconds": 1575691200
               }
            }
         ]
      }
   ]
}
```

Output:

```json
{
}
```
For more information, see Ingesting data using the AWS IoT SiteWise API in the AWS IoT SiteWise User Guide.

- For API details, see BatchPutAssetPropertyValue in AWS CLI Command Reference.

create-access-policy

The following code example shows how to use create-access-policy.

AWS CLI

**Example 1: To grant a user administrative access to a portal**

The following create-access-policy example creates an access policy that grants a user administrative access to a web portal for a wind farm company.

```bash
aws iotsitewise create-access-policy \
   --cli-input-json file://create-portal-administrator-access-policy.json
```

Contents of `create-portal-administrator-access-policy.json`:

```json
{
   "accessPolicyIdentity": {
      "user": {
         "id": "a1b2c3d4e5-a1b2c3d4-5678-90ab-cdef-bbbbbEXAMPLE"
      }
   },
   "accessPolicyPermission": "ADMINISTRATOR",
   "accessPolicyResource": {
      "portal": {
         "id": "a1b2c3d4-5678-90ab-cdef-aaaaaEXAMPLE"
      }
   }
}
```

Output:

```json
{
   "accessPolicyId": "a1b2c3d4-5678-90ab-cdef-cccccEXAMPLE",
```

Actions and scenarios
"accessPolicyArn": "arn:aws:iotsitewise:us-west-2:123456789012:access-policy/a1b2c3d4-5678-90ab-cdef-cccccEXAMPLE"
}

For more information, see Adding or removing portal administrators in the AWS IoT SiteWise User Guide.

Example 2: To grant a user read-only access to a project

The following create-access-policy example creates an access policy that grants a user read-only access to a wind farm project.

```
aws iotsitewise create-access-policy \
   --cli-input-json file://create-project-viewer-access-policy.json
```

Contents of create-project-viewer-access-policy.json:

```
{
   "accessPolicyIdentity": {
      "user": {
         "id": "a1b2c3d4e5-a1b2c3d4-5678-90ab-cdef-bbbbbEXAMPLE"
      }
   },
   "accessPolicyPermission": "VIEWER",
   "accessPolicyResource": {
      "project": {
         "id": "a1b2c3d4-5678-90ab-cdef-eeeeeEXAMPLE"
      }
   }
}
```

Output:

```
{
   "accessPolicyId": "a1b2c3d4-5678-90ab-cdef-dddddEXAMPLE",
   "accessPolicyArn": "arn:aws:iotsitewise:us-west-2:123456789012:access-policy/a1b2c3d4-5678-90ab-cdef-dddddEXAMPLE"
}
```

For more information, see Assigning project viewers in the AWS IoT SiteWise Monitor Application Guide.
create-asset

The following code example shows how to use create-asset.

AWS CLI

To create an asset

The following create-asset example creates a wind turbine asset from a wind turbine asset model.

```bash
aws iotsitewise create-asset \
    --asset-model-id a1b2c3d4-5678-90ab-cdef-11111EXAMPLE \
    --asset-name "Wind Turbine 1"
```

Output:

```json
{
    "assetId": "a1b2c3d4-5678-90ab-cdef-33333EXAMPLE",
    "assetArn": "arn:aws:iotsitewise:us-west-2:123456789012:asset/a1b2c3d4-5678-90ab-cdef-33333EXAMPLE",
    "assetStatus": { 
        "state": "CREATING"
    }
}
```

For more information, see Creating assets in the AWS IoT SiteWise User Guide.

For API details, see CreateAsset in AWS CLI Command Reference.

create-asset-model

The following code example shows how to use create-asset-model.

AWS CLI

To create an asset model

The following create-asset-model example creates an asset model that defines a wind turbine with the following properties:
Serial number - The serial number of a wind turbine
Generated power - The generated power data stream from a wind turbine
Temperature C - The temperature data stream from a wind turbine in Celsius
Temperature F - The mapped temperature data points from Celsius to Fahrenheit

```bash
code
aws iotsitewise create-asset-model \
   --cli-input-json file://create-wind-turbine-model.json
```

Contents of `create-wind-turbine-model.json`:

```json
{
    "assetModelName": "Wind Turbine Model",
    "assetModelDescription": "Represents a wind turbine",
    "assetModelProperties": [
      {
        "name": "Serial Number",
        "dataType": "STRING",
        "type": {
          "attribute": {}
        }
      },
      {
        "name": "Generated Power",
        "dataType": "DOUBLE",
        "unit": "kW",
        "type": {
          "measurement": {}
        }
      },
      {
        "name": "Temperature C",
        "dataType": "DOUBLE",
        "unit": "Celsius",
        "type": {
          "measurement": {}
        }
      },
      {
        "name": "Temperature F",
        "dataType": "DOUBLE",
        "unit": "Fahrenheit",
        "type": {
```
"transform": {
    "expression": "temp_c * 9 / 5 + 32",
    "variables": [
        {
            "name": "temp_c",
            "value": {
                "propertyId": "Temperature C"
            }
        }
    ]
},
{
    "name": "Total Generated Power",
    "dataType": "DOUBLE",
    "unit": "kW",
    "type": {
        "metric": {
            "expression": "sum(power)",
            "variables": [
                {
                    "name": "power",
                    "value": {
                        "propertyId": "Generated Power"
                    }
                }
            ],
            "window": {
                "tumbling": {
                    "interval": "1h"
                }
            }
        }
    }
}
]

Output:

{
    "assetModelId": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
}
For more information, see Defining asset models in the AWS IoT SiteWise User Guide.

- For API details, see CreateAssetModel in AWS CLI Command Reference.

create-dashboard

The following code example shows how to use create-dashboard.

**AWS CLI**

**To create a dashboard**

The following create-dashboard example creates a dashboard with a line chart that displays total generated power for a wind farm.

```bash
aws iotsitewise create-dashboard \
   --project-id a1b2c3d4-5678-90ab-cdef-eeeeeEXAMPLE \
   --dashboard-name "Wind Farm" \
   --dashboard-definition file://create-wind-farm-dashboard.json
```

Contents of `create-wind-farm-dashboard.json`:

```json
{
   "widgets": [
   {
   "type": "monitor-line-chart",
   "title": "generated power",
   "x": 0,
   "y": 0,
   "height": 3,
   "width": 3,
   "metrics": [
   {
   "label": "Power",
   "type": "iotsitewise",
```
Output:

```
{
   "dashboardId": "a1b2c3d4-5678-90ab-cdef-fffffEXAMPLE",
                   a1b2c3d4-5678-90ab-cdef-fffffEXAMPLE"
}
```

For more information, see [Creating dashboards (CLI)](https://docs.aws.amazon.com/iot-sitewise/latest/userguide/creating-dashboards.html) in the *AWS IoT SiteWise User Guide*.

- For API details, see [CreateDashboard](https://docs.aws.amazon.com/cli/latest/reference/iotsitewise/create-dashboard.html) in *AWS CLI Command Reference*.

**create-gateway**

The following code example shows how to use `create-gateway`.

**AWS CLI**

To create a gateway

The following `create-gateway` example creates a gateway that runs on AWS IoT Greengrass.

```
aws iotsitewise create-gateway \
   --gateway-name ExampleCorpGateway \
   --gateway-platform greengrass={groupArn=arn:aws:greengrass:us-west-2:123456789012:/greengrass/groups/a1b2c3d4-5678-90ab-cdef-1b1b1EXAMPLE}
```

Output:

```
{
   "gatewayId": "a1b2c3d4-5678-90ab-cdef-1a1a1EXAMPLE",
   "gatewayArn": "arn:aws:iotsitewise:us-west-2:123456789012:gateway/
a1b2c3d4-5678-90ab-cdef-1a1a1EXAMPLE"
}
create-portal

The following code example shows how to use `create-portal`.

**AWS CLI**

**To create a portal**

The following `create-portal` example creates a web portal for a wind farm company. You can create portals only in the same Region where you enabled AWS Single Sign-On.

```bash
aws iotsitewise create-portal \\
   --portal-name WindFarmPortal \\
   --portal-description "A portal that contains wind farm projects for Example Corp." \\
   --portal-contact-email support@example.com \\
   --role-arn arn:aws:iam::123456789012:role/service-role/MySiteWiseMonitorServiceRole
```

**Output:**

```json
{
   "portalId": "a1b2c3d4-5678-90ab-cdef-aaaaaEXAMPLE",
   "portalArn": "arn:aws:iotsitewise:us-west-2:123456789012:portal/a1b2c3d4-5678-90ab-cdef-aaaaaEXAMPLE",
   "portalStartUrl": "https://a1b2c3d4-5678-90ab-cdef-aaaaaEXAMPLE.app.iotsitewise.aws",
   "portalStatus": { 
      "state": "CREATING"
   },
   "ssoApplicationId": "ins-a1b2c3d4-EXAMPLE"
}
```

For more information, see [Getting started with AWS IoT SiteWise Monitor](https://docs.aws.amazon.com/iot-sitewise/latest/userguide/getting-started.html) in the *AWS IoT SiteWise User Guide* and [Enabling AWS SSO](https://docs.aws.amazon.com/iot-sitewise/latest/userguide/enabling-aws-sso.html) in the *AWS IoT SiteWise User Guide*.

- For API details, see [CreateGateway](https://docs.aws.amazon.com/cli/latest/reference/iotsitewise/create-gateway.html) in *AWS CLI Command Reference*. 

- For API details, see [CreatePortal](https://docs.aws.amazon.com/cli/latest/reference/iotsitewise/create-portal.html) in *AWS CLI Command Reference*. 

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create-project

The following code example shows how to use `create-project`.

**AWS CLI**

To create a project

The following `create-project` example creates a wind farm project.

```bash
aws iotsitewise create-project
   --portal-id a1b2c3d4-5678-90ab-cdef-aaaaaEXAMPLE \
   --project-name "Wind Farm 1"
   --project-description "Contains asset visualizations for Wind Farm #1 for Example Corp."
```

Output:

```
{
   "projectId": "a1b2c3d4-5678-90ab-cdef-eeeeeEXAMPLE",
   "projectArn": "arn:aws:iotsitewise:us-west-2:123456789012:project/a1b2c3d4-5678-90ab-cdef-eeeeeEXAMPLE"
}
```

For more information, see [Creating projects](https://docs.aws.amazon.com/iot-sitewise/latest/monitor-app-guide/creating-projects.html) in the *AWS IoT SiteWise Monitor Application Guide*.  
- For API details, see [CreateProject](https://docs.aws.amazon.com/iot-sitewise/latest/apireference/API_CreateProject.html) in *AWS CLI Command Reference*.

delete-access-policy

The following code example shows how to use `delete-access-policy`.

**AWS CLI**

To revoke a user's access to a project or portal

The following `delete-access-policy` example deletes an access policy that grants a user administrative access to a portal.

```bash
aws iotsitewise delete-access-policy \
   --access-policy-id a1b2c3d4-5678-90ab-cdef-ccccccEXAMPLE
```

This command produces no output.
For more information, see Adding or removing portal administrators in the AWS IoT SiteWise User Guide.

- For API details, see DeleteAccessPolicy in AWS CLI Command Reference.

**delete-asset**

The following code example shows how to use delete-asset.

**AWS CLI**

**To delete an asset**

The following delete-asset example deletes a wind turbine asset.

```
aws iotsitewise delete-asset \
   --asset-id a1b2c3d4-5678-90ab-cdef-33333EXAMPLE
```

Output:

```
{
    "assetStatus": {
        "state": "DELETING"
    }
}
```

For more information, see Deleting assets in the AWS IoT SiteWise User Guide.

- For API details, see DeleteAsset in AWS CLI Command Reference.

**delete-asset-model**

The following code example shows how to use delete-asset-model.

**AWS CLI**

**To delete an asset model**

The following delete-asset-model example deletes a wind turbine asset model.

```
aws iotsitewise delete-asset-model \
   --asset-model-id a1b2c3d4-5678-90ab-cdef-11111EXAMPLE
```
Output:

```json
{
   "assetModelStatus": {
      "state": "DELETING"
   }
}
```

For more information, see Deleting asset models in the AWS IoT SiteWise User Guide.

- For API details, see DeleteAssetModel in AWS CLI Command Reference.

**delete-dashboard**

The following code example shows how to use delete-dashboard.

**AWS CLI**

**To delete a dashboard**

The following delete-dashboard example deletes a wind turbine dashboard.

```bash
aws iotsitewise delete-dashboard \\
   --dashboard-id a1b2c3d4-5678-90ab-cdef-fffffEXAMPLE
```

This command produces no output.

For more information, see Deleting dashboards in the AWS IoT SiteWise Monitor Application Guide.

- For API details, see DeleteDashboard in AWS CLI Command Reference.

**delete-gateway**

The following code example shows how to use delete-gateway.

**AWS CLI**

**To delete a gateway**

The following delete-gateway example deletes a gateway.

```bash
aws iotsitewise delete-gateway \\
   --gateway-id a1b2c3d4-5678-90ab-cdef-fffffEXAMPLE
```
This command produces no output.

For more information, see Ingesting data using a gateway in the AWS IoT SiteWise User Guide.

- For API details, see DeleteGateway in AWS CLI Command Reference.

```
delete-portal
```

The following code example shows how to use delete-portal.

**AWS CLI**

**To delete a portal**

The following delete-portal example deletes a web portal for a wind farm company.

```
aws iotsitewise delete-portal \
    --portal-id a1b2c3d4-5678-90ab-cdef-aaaaaEXAMPLE
```

Output:

```
{
    "portalStatus": {
        "state": "DELETING"
    }
}
```

For more information, see Deleting a portal in the AWS IoT SiteWise User Guide.

- For API details, see DeletePortal in AWS CLI Command Reference.

```
delete-project
```

The following code example shows how to use delete-project.

**AWS CLI**

**To delete a project**

The following delete-project example deletes a wind farm project.
This command produces no output.

For more information, see [Deleting projects](#) in the *AWS IoT SiteWise Monitor Application Guide*.

- For API details, see [DeleteProject](#) in *AWS CLI Command Reference*.

describe-access-policy

The following code example shows how to use `describe-access-policy`.

**AWS CLI**

To describe an access policy

The following `describe-access-policy` example describes an access policy that grants a user administrative access to a web portal for a wind farm company.

```
aws iotsitewise describe-access-policy \\
--access-policy-id a1b2c3d4-5678-90ab-cdef-cccccEXAMPLE
```

**Output:**

```
{
    "accessPolicyId": "a1b2c3d4-5678-90ab-cdef-cccccEXAMPLE",
    "accessPolicyArn": "arn:aws:iotsitewise:us-west-2:123456789012:access-policy/a1b2c3d4-5678-90ab-cdef-cccccEXAMPLE",
    "accessPolicyIdentity": {  
        "user": {
            "id": "a1b2c3d4e5-a1b2c3d4-5678-90ab-cdef-bbbbbbEXAMPLE"
        }
    },
    "accessPolicyResource": {
        "portal": {
            "id": "a1b2c3d4-5678-90ab-cdef-aaaaaEXAMPLE"
        }
    },
    "accessPolicyPermission": "ADMINISTRATOR",
    "accessPolicyCreationDate": "2020-02-20T22:35:15.552880124Z",
    "accessPolicyLastUpdateDate": "2020-02-20T22:35:15.552880124Z"
}
```
For more information, see [Adding or removing portal administrators](#) in the *AWS IoT SiteWise User Guide*.

- For API details, see [DescribeAccessPolicy](#) in *AWS CLI Command Reference*.

**describe-asset**

The following code example shows how to use `describe-asset`.

**AWS CLI**

**To describe an asset**

The following `describe-asset` example describes a wind farm asset.

```bash
aws iotsitewise describe-asset \
  --asset-id a1b2c3d4-5678-90ab-cdef-44444EXAMPLE
```

**Output:**

```json
{
  "assetId": "a1b2c3d4-5678-90ab-cdef-44444EXAMPLE",
  "assetArn": "arn:aws:iotsitewise:us-west-2:123456789012:asset/a1b2c3d4-5678-90ab-cdef-44444EXAMPLE",
  "assetName": "Wind Farm 1",
  "assetModelId": "a1b2c3d4-5678-90ab-cdef-22222EXAMPLE",
  "assetProperties": [
    {
      "id": "a1b2c3d4-5678-90ab-cdef-88888EXAMPLE",
      "name": "Region",
      "dataType": "STRING"
    },
    {
      "id": "a1b2c3d4-5678-90ab-cdef-99999EXAMPLE",
      "name": "Total Generated Power",
      "dataType": "DOUBLE",
      "unit": "kW"
    }
  ],
  "assetHierarchies": [
    {
    
```
For more information, see Describing a specific asset in the AWS IoT SiteWise User Guide.

- For API details, see DescribeAsset in AWS CLI Command Reference.

**describe-asset-model**

The following code example shows how to use describe-asset-model.

**AWS CLI**

To describe an asset model

The following describe-asset-model example describes a wind farm asset model.

```bash
aws iotsitewise describe-asset-model \
    --asset-model-id a1b2c3d4-5678-90ab-cdef-22222EXAMPLE
```

Output:

```json
{
   "assetModelId": "a1b2c3d4-5678-90ab-cdef-22222EXAMPLE",
   "assetModelArn": "arn:aws:iotsitewise:us-west-2:123456789012:asset-model/a1b2c3d4-5678-90ab-cdef-22222EXAMPLE",
   "assetModelName": "Wind Farm Model",
   "assetModelDescription": "Represents a wind farm that comprises many wind turbines",
   "assetModelProperties": [
      {
         "id": "a1b2c3d4-5678-90ab-cdef-99999EXAMPLE",
         "name": "Total Generated Power",
         "dataType": "DOUBLE",
         "unit": "kW",
      }
   ]
}
```
"type": {
"metric": {
  "expression": "sum(power)",
  "variables": [
    {
      "name": "power",
      "value": {
        "propertyId": "a1b2c3d4-5678-90ab-cdef-66666EXAMPLE",
        "hierarchyId": "a1b2c3d4-5678-90ab-cdef-77777EXAMPLE"
      }
    }
  ],
  "window": {
    "tumbling": {
      "interval": "1h"
    }
  }
}
},
"id": "a1b2c3d4-5678-90ab-cdef-88888EXAMPLE",
"name": "Region",
"dataType": "STRING",
"type": {
  "attribute": {
    "defaultValue": ""
  }
}
],
"assetModelHierarchies": [
  {
    "id": "a1b2c3d4-5678-90ab-cdef-77777EXAMPLE",
    "name": "Wind Turbines",
    "childAssetModelId": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE"
  }
],
"assetModelCreationDate": 1575671284.0,
"assetModelLastUpdateDate": 1575671988.0,
"assetModelStatus": {
  "state": "ACTIVE"
For more information, see [Describing a specific asset model](#) in the *AWS IoT SiteWise User Guide*.

- For API details, see [DescribeAssetModel](#) in *AWS CLI Command Reference*.

**describe-asset-property**

The following code example shows how to use `describe-asset-property`.

**AWS CLI**

**To describe an asset property**

The following `describe-asset-property` example describes a wind farm asset's total generated power property.

```bash
aws iotsitewise describe-asset-property \
    --asset-id a1b2c3d4-5678-90ab-cdef-44444EXAMPLE \
    --property-id a1b2c3d4-5678-90ab-cdef-99999EXAMPLE
```

**Output:**

```json
{
    "assetId": "a1b2c3d4-5678-90ab-cdef-44444EXAMPLE",
    "assetName": "Wind Farm 1",
    "assetModelId": "a1b2c3d4-5678-90ab-cdef-22222EXAMPLE",
    "assetProperty": {
        "id": "a1b2c3d4-5678-90ab-cdef-99999EXAMPLE",
        "name": "Total Generated Power",
        "notification": {
            "topic": "$aws/sitewise/asset-models/a1b2c3d4-5678-90ab-cdef-22222EXAMPLE/assets/a1b2c3d4-5678-90ab-cdef-44444EXAMPLE/properties/a1b2c3d4-5678-90ab-cdef-99999EXAMPLE",
            "state": "DISABLED"
        },
        "dataType": "DOUBLE",
        "unit": "kW",
        "type": {
            "metric": {
                "expression": "sum(power)"
            }
        }
    }
}
```
"variables": [
  {
    "name": "power",
    "value": {
      "propertyId": "a1b2c3d4-5678-90ab-cdef-66666EXAMPLE",
      "hierarchyId": "a1b2c3d4-5678-90ab-cdef-77777EXAMPLE"
    }
  }
],
"window": {
  "tumbling": {
    "interval": "1h"
  }
}
}

For more information, see [Describing a specific asset property](#) in the *AWS IoT SiteWise User Guide*.

- For API details, see [DescribeAssetProperty](#) in *AWS CLI Command Reference*.

### describe-dashboard

The following code example shows how to use `describe-dashboard`.

**AWS CLI**

To describe a dashboard

The following `describe-dashboard` example describes the specified wind farm dashboard.

```bash
aws iotsitewise describe-dashboard \
  --dashboard-id a1b2c3d4-5678-90ab-cdef-ffffffEXAMPLE
```

Output:

```json
{
  "dashboardId": "a1b2c3d4-5678-90ab-cdef-ffffffEXAMPLE",
  "dashboardArn": "arn:aws:iotsitewise:us-west-2:123456789012:dashboard/a1b2c3d4-5678-90ab-cdef-ffffffEXAMPLE",
```
For more information, see [Viewing dashboards](#) in the [AWS IoT SiteWise Monitor Application Guide](#).

- For API details, see [DescribeDashboard](#) in [AWS CLI Command Reference](#).

### describe-gateway

The following code example shows how to use `describe-gateway`.

**AWS CLI**

To describe a gateway

The following `describe-gateway` example describes a gateway.

```bash
aws iotsitewise describe-gateway \
  --gateway-id a1b2c3d4-5678-90ab-cdef-1a1a1EXAMPLE
```

Output:

```json
{
    "gatewayId": "a1b2c3d4-5678-90ab-cdef-1a1a1EXAMPLE",
    "gatewayName": "ExampleCorpGateway",
    "gatewayArn": "arn:aws:iotsitewise:us-west-2:123456789012:gateway/a1b2c3d4-5678-90ab-cdef-1a1a1EXAMPLE",
    "gatewayPlatform": {
        "greengrass": {
            "groupArn": "arn:aws:greengrass:us-west-2:123456789012:/greengrass/groups/a1b2c3d4-5678-90ab-cdef-1b1b1EXAMPLE"
        }
    },
    "gatewayCapabilitySummaries": [
```
For more information, see [Ingesting data using a gateway](aws-iot-sitewise-user-guide) in the **AWS IoT SiteWise User Guide**.

- For API details, see [DescribeGateway](aws-cli-command-reference) in **AWS CLI Command Reference**.

### describe-gateway-capability-configuration

The following code example shows how to use `describe-gateway-capability-configuration`.

**AWS CLI**

**To describe a gateway capability**

The following `describe-gateway-capability-configuration` example describes an OPC-UA source capability.

```
aws iotsitewise describe-gateway-capability-configuration \
--gateway-id a1b2c3d4-5678-90ab-cdef-1a1a1EXAMPLE \
--capability-namespace "iotsitewise:opcuacollector:1"
```

**Output:**

```
{
    "gatewayId": "a1b2c3d4-5678-90ab-cdef-1a1a1EXAMPLE",
    "capabilityNamespace": "iotsitewise:opcuacollector:1",
    "capabilityConfiguration": "{"sources":[{"name":"Wind Farm #1", "endpoint":{"certificateTrust":{"type":"TrustAny"},"endpointUri":"opc.tcp://203.0.113.0:49320","securityPolicy":"BASIC256","messageSecurityMode":"SIGN_AND_ENCRYPT","identityProvider":null,"type":"Username","usernameSecretArn":"arn:aws:secretsmanager:us-east-1:123456789012:secret:greengrass-factory1-auth-3QNDmM"}],"measurementDataStreamPrefix":null}}",
```

---

[Ingesting data using a gateway](aws-iot-sitewise-user-guide): [AWS IoT SiteWise User Guide](aws-iot-sitewise-user-guide)

[DescribeGateway](aws-cli-command-reference): [AWS CLI Command Reference](aws-cli-command-reference)

"capabilityNamespace": "iotsitewise:opcuacollector:1",
"capabilitySyncStatus": "IN_SYNC"
```
"capabilitySyncStatus": "IN_SYNC"
}

For more information, see Configuring data sources in the AWS IoT SiteWise User Guide.

- For API details, see DescribeGatewayCapabilityConfiguration in AWS CLI Command Reference.

describe-logging-options

The following code example shows how to use describe-logging-options.

AWS CLI

To retrieve the current AWS IoT SiteWise logging options

The following describe-logging-options example retrieves the current AWS IoT SiteWise logging options for your AWS account in the current Region.

aws iotsitewise describe-logging-options

Output:

{
    "loggingOptions": {
        "level": "INFO"
    }
}

For more information, see Monitoring AWS IoT SiteWise with Amazon CloudWatch Logs in the AWS IoT SiteWise User Guide.

- For API details, see DescribeLoggingOptions in AWS CLI Command Reference.

describe-portal

The following code example shows how to use describe-portal.

AWS CLI

To describe a portal
The following describe-portal example describes a web portal for a wind farm company.

```
aws iotsitewise describe-portal \
   --portal-id a1b2c3d4-5678-90ab-cdef-aaaaaEXAMPLE
```

**Output:**

```
{
   "portalId": "a1b2c3d4-5678-90ab-cdef-aaaaaEXAMPLE",
   "portalArn": "arn:aws:iotsitewise:us-west-2:123456789012:portal/a1b2c3d4-5678-90ab-cdef-aaaaaEXAMPLE",
   "portalName": "WindFarmPortal",
   "portalDescription": "A portal that contains wind farm projects for Example Corp.",
   "portalClientId": "E-a1b2c3d4e5f6_a1b2c3d4e5f6EXAMPLE",
   "portalStartUrl": "https://a1b2c3d4-5678-90ab-cdef-aaaaaEXAMPLE.app.iotsitewise.aws",
   "portalContactEmail": "support@example.com",
   "portalStatus": {
      "state": "ACTIVE"
   },
   "portalCreationDate": "2020-02-04T23:01:52.90248068Z",
   "portalLastUpdateDate": "2020-02-04T23:01:52.90248078Z",
   "roleArn": "arn:aws:iam::123456789012:role/MySiteWiseMonitorServiceRole"
}
```

For more information, see [Administering your portals](https://docs.aws.amazon.com/iot-sitewise/latest/userguide/administer-ports.html) in the *AWS IoT SiteWise User Guide*.

- For API details, see [DescribePortal](https://docs.aws.amazon.com/iot-sitewise/latest/apireference/API_DescribePortal.html) in *AWS CLI Command Reference*.

**describe-project**

The following code example shows how to use describe-project.

**AWS CLI**

To describe a project

The following describe-project example describes a wind farm project.

```
aws iotsitewise describe-project \
```
Output:

```json
{
    "projectId": "a1b2c3d4-5678-90ab-cdef-eeeeeEXAMPLE",
    "projectArn": "arn:aws:iotsitewise:us-west-2:123456789012:project/a1b2c3d4-5678-90ab-cdef-eeeeeEXAMPLE",
    "projectName": "Wind Farm 1",
    "portalId": "a1b2c3d4-5678-90ab-cdef-aaaaaEXAMPLE",
    "projectDescription": "Contains asset visualizations for Wind Farm #1 for Example Corp.",
    "projectCreationDate": "2020-02-20T21:58:43.362246001Z",
    "projectLastUpdateDate": "2020-02-20T21:58:43.362246095Z"
}
```

For more information, see [Viewing project details](https://aws.amazon.com/documentation/iot-sitewise/monitor-applications/) in the *AWS IoT SiteWise Monitor Application Guide*.

- For API details, see [DescribeProject](https://aws.amazon.com/documentation/iot-sitewise/api-reference/) in *AWS CLI Command Reference*.

### disassociate-assets

The following code example shows how to use `disassociate-assets`.

**AWS CLI**

**To disassociate a child asset from a parent asset**

The following `disassociate-assets` example disassociates a wind turbine asset from a wind farm asset.

```
aws iotsitewise disassociate-assets \
    --asset-id a1b2c3d4-5678-90ab-cdef-44444EXAMPLE \
    --hierarchy-id a1b2c3d4-5678-90ab-cdef-77777EXAMPLE \
    --child-asset-id a1b2c3d4-5678-90ab-cdef-33333EXAMPLE
```

This command produces no output.

For more information, see [Associating assets](https://aws.amazon.com/documentation/iot-sitewise/user-guide/) in the *AWS IoT SiteWise User Guide*.

- For API details, see [DisassociateAssets](https://aws.amazon.com/documentation/iot-sitewise/api-reference/) in *AWS CLI Command Reference*. 

---

**Actions and scenarios**
get-asset-property-aggregates

The following code example shows how to use get-asset-property-aggregates.

AWS CLI

To retrieve an asset property's aggregated average and count values

The following get-asset-property-aggregates example retrieves a wind turbine asset's average total power and count of total power data points for a 1 hour period in time.

```
aws iotsitewise get-asset-property-aggregates \
    --asset-id a1b2c3d4-5678-90ab-cdef-33333EXAMPLE \
    --property-id a1b2c3d4-5678-90ab-cdef-66666EXAMPLE \
    --start-date 1580849400 \
    --end-date 1580853000 \
    --aggregate-types AVERAGE COUNT \
    --resolution 1h
```

Output:

```
{
   "aggregatedValues": [
   {
      "timestamp": 1580850000.0,
      "quality": "GOOD",
      "value": {
         "average": 8723.46538886233,
         "count": 12.0
      }
   }
   ]
}
```

For more information, see Querying asset property aggregates in the AWS IoT SiteWise User Guide.

- For API details, see GetAssetPropertyAggregates in AWS CLI Command Reference.

get-asset-property-value

The following code example shows how to use get-asset-property-value.
AWS CLI

To retrieve an asset property's current value

The following get-asset-property-value example retrieves a wind turbine asset's current total power.

```
aws iotsitewise get-asset-property-value \
   --asset-id a1b2c3d4-5678-90ab-cdef-33333EXAMPLE \ 
   --property-id a1b2c3d4-5678-90ab-cdef-66666EXAMPLE
```

Output:

```
{
   "propertyValue": {
       "value": {
           "doubleValue": 6890.8677520453875
       },
       "timestamp": {
           "timeInSeconds": 1580853000,
           "offsetInNanos": 0
       },
       "quality": "GOOD"
   }
}
```

For more information, see [Querying current asset property values](https://docs.aws.amazon.com/iot-sitewise/latest/userguide/querying-current-asset-property-values.html) in the *AWS IoT SiteWise User Guide*.

- For API details, see [GetAssetPropertyValue](https://docs.aws.amazon.com/cli/latest/reference/iotsitewise/get-asset-property-value.html) in *AWS CLI Command Reference*.

get-asset-property-value-history

The following code example shows how to use get-asset-property-value-history.

AWS CLI

To retrieve an asset property's historical values

The following get-asset-property-value-history example retrieves a wind turbine asset's total power values for a 20 minute period in time.
aws iotsitewise get-asset-property-value-history \
--asset-id a1b2c3d4-5678-90ab-cdef-33333EXAMPLE \
--property-id a1b2c3d4-5678-90ab-cdef-66666EXAMPLE \
--start-date 1580851800 \
--end-date 1580853000

Output:

```json
{
    "assetPropertyValueHistory": [
        {
            "value": {
                "doubleValue": 7217.787046814844
            },
            "timestamp": {
                "timeInSeconds": 1580852100,
                "offsetInNanos": 0
            },
            "quality": "GOOD"
        },
        {
            "value": {
                "doubleValue": 6941.242811875451
            },
            "timestamp": {
                "timeInSeconds": 1580852400,
                "offsetInNanos": 0
            },
            "quality": "GOOD"
        },
        {
            "value": {
                "doubleValue": 6976.797662266717
            },
            "timestamp": {
                "timeInSeconds": 1580852700,
                "offsetInNanos": 0
            },
            "quality": "GOOD"
        },
        {
            "value": {
                "doubleValue": 6890.8677520453875
            },
            "timestamp": {
                "timeInSeconds": 1580853000,
                "offsetInNanos": 0
            },
            "quality": "GOOD"
        }
    ]
}
```
For more information, see [Querying historical asset property values](https://docs.aws.amazon.com/iot-sitewise/latest/userguide/asset-property-values.html) in the *AWS IoT SiteWise User Guide*.

- For API details, see [GetAssetPropertyValueHistory](https://docs.aws.amazon.com/cli/latest/reference/awscli/GetAssetPropertyValueHistory.html) in *AWS CLI Command Reference*.

**list-access-policies**

The following code example shows how to use `list-access-policies`.

**AWS CLI**

**To list all access policies**

The following `list-access-policies` example lists all access policies for a user who is a portal administrator.

```bash
aws iotsitewise list-access-policies \
   --identity-type USER \
   --identity-id a1b2c3d4e5-a1b2c3d4-5678-90ab-cdef-bbbbbEXAMPLE
```

**Output:**

```json
{
    "accessPolicySummaries": [
        {
            "id": "a1b2c3d4-5678-90ab-cdef-ccccccEXAMPLE",
            "identity": {
                "user": {
                    "id": "a1b2c3d4e5-a1b2c3d4-5678-90ab-cdef-bbbbbbbEXAMPLE"
                }
            }
        },
        "resource": {
```
For more information, see [Administering your portals](#) in the *AWS IoT SiteWise User Guide*.

- For API details, see [ListAccessPolicies](#) in *AWS CLI Command Reference*.

**list-asset-models**

The following code example shows how to use `list-asset-models`.

**AWS CLI**

**To list all asset models**

The following `list-asset-models` example lists all asset models that are defined in your AWS account in the current Region.

```
aws iotsitewise list-asset-models
```

**Output:**

```
{
    "assetModelSummaries": [
    {
        "id": "a1b2c3d4-5678-90ab-cdef-22222EXAMPLE",
        "arn": "arn:aws:iotsitewise:us-west-2:123456789012:asset-model/a1b2c3d4-5678-90ab-cdef-22222EXAMPLE",
        "name": "Wind Farm Model",
        "description": "Represents a wind farm that comprises many wind turbines",
        "creationDate": 1575671284.0,
        "lastUpdateDate": 1575671988.0,
        "status": {
            "state": "ACTIVE"
        }
    }
    ]
}
```
For more information, see Listing all asset models in the *AWS IoT SiteWise User Guide*.

- For API details, see ListAssetModels in *AWS CLI Command Reference*.

---

**list-assets**

The following code example shows how to use list-assets.

**AWS CLI**

**Example 1: To list all top-level assets**

The following list-assets example lists all assets that are top-level in the asset hierarchy tree and defined in your AWS account in the current Region.

```
aws iotsitewise list-assets \n   --filter TOP_LEVEL
```

Output:

```json
{
   "assetSummaries": [
   {
      "id": "a1b2c3d4-5678-90ab-cdef-44444EXAMPLE",
      "arn": "arn:aws:iotsitewise:us-west-2:123456789012:asset/a1b2c3d4-5678-90ab-cdef-44444EXAMPLE",
      "name": "Wind Turbine Model",
      "description": "Represents a wind turbine manufactured by Example Corp",
      "creationDate": 1575671207.0,
      "lastUpdateDate": 1575686273.0,
      "status": {
         "state": "ACTIVE"
      }
   }
   ]
}
```
For more information, see Listing assets in the AWS IoT SiteWise User Guide.

Example 2: To list all assets based on an asset model

The following list-assets example lists all assets based on an asset model and defined in your AWS account in the current Region.

```
aws iotsitewise list-assets \
   --asset-model-id a1b2c3d4-5678-90ab-cdef-11111EXAMPLE
```

Output:

```
{
   "assetSummaries": [
      {
         "id": "a1b2c3d4-5678-90ab-cdef-33333EXAMPLE",
         "arn": "arn:aws:iotsitewise:us-west-2:123456789012:asset/a1b2c3d4-5678-90ab-cdef-33333EXAMPLE",
         "name": "Wind Turbine 1",
         "assetModelId": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
         "creationDate": 1575671550.0,
         "lastUpdateDate": 1575686308.0,
         "status": {
            "state": "ACTIVE"
         }
      }
   ]
}
```
For more information, see [Listing assets](#) in the *AWS IoT SiteWise User Guide*.

- For API details, see [ListAssets](#) in *AWS CLI Command Reference*.

### list-associated-assets

The following code example shows how to use list-associated-assets.

**AWS CLI**

**To list all assets associated to an asset in a specific hierarchy**

The following list-associated-assets example lists all wind turbine assets associated to the specified wind farm asset.

```bash
aws iotsitewise list-associated-assets \
  --asset-id a1b2c3d4-5678-90ab-cdef-44444EXAMPLE \
  --hierarchy-id a1b2c3d4-5678-90ab-cdef-77777EXAMPLE
```

Output:

```json
{
  "assetSummaries": [
    {
      "id": "a1b2c3d4-5678-90ab-cdef-33333EXAMPLE",
      "arn": "arn:aws:iotsitewise:us-west-2:123456789012:asset/a1b2c3d4-5678-90ab-cdef-33333EXAMPLE",
      "name": "Wind Turbine 1",
      "assetModelId": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
      "creationDate": 1575671550.0,
      "lastUpdateDate": 1575686308.0,
      "status": {
        "state": "ACTIVE"
      },
      "hierarchies": []
    }
  ]
}
```
For more information, see Listing assets associated to a specific asset in the AWS IoT SiteWise User Guide.

- For API details, see ListAssociatedAssets in AWS CLI Command Reference.

list-dashboards

The following code example shows how to use list-dashboards.

AWS CLI

To list all dashboards in a project

The following list-dashboards example lists all dashboards that are defined in a project.

```
aws iotsitewise list-dashboards \
   --project-id a1b2c3d4-5678-90ab-cdef-eeeeeEXAMPLE
```

Output:

```
{
   "dashboardSummaries": [
   
   {
      "id": "a1b2c3d4-5678-90ab-cdef-ffffffEXAMPLE",
      "name": "Wind Farm",
      "creationDate": "2020-05-01T20:32:12.228476348Z",
      "lastUpdateDate": "2020-05-01T20:32:12.228476348Z"
   }
   
   ]
}
```

For more information, see Viewing dashboards in the AWS IoT SiteWise Monitor Application Guide.

- For API details, see ListDashboards in AWS CLI Command Reference.

list-gateways

The following code example shows how to use list-gateways.
AWS CLI

To list all gateways

The following list-gateways example lists all gateways that are defined in your AWS account in the current Region.

```bash
aws iotsitewise list-gateways
```

Output:

```json
{
   "gatewaySummaries": [
      {
         "gatewayId": "a1b2c3d4-5678-90ab-cdef-1a1a1EXAMPLE",
         "gatewayName": "ExampleCorpGateway",
         "gatewayCapabilitySummaries": [
            {
               "capabilityNamespace": "iotsitewise:opcuacollector:1",
               "capabilitySyncStatus": "IN_SYNC"
            }
         ],
         "creationDate": 1588369971.457,
         "lastUpdateDate": 1588369971.457
      }
   ]
}
```

For more information, see Ingesting data using a gateway in the AWS IoT SiteWise User Guide.

- For API details, see ListGateways in AWS CLI Command Reference.

list-portals

The following code example shows how to use list-portals.

AWS CLI

To list all portals

The following list-portals example lists all portals that are defined in your AWS account in the current Region.
aws iotsitewise list-portals

Output:

```
{
   "portalSummaries": [
   {
      "id": "a1b2c3d4-5678-90ab-cdef-aaaaaEXAMPLE",
      "name": "WindFarmPortal",
      "description": "A portal that contains wind farm projects for Example Corp.",
      "startUrl": "https://a1b2c3d4-5678-90ab-cdef-aaaaaEXAMPLE.app.iotsitewise.aws",
      "creationDate": "2020-02-04T23:01:52.90248068Z",
      "lastUpdateDate": "2020-02-04T23:01:52.90248078Z",
      "roleArn": "arn:aws:iam::123456789012:role/service-role/MySiteWiseMonitorServiceRole"
   }
   ]
}
```

For more information, see [Administering your portals](https://docs.aws.amazon.com/iot-sitewise/latest/userguide/) in the *AWS IoT SiteWise User Guide*.

- For API details, see [ListPortals](https://docs.aws.amazon.com/cli/latest/reference/iotsitewise/list-portals.html) in *AWS CLI Command Reference*.

### list-project-assets

The following code example shows how to use `list-project-assets`.

#### AWS CLI

**To list all assets associated to a project**

The following `list-project-assets` example lists all assets that are associated to a wind farm project.

```
aws iotsitewise list-projects \
   --project-id a1b2c3d4-5678-90ab-cdef-eeeeeEXAMPLE
```

Output:
For more information, see Adding assets to projects in the AWS IoT SiteWise Monitor Application Guide.

- For API details, see ListProjectAssets in AWS CLI Command Reference.

list-projects

The following code example shows how to use list-projects.

AWS CLI

To list all projects in a portal

The following list-projects example lists all projects that are defined in a portal.

```
aws iotsitewise list-projects \
   --portal-id a1b2c3d4-5678-90ab-cdef-aaaaaEXAMPLE
```

Output:

```
{
   "projectSummaries": [
   {
      "id": "a1b2c3d4-5678-90ab-cdef-eeeeeEXAMPLE",
      "name": "Wind Farm 1",
      "description": "Contains asset visualizations for Wind Farm #1 for Example Corp.",
      "creationDate": "2020-02-20T21:58:43.36246001Z",
      "lastUpdateDate": "2020-02-20T21:58:43.36246095Z"
   }
   ]
}
```

For more information, see Viewing project details in the AWS IoT SiteWise Monitor Application Guide.
list-tags-for-resource

The following code example shows how to use list-tags-for-resource.

AWS CLI

To list all tags for a resource

The following list-tags-for-resource example lists all tags for a wind turbine asset.

```bash
aws iotsitewise list-tags-for-resource \
    --resource-arn arn:aws:iotsitewise:us-west-2:123456789012:asset/a1b2c3d4-5678-90ab-cdef-33333EXAMPLE
```

Output:

```json
{
    "tags": {
        "Owner": "richard-roe"
    }
}
```

For more information, see Tagging your resources in the AWS IoT SiteWise User Guide.

put-logging-options

The following code example shows how to use put-logging-options.

AWS CLI

To specify the level of logging

The following put-logging-options example enables INFO level logging in AWS IoT SiteWise. Other levels include DEBUG and OFF.

```bash
aws iotsitewise put-logging-options \
```
This command produces no output.

For more information, see Monitoring AWS IoT SiteWise with Amazon CloudWatch Logs in the AWS IoT SiteWise User Guide.

- For API details, see PutLoggingOptions in AWS CLI Command Reference.

**tag-resource**

The following code example shows how to use `tag-resource`.

**AWS CLI**

**To add a tag to a resource**

The following `tag-resource` example adds an owner tag to a wind turbine asset. This lets you control access to the asset based on who owns it.

```
aws iotsitewise tag-resource \
   a1b2c3d4-5678-90ab-cdef-33333EXAMPLE \
   --tags Owner=richard-roe
```

This command produces no output.

For more information, see Tagging your resources in the AWS IoT SiteWise User Guide.

- For API details, see TagResource in AWS CLI Command Reference.

**untag-resource**

The following code example shows how to use `untag-resource`.

**AWS CLI**

**To remove a tag from a resource**

The following `untag-resource` example removes an owner tag from a wind turbine asset.

```
aws iotsitewise untag-resource \
```

--logging-options level=INFO
This command produces no output.

For more information, see Tagging your resources in the AWS IoT SiteWise User Guide.

- For API details, see UntagResource in AWS CLI Command Reference.

**update-access-policy**

The following code example shows how to use update-access-policy.

**AWS CLI**

**To grant a project viewer ownership of a project**

The following update-access-policy example updates an access policy that grants a project viewer ownership of a project.

```bash
aws iotsitewise update-access-policy \
    --access-policy-id a1b2c3d4-5678-90ab-cdef-dddddEXAMPLE \
    --cli-input-json file://update-project-viewer-access-policy.json
```

Contents of `update-project-viewer-access-policy.json`:

```json
{
    "accessPolicyIdentity": {
        "user": {
            "id": "a1b2c3d4e5-a1b2c3d4-5678-90ab-cdef-bbbbbEXAMPLE"
        }
    },
    "accessPolicyPermission": "ADMINISTRATOR",
    "accessPolicyResource": {
        "project": {
            "id": "a1b2c3d4-5678-90ab-cdef-eeeeeEXAMPLE"
        }
    }
}
```

This command produces no output.
For more information, see Assigning project owners in the AWS IoT SiteWise Monitor Application Guide.

- For API details, see UpdateAccessPolicy in AWS CLI Command Reference.

**update-asset**

The following code example shows how to use `update-asset`.

**AWS CLI**

**To update an asset's name**

The following `update-asset` example updates a wind turbine asset's name.

```bash
aws iotsitewise update-asset \
   --asset-id a1b2c3d4-5678-90ab-cdef-33333EXAMPLE \
   --asset-name "Wind Turbine 2"
```

Output:

```
{
   "assetStatus": {
      "state": "UPDATING"
   }
}
```

For more information, see Updating assets in the AWS IoT SiteWise User Guide.

- For API details, see UpdateAsset in AWS CLI Command Reference.

**update-asset-model**

The following code example shows how to use `update-asset-model`.

**AWS CLI**

**To update an asset model**

The following `update-asset-model` example updates a wind farm asset model's description. This example includes the model's existing IDs and definitions, because `update-asset-model` overwrites the existing model with the new model.
aws iotsitewise update-asset-model \
   --cli-input-json file://update-wind-farm-model.json

Contents of update-wind-farm-model.json:

```json
{
    "assetModelName": "Wind Farm Model",
    "assetModelDescription": " Represents a wind farm that comprises many wind turbines",
    "assetModelProperties": [
        {
            "id": "a1b2c3d4-5678-90ab-cdef-88888EXAMPLE",
            "name": "Region",
            "dataType": "STRING",
            "type": {
                "attribute": {}
            }
        },
        {
            "id": "a1b2c3d4-5678-90ab-cdef-99999EXAMPLE",
            "name": "Total Generated Power",
            "dataType": "DOUBLE",
            "unit": "kW",
            "type": {
                "metric": {
                    "expression": "sum(power)",
                    "variables": [
                        {
                            "name": "power",
                            "value": {
                                "hierarchyId": "a1b2c3d4-5678-90ab-cdef-77777EXAMPLE",
                                "propertyId": "a1b2c3d4-5678-90ab-cdef-66666EXAMPLE"
                            }
                        }
                    ],
                    "window": {
                        "tumbling": {
                            "interval": "1h"
                        }
                    }
                }
            }
        }
    ]
}
```
Output:

```json
{
  "assetModelId": "a1b2c3d4-5678-90ab-cdef-22222EXAMPLE",
  "assetModelArn": "arn:aws:iotsitewise:us-west-2:123456789012:asset-model/a1b2c3d4-5678-90ab-cdef-22222EXAMPLE",
  "assetModelStatus": {
    "state": "CREATING"
  }
}
```

For more information, see [Updating asset models](https://docs.aws.amazon.com/iot-sitewise/latest/ug/updates.html) in the *AWS IoT SiteWise User Guide*.

- For API details, see [UpdateAssetModel](https://docs.aws.amazon.com/iotsitewise/latest/api/API_UpdateAssetModel.html) in *AWS CLI Command Reference*.

### update-asset-property

The following code example shows how to use `update-asset-property`.

**AWS CLI**

#### Example 1: To update an asset property's alias

The following `update-asset-property` example updates a wind turbine asset's power property alias.

```bash
aws iotsitewise update-asset-property \
  --asset-id a1b2c3d4-5678-90ab-cdef-33333EXAMPLE \
  --property-id a1b2c3d4-5678-90ab-cdef-55555EXAMPLE \
  --property-alias "/examplecorp/windfarm/1/turbine/1/power" \
  --property-notification-state DISABLED
```
This command produces no output.

For more information, see Mapping industrial data streams to asset properties in the AWS IoT SiteWise User Guide.

**Example 2: To enable asset property notifications**

The following update-asset-property example enables asset property update notifications for a wind turbine asset's power property. Property value updates are published to the MQTT topic $aws/sitewise/asset-models/<assetModelId>/assets/<assetId>/properties/<propertyId>, where each ID is replaced by the property, asset, and model ID of the asset property.

```
aws iotsitewise update-asset-property \
   --asset-id a1b2c3d4-5678-90ab-cdef-33333EXAMPLE \
   --property-id a1b2c3d4-5678-90ab-cdef-66666EXAMPLE \
   --property-notification-state ENABLED \
   --property-alias "/examplecorp/windfarm/1/turbine/1/power"
```

This command produces no output.

For more information, see Interacting with other services in the AWS IoT SiteWise User Guide.

- For API details, see UpdateAssetProperty in AWS CLI Command Reference.

**update-dashboard**

The following code example shows how to use update-dashboard.

**AWS CLI**

**To update a dashboard**

The following update-dashboard example changes the title of a dashboard's line chart that displays total generated power for a wind farm.

```
aws iotsitewise update-dashboard \
   --project-id a1b2c3d4-5678-90ab-cdef-fffffEXAMPLE \
   --dashboard-name "Wind Farm" \
   --dashboard-definition file://update-wind-farm-dashboard.json
```

Contents of update-wind-farm-dashboard.json:
This command produces no output.

For more information, see [Creating dashboards (CLI)](https://docs.aws.amazon.com/iot-sitewise/latest/userguide/creating-dashboards-cli.html) in the *AWS IoT SiteWise User Guide*.

- For API details, see [UpdateDashboard](https://docs.aws.amazon.com/cli/latest/reference/iotsitewise/update-dashboard.html) in *AWS CLI Command Reference.*

**update-gateway**

The following code example shows how to use update-gateway.

**AWS CLI**

**To update a gateway's name**

The following update-gateway example updates a gateway's name.

```bash
aws iotsitewise update-gateway \
--gateway-id a1b2c3d4-5678-90ab-cdef-1a1a1EXAMPLE \
--gateway-name ExampleCorpGateway1
```

This command produces no output.
For more information, see Ingesting data using a gateway in the AWS IoT SiteWise User Guide.

- For API details, see UpdateGateway in AWS CLI Command Reference.

**update-gateway-capability-configuration**

The following code example shows how to use update-gateway-capability-configuration.

**AWS CLI**

**To update a gateway capability**

The following update-gateway-capability-configuration example configures an OPC-UA source with the following properties:

- Trusts any certificate.
- Uses the Basic256 algorithm to secure messages.
- Uses the SignAndEncrypt mode to secure connections.
- Uses authentication credentials stored in an AWS Secrets Manager secret.

```
aws iotsitewise update-gateway-capability-configuration \
  --gateway-id a1b2c3d4-5678-90ab-cdef-1a1a1EXAMPLE \
  --capability-namespace "iotsitewise:opcuacollector:1" \
  --capability-configuration file://opc-ua-capability-configuration.json
```

Contents of opc-ua-capability-configuration.json:

```json
{
  "sources": [
    {
      "name": "Wind Farm #1",
      "endpoint": {
        "certificateTrust": {
          "type": "TrustAny"
        },
        "endpointUri": "opc.tcp://203.0.113.0:49320",
        "securityPolicy": "BASIC256",
        "messageSecurityMode": "SIGN_AND_ENCRYPT",
        "identityProvider": {
          "type": "Username",
        }
      }
    }
  ]
}
```
Output:

```
{
  "capabilityNamespace": "iotsitewise:opcuacollector:1",
  "capabilitySyncStatus": "OUT_OF_SYNC"
}
```

For more information, see Configuring data sources in the AWS IoT SiteWise User Guide.

- For API details, see UpdateGatewayCapabilityConfiguration in AWS CLI Command Reference.

**update-portal**

The following code example shows how to use `update-portal`.

**AWS CLI**

To update a portal's details

The following `update-portal` example updates a web portal for a wind farm company.

```
aws iotsitewise update-portal \
   --portal-id a1b2c3d4-5678-90ab-cdef-aaaaaEXAMPLE \
   --portal-name WindFarmPortal \
   --portal-description "A portal that contains wind farm projects for Example Corp." \
   --portal-contact-email support@example.com \
   --role-arn arn:aws:iam::123456789012:role/MySiteWiseMonitorServiceRole
```

Output:

```
{
  "portalStatus": {
    "state": "UPDATING"
  }
}
```
update-project

The following code example shows how to use update-project.

AWS CLI

To update a project's details

The following update-project example updates a wind farm project.

```bash
aws iotsitewise update-project
--project-id a1b2c3d4-5678-90ab-cdef-eeeeEXAMPLE
--project-name "Wind Farm 1"
--project-description "Contains asset visualizations for Wind Farm #1 for Example Corp."
```

This command produces no output.

For more information, see Changing project details in the AWS IoT SiteWise Monitor Application Guide.

• For API details, see UpdateProject in AWS CLI Command Reference.

AWS IoT Things Graph examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS IoT Things Graph.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.
Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- **Actions**

**Actions**

**associate-entity-to-thing**

The following code example shows how to use associate-entity-to-thing.

**AWS CLI**

To associate a thing with a device

The following associate-entity-to-thing example associates a thing with a device. The example uses a motion sensor device that is in the public namespace.

```bash
aws iotthingsgraph associate-entity-to-thing \
    --thing-name "MotionSensorName" \
    --entity-id "urn:tdm:aws/examples:Device:HCSR501MotionSensor"
```

This command produces no output.

For more information, see [Creating and Uploading Models](https://docs.aws.amazon.com/iotthingsgraph/latest/ug/) in the *AWS IoT Things Graph User Guide*.

- For API details, see [AssociateEntityToThing](https://docs.aws.amazon.com/cli/latest/reference/iotthingsgraph/associate-entity-to-thing.html) in *AWS CLI Command Reference*.

**create-flow-template**

The following code example shows how to use create-flow-template.

**AWS CLI**

To create a flow

The following create-flow-template example creates a flow (workflow). The value of MyFlowDefinition is the GraphQL that models the flow.
aws iotthingsgraph create-flow-template
   --definition language=GRAPHQL,text="MyFlowDefinition"

Output:

```
{
   "summary": {
      "createdAt": 1559248067.545,
      "revisionNumber": 1
   }
}
```

For more information, see [Working with Flows](https://aws.amazon.com/iotthingsgraph/) in the *AWS IoT Things Graph User Guide*.

- For API details, see [CreateFlowTemplate](https://aws.amazon.com/cli/) in *AWS CLI Command Reference*.

---

**create-system-instance**

The following code example shows how to use `create-system-instance`.

**AWS CLI**

**To create a system instance**

The following `create-system-instance` example creates a system instance. The value of `MySystemInstanceDefinition` is the GraphQL that models the system instance.

```bash
aws iotthingsgraph create-system-instance -
    -definition language=GRAPHQL,text="MySystemInstanceDefinition" -
    --target CLOUD -
    --flow-actions-role-arn myRoleARN
```

Output:

```
{
   "summary": {
      "id": "urn:tdm:us-west-2/123456789012/default:Deployment:Room218",
```
create-system-template

The following code example shows how to use create-system-template.

AWS CLI

To create a system

The following create-system-template example creates a system. The value of MySystemDefinition is the GraphQL that models the system.

```
aws iotthingsgraph create-system-template \
    --definition language=GRAPHQL,text="MySystemDefinition"
```

Output:

```
{
    "summary": {
        "createdAt": 1559249776.254,
        "id": "urn:tdm:us-west-2/123456789012/default:System:MySystem",
        "revisionNumber": 1
    }
}
```

For more information, see Creating Systems in the AWS IoT Things Graph User Guide.

- For API details, see CreateSystemTemplate in AWS CLI Command Reference.
delete-flow-template

The following code example shows how to use delete-flow-template.

AWS CLI

To delete a flow

The following delete-flow-template example deletes a flow (workflow).

```bash
aws iotthingsgraph delete-flow-template \
```

This command produces no output.

For more information, see Lifecycle Management for AWS IoT Things Graph Entities, Flows, Systems, and Deployments in the AWS IoT Things Graph User Guide.

- For API details, see DeleteFlowTemplate in AWS CLI Command Reference.

delete-namespace

The following code example shows how to use delete-namespace.

AWS CLI

To delete a namespace

The following delete-namespace example deletes a namespace.

```bash
aws iotthingsgraph delete-namespace
```

Output:

```
{
   "namespaceArn": "arn:aws:iotthingsgraph:us-west-2:123456789012",
   "namespaceName": "us-west-2/123456789012/default"
}
```

For more information, see Lifecycle Management for AWS IoT Things Graph Entities, Flows, Systems, and Deployments in the AWS IoT Things Graph User Guide.

- For API details, see DeleteNamespace in AWS CLI Command Reference.
delete-system-instance

The following code example shows how to use delete-system-instance.

AWS CLI

To delete a system instance

The following delete-system-instance example deletes a system instance.

```
aws iotthingsgraph delete-system-instance \
   --id "urn:tdm:us-west-2/123456789012/default:Deployment:Room218"
```

This command produces no output.

For more information, see Lifecycle Management for AWS IoT Things Graph Entities, Flows, Systems, and Deployments in the AWS IoT Things Graph User Guide.

- For API details, see DeleteSystemInstance in AWS CLI Command Reference.

delete-system-template

The following code example shows how to use delete-system-template.

AWS CLI

To delete a system

The following delete-system-template example deletes a system.

```
aws iotthingsgraph delete-system-template \
   --id "urn:tdm:us-west-2/123456789012/default:System:MySystem"
```

This command produces no output.

For more information, see Lifecycle Management for AWS IoT Things Graph Entities, Flows, Systems, and Deployments in the AWS IoT Things Graph User Guide.

- For API details, see DeleteSystemTemplate in AWS CLI Command Reference.

deploy-system-instance

The following code example shows how to use deploy-system-instance.
AWS CLI

To deploy a system instance

The following `delete-system-template` example deploys a system instance.

```
aws iotthingsgraph deploy-system-instance \\
   --id "urn:tdm:us-west-2/123456789012/default:Deployment:Room218"
```

Output:

```
{
   "summary": { 
      "createdAt": 1559249776.254,
      "id": "urn:tdm:us-west-2/123456789012/default:Deployment:Room218",
      "status": "DEPLOYED_IN_TARGET",
      "target": "CLOUD",
      "updatedAt": 1559249776.254
   }
}
```

For more information, see [Working with Systems and Flow Configurations](https://docs.aws.amazon.com/iotthingsgraph/latest/ug/) in the *AWS IoT Things Graph User Guide*.

- For API details, see [DeploySystemInstance](https://docs.aws.amazon.com/cli/latest/reference/iotthingsgraph/deploy-system-instance.html) in *AWS CLI Command Reference*.

`deprecate-flow-template`

The following code example shows how to use `deprecate-flow-template`.

AWS CLI

To deprecate a flow

The following `deprecate-flow-template` example deprecates a flow (workflow).

```
aws iotthingsgraph deprecate-flow-template \\
```

This command produces no output.
For more information, see Lifecycle Management for AWS IoT Things Graph Entities, Flows, Systems, and Deployments in the AWS IoT Things Graph User Guide.

- For API details, see DeprecateFlowTemplate in AWS CLI Command Reference.

deprecate-system-template

The following code example shows how to use deprecate-system-template.

AWS CLI

To deprecate a system

The following deprecate-system-template example deprecates a system.

```
aws iotthingsgraph deprecate-system-template \
    --id "urn:tdm:us-west-2/123456789012/default:System:MySystem"
```

This command produces no output.

For more information, see Lifecycle Management for AWS IoT Things Graph Entities, Flows, Systems, and Deployments in the AWS IoT Things Graph User Guide.

- For API details, see DeprecateSystemTemplate in AWS CLI Command Reference.

describe-namespace

The following code example shows how to use describe-namespace.

AWS CLI

To get a description of your namespace

The following describe-namespace example gets a description of your namespace.

```
aws iotthingsgraph describe-namespace
```

Output:

```
{
    "namespaceName": "us-west-2/123456789012/default",
```
"trackingNamespaceName": "aws",
 "trackingNamespaceVersion": 1,
 "namespaceVersion": 5
}

For more information, see Namespaces in the AWS IoT Things Graph User Guide.

- For API details, see DescribeNamespace in AWS CLI Command Reference.

dissociate-entity-from-thing

The following code example shows how to use dissociate-entity-from-thing.

AWS CLI

**To dissociate a thing from a device**

The following dissociate-entity-from-thing example dissociates a thing from a device.

```
aws iotthingsgraph dissociate-entity-from-thing \
   --thing-name "MotionSensorName" \
   --entity-type "DEVICE"
```

This command produces no output.

For more information, see Creating and Uploading Models in the AWS IoT Things Graph User Guide.

- For API details, see DissoclateEntityFromThing in AWS CLI Command Reference.

get-entities

The following code example shows how to use get-entities.

AWS CLI

**To get definitions for entities**

The following get-entities example gets a definition for a device model.

```
aws iotthingsgraph get-entities \
   --ids "urn:tdm:aws/examples:DeviceModel:MotionSensor"
```
Output:

```
{
   "descriptions": [
   {
      "id": "urn:tdm:aws/examples:DeviceModel:MotionSensor",
      "type": "DEVICE_MODEL",
      "createdAt": 1559256190.599,
      "definition": {
         "language": "GRAPHQL",
         "text": "##
# Specification of motion sensor devices interface.
##

type MotionSensor @deviceModel(id: "urn:tdm:aws/examples:DeviceModel:MotionSensor",
        capability: "urn:tdm:aws/examples:capability:MotionSensorCapability")
{ignore:void}"
      }
   }
}
```

For more information, see [Creating and Uploading Models](#) in the *AWS IoT Things Graph User Guide*.

- For API details, see [GetEntities](#) in *AWS CLI Command Reference*.

**get-flow-template**

The following code example shows how to use `get-flow-template`.

### AWS CLI

**To get a flow definition**

The following `get-flow-template` example gets a definition for a flow (workflow).

```
aws iotthingsgraph get-flow-template \
```

Output:

```
{
   "description": {
```
"summary": {
  "revisionNumber": 1,
  "createdAt": 1559247540.292
},
"definition": {
  "language": "GRAPHQL",
  "text": "{\n    query MyFlow($camera: string!, $screen: string!) {
      @workflowType(id: "urn:tdm:us-west-2/123456789012/default:Workflow:MyFlow")
      @annotation(type: "tgc:FlowEvent", id: "sledged790c1b2bcd949e09da0c9bfc077f79d",
        x: 1586, y: 653) @triggers(definition: "\"{MotionSensor(description: \"
        devices[name == \"motionSensor\"]\".events[name == \"
        "StateChanged\"]\".lastEvent\")\n      action(expr: \"
    }\n  }\n  steps {
    step(name: "Camera", outEvent: ["sledged790c1b2bcd949e09da0c9bfc077f79d"])
      DeviceActivity(deviceModel: "urn:tdm:aws/examples:deviceModel:Camera",
        out: "cameraResult", deviceId: "${camera}") {
        capture
      }
    step(name: "Screen", inEvent: ["sledged790c1b2bcd949e09da0c9bfc077f79d"])
      DeviceActivity(deviceModel: "urn:tdm:aws/examples:deviceModel:Screen",
        deviceId: "${screen}") {
        display(imageUrl: "${cameraResult.lastClickedImage}")
      }
  }
}
"validatedNamespaceVersion": 5
}

For more information, see [Working with Flows](https://aws.amazon.com/documentation/iotthingsgraph/) in the [AWS IoT Things Graph User Guide](https://aws.amazon.com/documentation/iotthingsgraph/).


### get-flow-template-revisions

The following code example shows how to use `get-flow-template-revisions`.

**AWS CLI**

To get revision information about a flow

The following `get-flow-template-revisions` example gets revision information about a flow (workflow).
aws iotthingsgraph get-flow-template-revisions \

Output:

```json
{
   "summaries": [
      {
         "revisionNumber": 1,
         "createdAt": 1559247540.292
      }
   ]
}
```

For more information, see [Working with Flows](#) in the *AWS IoT Things Graph User Guide*.

- For API details, see [GetFlowTemplateRevisions](#) in [AWS CLI Command Reference](#).

---

**get-namespace-deletion-status**

The following code example shows how to use `get-namespace-deletion-status`.

**AWS CLI**

**To get the status of the namespace deletion task**

The following `get-namespace-deletion-status` example gets the status of the namespace deletion task.

```bash
aws iotthingsgraph get-namespace-deletion-status
```

**Output:**

```json
{
   "namespaceArn": "arn:aws:iotthingsgraph:us-west-2:123456789012",
   "namespaceName": "us-west-2/123456789012/default",
   "status": "SUCCEEDED"
}
```

For more information, see [Namespaces](#) in the *AWS IoT Things Graph User Guide*. 

---

**Actions and scenarios**


get-system-instance

The following code example shows how to use get-system-instance.

AWS CLI

To get a system instance

The following get-system-instance example gets a definition for a system instance.

```bash
aws iotthingsgraph get-system-instance \
   --id "urn:tdm:us-west-2/123456789012/default:Deployment:Room218"
```

Output:

```json
{
   "description": {
      "summary": {
         "id": "urn:tdm:us-west-2/123456789012/default:Deployment:Room218",
         "status": "NOT_DEPLOYED",
         "target": "CLOUD",
         "createdAt": 1559249315.208,
         "updatedAt": 1559249315.208
      },
      "definition": {
         "language": "GRAPHQL",
         "text": "{\n             "query": "Room218 @deployment(id: \"urn:tdm:us-west-2/123456789012/default:Deployment:Room218\", systemId: \"urn:tdm:us-west-2/123456789012/default:System:SecurityFlow\") {\r
               motionSensor(deviceId: \"MotionSensorName\") \r
               screen(deviceId: \"ScreenName\") \r
               camera(deviceId: \"CameraName\") \r
               triggers {\n                 MotionEventTrigger(description: \"a trigger\") { \r
                   condition(expr: \"devices[name == 'motionSensor'].events[name == 'StateChanged'].lastEvent\") \r
                   action(expr: "ThingsGraph.startFlow('SecurityFlow', bindings[name == 'camera'].deviceId, bindings[name == 'screen'].deviceId)\")\r
                 }\r
               }\r
             }"},
         "metricsConfiguration": {
            "cloudMetricEnabled": false
```
For more information, see Working with Systems and Flow Configurations in the AWS IoT Things Graph User Guide.

- For API details, see GetSystemInstance in AWS CLI Command Reference.

get-system-template

The following code example shows how to use get-system-template.

**AWS CLI**

To get a system

The following get-system-template example gets a definition for a system.

```bash
aws iotthingsgraph get-system-template
   --id "urn:tdm:us-west-2/123456789012/default:System:MySystem"
```

Output:

```json
{
   "description": {
      "summary": {
         "id": "urn:tdm:us-west-2/123456789012/default:System:MySystem",
         "revisionNumber": 1,
         "createdAt": 1559247540.656
      },
      "definition": {
         "language": "GRAPHQL",
         "text": "{\"type\ MySystem @systemType(id: \"urn:tdm:us-west-2/123456789012/default:System:MySystem\", description: "\"\") {\n   camera: Camera @thing(id: \"urn:tdm:aws/examples:deviceModel:Camera\")\n   screen: Screen @thing(id: \"urn:tdm:aws/examples:deviceModel:Screen\")\n   motionSensor: MotionSensor @thing(id: \"urn:tdm:aws/examples:deviceModel:MotionSensor
```
For more information, see [Working with Systems and Flow Configurations](#) in the *AWS IoT Things Graph User Guide*.

- For API details, see [GetSystemTemplate](#) in *AWS CLI Command Reference*.

### get-system-template-revisions

The following code example shows how to use get-system-template-revisions.

**AWS CLI**

To get revision information about a system

The following `get-system-template-revisions` example gets revision information about a system.

```bash
aws iotthingsgraph get-system-template-revisions \
    --id "urn:tdm:us-west-2/123456789012/default:System:MySystem"
```

Output:

```json
{
  "summaries": [
    {
      "id": "urn:tdm:us-west-2/123456789012/default:System:MySystem",
      "revisionNumber": 1,
      "createdAt": 1559247540.656
    }
  ]
}
```

For more information, see [Working with Systems and Flow Configurations](#) in the *AWS IoT Things Graph User Guide*.
• For API details, see [GetSystemTemplateRevisions](#) in *AWS CLI Command Reference*.

**get-upload-status**

The following code example shows how to use `get-upload-status`.

**AWS CLI**

**To get the status of your entity upload**

The following `get-upload-status` example gets the status of your entity upload operation. The value of `MyUploadId` is the ID value returned by the `upload-entity-definitions` operation.

```bash
aws iotthingsgraph get-upload-status \
--upload-id "MyUploadId"
```

**Output:**

```json
{
    "namespaceName": "us-west-2/123456789012/default",
    "namespaceVersion": 5,
    "uploadId": "f6294f1e-b109-4bbe-9073-f451a2dda2da",
    "uploadStatus": "SUCCEEDED"
}
```

For more information, see [Modeling Entities](#) in the *AWS IoT Things Graph User Guide*.

• For API details, see [GetUploadStatus](#) in *AWS CLI Command Reference*.

**list-flow-execution-messages**

The following code example shows how to use `list-flow-execution-messages`.

**AWS CLI**

**To get information about events in a flow execution**

The following `list-flow-execution-messages` example gets information about events in a flow execution.

```bash
aws iotthingsgraph list-flow-execution-messages \
```

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Output:

```json
{
    "messages": [
        {
            "eventType": "EXECUTION_STARTED",
            "messageId": "f6294f1e-b109-4bbe-9073-f451a2dda2da",
            "payload": "Flow execution started",
            "timestamp": 1559247540.656
        }
    ]
}
```

For more information, see [Working with Flows](https://docs.aws.amazon.com/iotthingsgraph/latest/userguide/working-with-flows.html) in the *AWS IoT Things Graph User Guide*.

- For API details, see [ListFlowExecutionMessages](https://docs.aws.amazon.com/cli/latest/reference/iotthingsgraph/list-flow-execution-messages.html) in *AWS CLI Command Reference*.

### list-tags-for-resource

The following code example shows how to use `list-tags-for-resource`.

**AWS CLI**

**To list all tags for a resource**

The following `list-tags-for-resource` example list all tags for an AWS IoT Things Graph resource.

```bash
aws iotthingsgraph list-tags-for-resource \\   --resource-arn "arn:aws:iotthingsgraph:us-west-2:123456789012:Deployment/default/Room218"
```

Output:

```json
{
    "tags": [
        {
            "key": "Type",
            "value": "Room",
            "scope": "GLOBAL",
            "createdBy": "aws:iotthingsgraph:us-west-2:123456789012:Deployment/default/Room218",
            "createdTimestamp": 1559247540.656
        }
    ]
}
```
For more information, see Tagging Your AWS IoT Things Graph Resources in the AWS IoT Things Graph User Guide.

- For API details, see ListTagsForResource in AWS CLI Command Reference.

**search-entities**

The following code example shows how to use search-entities.

**AWS CLI**

**To search for entities**

The following search-entities example searches for all entities of type EVENT.

```bash
aws iotthingsgraph search-entities \
   --entity-types "EVENT"
```

**Output:**

```json
{
   "descriptions": [
       {
           "id": "urn:tdm:aws/examples:Event:MotionSensorEvent",
           "type": "EVENT",
           "definition": {
               "language": "GRAPHQL",
               "text": "##
# Description of events emitted by motion sensor.
##

@eventType(id: "urn:tdm:aws/examples:event:MotionSensorEvent",
payload: "urn:tdm:aws/examples:property:MotionSensorStateProperty") {ignore: void}"
           }
       },
       {
           "id": "urn:tdm:us-west-2/123456789012/default:Event:CameraClickedEventV2",
           "type": "EVENT",
           "definition": {
```
"language": "GRAPHQL",
"text": "type CameraClickedEventV2 @eventType(id: "urn:tdm:us-west-2/123456789012/default:event:CameraClickedEventV2",
\n\n\n\n\n\npayload: "urn:tdm:aws:Property:Boolean\"){ignore:void}"
}
},
{
  "id": "urn:tdm:us-west-2/123456789012/default:Event:MotionSensorEventV2",
  "type": "EVENT",
  "definition": {
    "language": "GRAPHQL",
    "text": "# Event emitted by the motion sensor.

type MotionSensorEventV2 @eventType(id: "urn:tdm:us-west-2/123456789012/default:event:MotionSensorEventV2",
\n\n\n\n\n\npayload: "urn:tdm:us-west-2/123456789012/default:property:MotionSensorStateProperty2\") {ignore:void}"
  }
}
],
"nextToken": "urn:tdm:us-west-2/123456789012/default:Event:MotionSensorEventV2"
}

For more information, see [AWS IoT Things Graph Data Model Reference](#) in the [AWS IoT Things Graph User Guide](#).

- For API details, see [SearchEntities](#) in [AWS CLI Command Reference](#).

**search-flow-executions**

The following code example shows how to use search-flow-executions.

**AWS CLI**

**To search for flow executions**

The following search-flow-executions example search for all executions of a flow in a specified system instance.

```
aws iotthingsgraph search-flow-executions \
   --system-instance-id "urn:tdm:us-west-2/123456789012/default:Deployment:Room218"
```

Output:
For more information, see **Working with Systems and Flow Configurations** in the *AWS IoT Things Graph User Guide*.

- For API details, see **SearchFlowExecutions** in *AWS CLI Command Reference*.

### search-flow-templates

The following code example shows how to use `search-flow-templates`.

**AWS CLI**

**To search for flows (or workflows)**

The following `search-flow-templates` example searches for all flows (workflows) that contain the Camera device model.

```bash
aws iotthingsgraph search-flow-templates \
    --filters name="DEVICE_MODEL_ID",value="urn:tdm:aws/examples:DeviceModel:Camera"
```

**Output:**

```json
{
   "summaries": [
       {
           "revisionNumber": 1,
           "createdAt": 1559247540.292
       }
   ]
}
```
For more information, see [Working with Flows](#) in the *AWS IoT Things Graph User Guide*.

- For API details, see [SearchFlowTemplates](#) in the *AWS CLI Command Reference*.

### search-system-instances

The following code example shows how to use `search-system-instances`.

**AWS CLI**

#### To search for system instances

The following `search-system-instances` example searches for all system instances that contain the specified system.

```
aws iotthingsgraph search-system-instances \
```

**Output:**

```
{
    "summaries": [
        {
            "id": "urn:tdm:us-west-2/123456789012/default:Deployment:DeploymentForSample",
            "status": "NOT_DEPLOYED",
            "target": "GREENGRAASS",
            "greengrassGrpName": "ThingsGraphGrnGr",
            "createdAt": 1555716314.707,
            "updatedAt": 1555716314.707
        },
        {
```

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"id": "urn:tdm:us-west-2/123456789012/default:Deployment:MockDeployment",
"status": "DELETED_IN_TARGET",
"target": "GREENGRASS",
"greengrassGroupName": "ThingsGraphGrnGr",
"createdAt": 1549416462.049,
"updatedAt": 1549416722.361,
"greengrassGroupId": "01d04b07-2a51-467f-9d03-0c90b3cdcaaf",
"greengrassGroupVersionId": "7365aed7-2d3e-4d13-aad8-75443d45eb05"
},
{
"id": "urn:tdm:us-west-2/123456789012/default:Deployment:MockDeployment2",
"status": "DEPLOYED_IN_TARGET",
"target": "GREENGRASS",
"greengrassGroupName": "ThingsGraphGrnGr",
"createdAt": 1549572385.774,
"updatedAt": 1549572418.408,
"greengrassGroupId": "01d04b07-2a51-467f-9d03-0c90b3cdcaaf",
"greengrassGroupVersionId": "bfa70ab3-2bf7-409c-a4d4-bc8328ae5b86"
},
{
"id": "urn:tdm:us-west-2/123456789012/default:Deployment:Room215",
"status": "NOT_DEPLOYED",
"target": "GREENGRASS",
"greengrassGroupName": "ThingsGraphGG",
"createdAt": 1547056918.413,
"updatedAt": 1547056918.413
},
{
"id": "urn:tdm:us-west-2/123456789012/default:Deployment:Room218",
"status": "NOT_DEPLOYED",
"target": "CLOUD",
"createdAt": 1559249315.208,
"updatedAt": 1559249315.208
}
For more information, see Working with Systems and Flow Configurations in the AWS IoT Things Graph User Guide.

- For API details, see SearchSystemInstances in AWS CLI Command Reference.

search-system-templates

The following code example shows how to use search-system-templates.

AWS CLI

**To search for system**

The following search-system-templates example searches for all systems that contain the specified flow.

```bash
aws iotthingsgraph search-system-templates \
```

Output:

```json
{
    "summaries": [
        {
            "revisionNumber": 1,
            "createdAt": 1548283099.433
        }
    ]
}
```

For more information, see Working with Flows in the AWS IoT Things Graph User Guide.

- For API details, see SearchSystemTemplates in AWS CLI Command Reference.
**search-things**

The following code example shows how to use search-things.

**AWS CLI**

To search for things associated with devices and device models

The following search-things example searches for all things that are associated with the HCSR501MotionSensor device.

```
aws iotthingsgraph search-things \\
   --entity-id "urn:tdm:aws/examples:Device:HCSR501MotionSensor"
```

Output:

```
{
   "things": [
       {
           "thingArn": "arn:aws:iot:us-west-2:123456789012:thing/MotionSensor1",
           "thingName": "MotionSensor1"
       },
       {
           "thingArn": "arn:aws:iot:us-west-2:123456789012:thing/TG_MS",
           "thingName": "TG_MS"
       }
   ]
}
```

For more information, see [Creating and Uploading Models](https://docs.aws.amazon.com/iotThingsGraph/latest/userguide/) in the *AWS IoT Things Graph User Guide*.

- For API details, see [SearchThings](https://docs.aws.amazon.com/cli/latest/reference/iotthingsgraph/search-things.html) in *AWS CLI Command Reference*.

**tag-resource**

The following code example shows how to use tag-resource.

**AWS CLI**

To create a tag for a resource

The following tag-resource example creates a tag for the specified resource.
aws iotthingsgraph tag-resource \
   --resource-arn "arn:aws:iotthingsgraph:us-west-2:123456789012:Deployment/default/Room218" \
   --tags key="Type",value="Residential"

This command produces no output.

For more information, see Tagging Your AWS IoT Things Graph Resources in the AWS IoT Things Graph User Guide.

- For API details, see TagResource in AWS CLI Command Reference.

undeploy-system-instance

The following code example shows how to use undeploy-system-instance.

AWS CLI

To undeploy a system instance from its target

The following undeploy-system-instance example removes a system instance from its target.

aws iotthingsgraph undeploy-system-instance \
   --id "urn:tdm:us-west-2/123456789012/default:Deployment:Room215"

Output:

```
{
   "summary": {
      "id": "urn:tdm:us-west-2/123456789012/default:Deployment:Room215",
      "status": "PENDING_DELETE",
      "target": "GREENGRASS",
      "greengrassGroupName": "ThingsGraphGrnGr",
      "createdAt": 1553189694.255,
      "updatedAt": 1559344549.601,
      "greengrassGroupId": "01d04b07-2a51-467f-9d03-0c90b3cdcaaf",
      "greengrassGroupVersionId": "731b371d-d644-4b67-ac64-3934e99b75d7"
   }
}
```
untag-resource

The following code example shows how to use untag-resource.

**AWS CLI**

**To remove a tag for a resource**

The following untag-resource example removes a tag for the specified resource.

```bash
aws iotthingsgraph untag-resource \
  --resource-arn "arn:aws:iotthingsgraph:us-west-2:123456789012:Deployment/default/Room218" \
  --tag-keys "Type"
```

This command produces no output.

For more information, see [Tagging Your AWS IoT Things Graph Resources](https://docs.aws.amazon.com/iotthingsgraph/latest/userguide/tutorials/using-resource-tags.html) in the **AWS IoT Things Graph User Guide**.

- For API details, see [UntagResource](https://docs.aws.amazon.com/cli/latest/reference/iotthingsgraph/untag-resource.html) in **AWS CLI Command Reference**.

update-flow-template

The following code example shows how to use update-flow-template.

**AWS CLI**

**To update a flow**

The following update-flow-template example updates a flow (workflow). The value of MyFlowDefinition is the GraphQL that models the flow.

```bash
aws iotthingsgraph update-flow-template \
  --id "urn:tdm:us-west-2/123456789012/default:Workflow:MyFlow" \
  --definition language=GRAPHQL,text="MyFlowDefinition"
```
Output:

```
{
   "summary": {
      "createdAt": 1559248067.545,
      "revisionNumber": 2
   }
}
```

For more information, see [Working with Flows](#) in the *AWS IoT Things Graph User Guide*.

- For API details, see [UpdateFlowTemplate](#) in *AWS CLI Command Reference*.

**update-system-template**

The following code example shows how to use `update-system-template`.

**AWS CLI**

**To update a system**

The following `update-system-template` example updates a system. The value of `MySystemDefinition` is the GraphQL that models the system.

```bash
aws iotthingsgraph update-system-template \
   --id "urn:tdm:us-west-2/123456789012/default:System:MySystem" \
   --definition language=GRAPHQL,text="MySystemDefinition"
```

Output:

```
{
   "summary": {
      "createdAt": 1559249776.254,
      "id": "urn:tdm:us-west-2/123456789012/default:System:MySystem",
      "revisionNumber": 2
   }
}
```

For more information, see [Creating Systems](#) in the *AWS IoT Things Graph User Guide*. 
For API details, see UpdateSystemTemplate in AWS CLI Command Reference.

**upload-entity-definitions**

The following code example shows how to use upload-entity-definitions.

**AWS CLI**

**To upload entity definitions**

The following upload-entity-definitions example uploads entity definitions to your namespace. The value of MyEntityDefinitions is the GraphQL that models the entities.

```
aws iotthingsgraph upload-entity-definitions 
    --document language=GRAPHQL,text="MyEntityDefinitions"
```

Output:

```
{
    "uploadId": "f6294f1e-b109-4bbe-9073-f451a2dda2da"
}
```

For more information, see Modeling Entities in the AWS IoT Things Graph User Guide.

For API details, see UploadEntityDefinitions in AWS CLI Command Reference.

**AWS IoT Wireless examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS IoT Wireless.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.
Topics

- Actions

Actions

associate-aws-account-with-partner-account

The following code example shows how to use associate-aws-account-with-partner-account.

AWS CLI

To associate a partner account with your AWS account

The following associate-aws-account-with-partner-account example associates the following Sidewalk account credentials with your AWS account.

```
aws iotwireless associate-aws-account-with-partner-account \
    --sidewalk
    AmazonId="12345678901234",AppServerPrivateKey="a123b45c6d78e9f012a34cd5e6a7890b12c3d45e6f78a1b234c56d7e890a1234"
```

Output:

```
{
    "Sidewalk": {
        "AmazonId": "12345678901234",
        "AppServerPrivateKey": "a123b45c6d78e9f012a34cd5e6a7890b12c3d45e6f78a1b234c56d7e890a1234"
    }
}
```

For more information, see Amazon Sidewalk Integration for AWS IoT Core in the AWS IoT Developers Guide.

- For API details, see AssociateAwsAccountWithPartnerAccount in AWS CLI Command Reference.

associate-wireless-device-with-thing

The following code example shows how to use associate-wireless-device-with-thing.
AWS CLI

To associate a thing to a wireless device

The following `associate-wireless-device-with-thing` example associates a thing to your wireless device that has the specified ID.

```bash
aws iotwireless associate-wireless-device-with-thing \
   --id "12345678-a1b2-3c45-67d8-e90fa1b2c34d" \
   --thing-arn "arn:aws:iot:us-east-1:123456789012:thing/MyIoTWirelessThing"
```

This command produces no output.

For more information, see Add your gateways and wireless devices to AWS IoT Core for LoRaWAN in the AWS IoT Developers Guide.

- For API details, see `AssociateWirelessDeviceWithThing` in AWS CLI Command Reference.

associate-wireless-gateway-with-certificate

The following code example shows how to use `associate-wireless-gateway-with-certificate`.

AWS CLI

To associate the certificate with the wireless gateway

The following `associate-wireless-gateway-with-certificate` associates a wireless gateway with a certificate.

```bash
aws iotwireless associate-wireless-gateway-with-certificate \
   --id "12345678-a1b2-3c45-67d8-e90fa1b2c34d" \
   --iot-certificate-id \
   "a123b45c6d78e9f012a34cd5e6a7890b12c3d45e6f78a1b234c56d7e890a1234"
```

Output:

```json
{
   "IotCertificateId":
   "a123b45c6d78e9f012a34cd5e6a7890b12c3d45e6f78a1b234c56d7e890a1234"
}
```
For more information, see Add your gateways and wireless devices to AWS IoT Core for LoRaWAN in the AWS IoT Developers Guide.

- For API details, see AssociateWirelessGatewayWithCertificate in AWS CLI Command Reference.

associate-wireless-gateway-with-thing

The following code example shows how to use associate-wireless-gateway-with-thing.

AWS CLI

To associate a thing to a wireless gateway

The following associate-wireless-gateway-with-thing example associates a thing to a wireless gateway.

```
aws iotwireless associate-wireless-gateway-with-thing \
   --id "12345678-a1b2-3c45-67d8-e90fa1b2c34d" \
   --thing-arn "arn:aws:iot:us-east-1:123456789012:thing/MyIoTWirelessThing"
```

This command produces no output.

For more information, see Add your gateways and wireless devices to AWS IoT Core for LoRaWAN in the AWS IoT Developers Guide.

- For API details, see AssociateWirelessGatewayWithThing in AWS CLI Command Reference.

create-destination

The following code example shows how to use create-destination.

AWS CLI

To create an IoT wireless destination

The following create-destination example creates a destination for mapping a device message to an AWS IoT rule. Before you run this command, you must have created an IAM role that gives AWS IoT Core for LoRaWAN the permissions necessary to send data to the AWS IoT rule.

```
aws iotwireless create-destination \
   --name IoTWirelessDestination \
```
```
--expression-type RuleName \n--expression IoTWirelessRule \n--role-arn arn:aws:iam::123456789012:role/IoTWirelessDestinationRole
```

Output:
```
{
   "Arn": "arn:aws:iotwireless:us-east-1:123456789012:Destination/ IoTWirelessDestination",
   "Name": "IoTWirelessDestination"
}
```

For more information, see [Add destinations to AWS IoT Core for LoRaWAN](https://docs.aws.amazon.com/iotwireless/latest/dg/add-destinations.html) in the *AWS IoT Developers Guide*.

- For API details, see [CreateDestination](https://docs.aws.amazon.com/cli/latest/reference/iotwireless/create-destination.html) in *AWS CLI Command Reference*.

### create-device-profile

The following code example shows how to use `create-device-profile`.

**AWS CLI**

**To create a new device profile**

The following `create-device-profile` example creates a new IoT wireless device profile.

```bash
aws iotwireless create-device-profile
```

Output:
```
{
   "Arn": "arn:aws:iotwireless:us-east-1:123456789012:DeviceProfile/12345678-a1b2-3c45-67d8-e90fa1b2c34d",
   "Id": "12345678-a1b2-3c45-67d8-e90fa1b2c34d"
}
```

For more information, see [Add profiles to AWS IoT Core for LoRaWAN](https://docs.aws.amazon.com/iotwireless/latest/dg/add-profiles.html) in the *AWS IoT Developers Guide*.

- For API details, see [CreateDeviceProfile](https://docs.aws.amazon.com/cli/latest/reference/iotwireless/create-device-profile.html) in *AWS CLI Command Reference*.  

**create-service-profile**

The following code example shows how to use create-service-profile.

**AWS CLI**

**To create a new service profile**

The following create-service-profile example creates a new IoT wireless service profile.

```bash
aws iotwireless create-service-profile
```

Output:

```json
{
   "Arn": "arn:aws:iotwireless:us-east-1:123456789012:ServiceProfile/12345678-a1b2-3c45-67d8-e90fa1b2c34d",
   "Id": "12345678-a1b2-3c45-67d8-e90fa1b2c34d"
}
```

For more information, see [Add profiles to AWS IoT Core for LoRaWAN](https://docs.aws.amazon.com/iot-device-server/latest/developerguide/add-prof-LoRaWAN.html) in the AWS IoT Developers Guide.

- For API details, see [CreateServiceProfile](https://docs.aws.amazon.com/iotwireless/latest/APIReference/API_CreateServiceProfile.html) in AWS CLI Command Reference.

**create-wireless-device**

The following code example shows how to use create-wireless-device.

**AWS CLI**

**To create an IoT wireless device**

The following create-wireless-device example creates a wireless device resource of the type LoRaWAN.

```bash
aws iotwireless create-wireless-device \
--cli-input-json file://input.json
```

Contents of `input.json`:

```json
{

```
"Description": "My LoRaWAN wireless device"
"DestinationName": "IoTWirelessDestination"
"LoRaWAN": {
    "DeviceProfileId": "ab0c23d3-b001-45ef-6a01-2bc3de4f5333",
    "ServiceProfileId": "fe98dc76-cd12-001e-2d34-5550432da100",
    "OtaaV1_1": {
        "AppKey": "3f4ca100e2fc675ea123f4eb12c4a012",
        "JoinEui": "b4c231a359bc2e3d",
        "NwkKey": "01c3f004a2d6efffe32c4eda14bcd2b4"
    },
    "DevEui": "ac12efc654d23fc2"
},
"Name": "SampleIoTWirelessThing"
"Type": LoRaWAN
}

Output:

{
    "Arn": "arn:aws:iotwireless:us-east-1:123456789012:WirelessDevice/1ffd32c8-8130-4194-96df-622f072a315f",
    "Id": "1ffd32c8-8130-4194-96df-622f072a315f"
}

For more information, see Connecting devices and gateways to AWS IoT Core for LoRaWAN in the AWS IoT Developers Guide.

- For API details, see CreateWirelessDevice in AWS CLI Command Reference.

create-wireless-gateway

The following code example shows how to use create-wireless-gateway.

AWS CLI

To create a wireless gateway

The following create-wireless-gateway example creates a wireless LoRaWAN device gateway.

    aws iotwireless create-wireless-gateway
        --lorawan GatewayEui="a1b2c3d4567890ab",RfRegion="US915"
Output:

```json
{
    "Arn": "arn:aws:iotwireless:us-east-1:123456789012:WirelessGateway/12345678-a1b2-3c45-67d8-e90fa1b2c34d",
    "Id": "12345678-a1b2-3c45-67d8-e90fa1b2c34d"
}
```

For more information, see [Connecting devices and gateways to AWS IoT Core for LoRaWAN](https://docs.aws.amazon.com/iotwireless/latest/-developer-guide/lora-quickstart.html) in the *AWS IoT Developers Guide*.

- For API details, see [CreateWirelessGateway](https://docs.aws.amazon.com/cli/latest/reference/iotwireless/create-wireless-gateway.html) in *AWS CLI Command Reference*.

### create-wireless-gateway-task

The following code example shows how to use `create-wireless-gateway-task`.

**AWS CLI**

**To create the task for a wireless gateway**

The following `create-wireless-gateway-task` example creates a task for a wireless gateway.

```bash
aws iotwireless create-wireless-gateway-task \
    --id "12345678-a1b2-3c45-67d8-e90fa1b2c34d" \
    --wireless-gateway-task-definition-id "aa000102-0304-b0cd-ef56-a1b23cde456a"
```

Output:

```json
{
    "WirelessGatewayTaskDefinitionId": "aa204003-0604-30f0-ac82-a4f95aaf450a",
    "Status": "Success"
}
```

For more information, see [Connecting devices and gateways to AWS IoT Core for LoRaWAN](https://docs.aws.amazon.com/iotwireless/latest/developerguide/lora-quickstart.html) in the *AWS IoT Developers Guide*.

- For API details, see [CreateWirelessGatewayTask](https://docs.aws.amazon.com/cli/latest/reference/iotwireless/create-wireless-gateway-task.html) in *AWS CLI Command Reference*.
**create-wireless-gateway-task-definition**

The following code example shows how to use `create-wireless-gateway-task-definition`.

**AWS CLI**

**To create a wireless gateway task definition**

The following `create-wireless-gateway-task-definition` automatically creates tasks using this task definition for all gateways with the specified current version.

```
aws iotwireless create-wireless-gateway-task-definition \
   --cli-input-json file://input.json
```

Contents of `input.json`:

```json
{
   "AutoCreateTasks": true,
   "Name": "TestAutoUpdate",
   "Update":{
       "UpdateDataSource": "s3://cupsalphagafirmwarebin/station",
       "UpdateDataRole": "arn:aws:iam::001234567890:role/SDK_Test_Role",
       "LoRaWAN":{
           "CurrentVersion":{
               "PackageVersion": "1.0.0",
               "Station": "2.0.5",
               "Model": "linux"
           },
           "UpdateVersion":{
               "PackageVersion": "1.0.1",
               "Station": "2.0.5",
               "Model": "minihub"
           }
       }
   }
}
```

Output:

```json
{
   "Id": "b7d3baad-25c7-35e7-a4e1-1683a0d61da9"
}
```
For more information, see Connecting devices and gateways to AWS IoT Core for LoRaWAN in the AWS IoT Developers Guide.

- For API details, see CreateWirelessGatewayTaskDefinition in AWS CLI Command Reference.

delete-destination

The following code example shows how to use delete-destination.

AWS CLI

To delete an IoT wireless destination

The following delete-destination example deletes the wireless destination resource with the name IoTWirelessDestination that you created.

```
aws iotwireless delete-destination \\
   --name "IoTWirelessDestination"
```

This command produces no output.

For more information, see Add destinations to AWS IoT Core for LoRaWAN in the AWS IoT Developers Guide.

- For API details, see DeleteDestination in AWS CLI Command Reference.

delete-device-profile

The following code example shows how to use delete-device-profile.

AWS CLI

To delete a device profile

The following delete-device-profile example deletes a device profile with the specified ID that you created.

```
aws iotwireless delete-device-profile \\
   --id "12345678-a1b2-3c45-67d8-e90fa1b2c34d"
```

This command produces no output.
For more information, see Add profiles to AWS IoT Core for LoRaWAN in the AWS IoT Developers Guide.

- For API details, see DeleteDeviceProfile in AWS CLI Command Reference.

**delete-service-profile**

The following code example shows how to use delete-service-profile.

**AWS CLI**

**To delete a service profile**

The following delete-service-profile example deletes a service profile with the specified ID that you created.

```
aws iotwireless delete-service-profile \
 --id "12345678-a1b2-3c45-67d8-e90fa1b2c34d"
```

This command produces no output.

For more information, see Add profiles to AWS IoT Core for LoRaWAN in the AWS IoT Developers Guide.

- For API details, see DeleteServiceProfile in AWS CLI Command Reference.

**delete-wireless-device**

The following code example shows how to use delete-wireless-device.

**AWS CLI**

**To delete a wireless device**

The following delete-wireless-device example deletes a wireless device that has the specified ID.

```
aws iotwireless delete-wireless-device \
 --id "12345678-a1b2-3c45-67d8-e90fa1b2c34d"
```

This command produces no output.
For more information, see Connecting devices and gateways to AWS IoT Core for LoRaWAN in the AWS IoT Developers Guide.

- For API details, see DeleteWirelessDevice in AWS CLI Command Reference.

**delete-wireless-gateway**

The following code example shows how to use delete-wireless-gateway.

**AWS CLI**

**To delete a wireless gateway**

The following delete-wireless-gateway example deletes a wireless gateway that has the specified ID.

```
aws iotwireless delete-wireless-gateway \
    --id "12345678-a1b2-3c45-67d8-e90fa1b2c34d"
```

This command produces no output.

For more information, see Connecting devices and gateways to AWS IoT Core for LoRaWAN in the AWS IoT Developers Guide.

- For API details, see DeleteWirelessGateway in AWS CLI Command Reference.

**delete-wireless-gateway-task**

The following code example shows how to use delete-wireless-gateway-task.

**AWS CLI**

**To delete a wireless gateway task**

The following delete-wireless-gateway-task example deletes the wireless gateway task that has the specified ID.

```
aws iotwireless delete-wireless-gateway-task \
    --id "12345678-a1b2-3c45-67d8-e90fa1b2c34d"
```

This command produces no output.

### delete-wireless-gateway-task-definition

The following code example shows how to use `delete-wireless-gateway-task-definition`.  

**AWS CLI**

**To delete a wireless gateway task definition**

The following `delete-wireless-gateway-task-definition` example deletes the wireless gateway task definition that you created with the following ID.

```bash
aws iotwireless delete-wireless-gateway-task-definition --id "12345678-a1b2-3c45-67d8-e90fa1b2c34d"
```

This command produces no output.


### disassociate-aws-account-from-partner-account

The following code example shows how to use `disassociate-aws-account-from-partner-account`.

**AWS CLI**

**To disassociate the partner account from the AWS account**

The following `disassociate-aws-account-from-partner-account` example disassociates a partner account from your currently associated AWS account.

```bash
aws iotwireless disassociate-aws-account-from-partner-account --partner-account-id "12345678901234" --partner-type "Sidewalk"
```
This command produces no output.

For more information, see Add your gateways and wireless devices to AWS IoT Core for LoRaWAN in the AWS IoT Developers Guide.

- For API details, see DisassociateAwsAccountFromPartnerAccount in AWS CLI Command Reference.

disassociate-wireless-device-from-thing

The following code example shows how to use disassociate-wireless-device-from-thing.

AWS CLI

To disassociate the thing from the wireless device

The following disassociate-wireless-device-from-thing example disassociates a wireless device from its currently associated thing.

```
aws iotwireless disassociate-wireless-device-from-thing \
   --id "12345678-a1b2-3c45-67d8-e90fa1b2c34d"
```

This command produces no output.

For more information, see Add your gateways and wireless devices to AWS IoT Core for LoRaWAN in the AWS IoT Developers Guide.

- For API details, see DisassociateWirelessDeviceFromThing in AWS CLI Command Reference.

disassociate-wireless-gateway-from-certificate

The following code example shows how to use disassociate-wireless-gateway-from-certificate.

AWS CLI

To disassociate the certificate from the wireless gateway

The following disassociate-wireless-gateway-from-certificate disassociates a wireless gateway from its currently associated certificate.

```
aws iotwireless disassociate-wireless-gateway-from-certificate \
```
This command produces no output.

For more information, see Add your gateways and wireless devices to AWS IoT Core for LoRaWAN in the AWS IoT Developers Guide.

- For API details, see DisassociateWirelessGatewayFromCertificate in AWS CLI Command Reference.

**disassociate-wireless-gateway-from-thing**

The following code example shows how to use disassociate-wireless-gateway-from-thing.

**AWS CLI**

**To disassociate the thing from the wireless gateway**

The following disassociate-wireless-gateway-from-thing example disassociates a wireless gateway from its currently associated thing.

```
aws iotwireless disassociate-wireless-gateway-from-thing 
    --id "12345678-a1b2-3c45-67d8-e90fa1b2c34d"
```

This command produces no output.

For more information, see Add your gateways and wireless devices to AWS IoT Core for LoRaWAN in the AWS IoT Developers Guide.

- For API details, see DisassociateWirelessGatewayFromThing in AWS CLI Command Reference.

**get-destination**

The following code example shows how to use get-destination.

**AWS CLI**

**To get information about an IoT wireless destination**

The following get-destination example gets information about the destination resource with the name IoTWirelessDestination that you created.
aws iotwireless get-destination \
   --name "IoTWirelessDestination"

Output:

```json
{
   "Arn": "arn:aws:iotwireless:us-east-1:123456789012:Destination/IoTWirelessDestination",
   "Name": "IoTWirelessDestination",
   "Expression": "IoTWirelessRule",
   "ExpressionType": "RuleName",
   "RoleArn": "arn:aws:iam::123456789012:role/IoTWirelessDestinationRole"
}
```

For more information, see Add destinations to AWS IoT Core for LoRaWAN in the AWS IoT Developers Guide.

- For API details, see GetDestination in AWS CLI Command Reference.

**get-device-profile**

The following code example shows how to use get-device-profile.

**AWS CLI**

To get information about a device profile

The following get-device-profile example gets information about the device profile with the specified ID that you created.

```bash
aws iotwireless get-device-profile \
   --id "12345678-a1b2-3c45-67d8-e90fa1b2c34d"
```

Output:

```json
{
   "Arn": "arn:aws:iotwireless:us-east-1:123456789012:DeviceProfile/12345678-a1b2-3c45-67d8-e90fa1b2c34d",
   "Id": "12345678-a1b2-3c45-67d8-e90fa1b2c34d",
   "LoRaWAN": {
      "MacVersion": "1.0.3",
   }
}
```
"MaxDutyCycle": 10,
"Supports32BitFCnt": false,
"RegParamsRevision": "RP002-1.0.1",
"SupportsJoin": true,
"RfRegion": "US915",
"MaxEirp": 13,
"SupportsClassB": false,
"SupportsClassC": false
}

For more information, see Add profiles to AWS IoT Core for LoRaWAN in the AWS IoT Developers Guide.

- For API details, see GetDeviceProfile in AWS CLI Command Reference.

get-partner-account

The following code example shows how to use get-partner-account.

AWS CLI

To get the partner account information

The following get-partner-account example gets information about your Sidewalk account that has the following ID.

```bash
aws iotwireless get-partner-account \
  --partner-account-id "12345678901234" \
  --partner-type "Sidewalk"
```

Output:

```json
{
   "Sidewalk": {
      "AmazonId": "12345678901234",
      "Fingerprint": "a123b45c6d78e9f012a34cd5e6a7890b12c3d45e6f78a1b234c56d7e890a1234"
   },
   "AccountLinked": false
}
```
get-service-endpoint

The following code example shows how to use get-service-endpoint.

AWS CLI

To get the service endpoint

The following get-service-endpoint example gets the account-specific endpoint for CUPS protocol.

```
aws iotwireless get-service-endpoint
```

Output:

```
{
    "ServiceType": "CUPS",
    "ServiceEndpoint": "https://A1RMKZ37ACAGOT.cups.lorawan.us-east-1.amazonaws.com:443",
    "ServerTrust": "-----BEGIN CERTIFICATE-----
MIIECTCAzGwIBAgIBADCCBMIwH/AGEAM4GA1UdDwEB/wQEAwIBhjAdBgNVHQ4EFgQUWaRmBlKge5WSPKQWB/aEQCVgCggYDKrBhIj4j4wNhxplty6aUKk4T1qe9B0wKFWjK6zmxLvyYo7bHvIxSl36qOMPfge5n
1bDP+18x+B26A0piQ0UIQfKyDyeR4xQghfj66Yo19V+emU3azfvpFA+R0z6W0VMn
B5+F2pV8xeKRN7u6azDDU5YXV1AwprmxRC1+WSAYmz6qP+z8Ar1ITC2FMVby2fwn
0IjK0tEXC/VfmtTFch5+AfgYGMqmvj6LcXiAhqGSTI+Dr0Rtm88k+XUXBceQ8IGn
KuAnaL7tltKzYxK1MMuT7vJ9lbaGMBAAGjggE7MIIBNzASBgNVHRMBAf8ECDAGn
AQH/AgEAM4GA1UdDwEB/wQEAwIbhjADBGNHQ4EfGQUnRmBlKge5WSPKQUBYeWn
dFv5bpDawYVVR0jBBgwFaAuhBjMhTTsvAyUlC4IWZzHshB0CggwewYIKwYBBQUHn
AQEEbzbMCBCGCCsGAQUBFzABlhQwNNdHRwOi8vb2NzcC5y290Y2ExLmFtYXvpbnRy
DNX0LmNvbTA6BgrgBFbEQcwAoYuaHR0cDoovL2NydC5y290Y2ExLmFtYXvpbnRy
DNX0LmNvbTa5y290Y2ExLmNlY3jca/BgNVHRMBODADMBgBGqAvl+5odHRwOi8vY3Js
LjNjb3RjYTEuYWh1hem9udHJ1c3QuY29tL3Jvb3RjYTEuY3JsMBMGA1UDIAQIMAow
```
For more information, see [Connecting devices and gateways to AWS IoT Core for LoRaWAN](https://docs.aws.amazon.com/iot-developer-guide/iot-core-for-lorawan.html) in the [AWS IoT Developers Guide](https://docs.aws.amazon.com/iot-developer-guide/).


### get-service-profile

The following code example shows how to use `get-service-profile`.

**AWS CLI**

To get information about a service profile

The following `get-service-profile` example gets information about the service profile with the specified ID that you created.

```
aws iotwireless get-service-profile \
  --id "12345678-a1b2-3c45-67d8-e90fa1b2c34d"
```

Output:

```json
{
  "Arn": "arn:aws:iotwireless:us-east-1:651419225604:ServiceProfile/538185bb-d7e7-4b95-96a0-c51aa4a5b9a0",
  "Id": "12345678-a1b2-3c45-67d8-e90fa1b2c34d",
  "LoRaWAN": {
    "HrAllowed": false,
    "NwkGeoLoc": false,
    "DrMax": 15,
    "UlBucketSize": 4096,
    "PrAllowed": false,
    "ReportDevStatusBattery": false,
    "DrMin": 0,
  }
}```
"DlRate": 60,
"AddGwMetadata": false,
"ReportDevStatusMargin": false,
"MinGwDiversity": 1,
"RaAllowed": false,
"DlBucketSize": 4096,
"DevStatusReqFreq": 24,
"TargetPer": 5,
"UlRate": 60
}
}

For more information, see [Add profiles to AWS IoT Core for LoRaWAN](https://docs.aws.amazon.com/iot/latest/developerguide/add-profiles-lorawan.html) in the *AWS IoT Developers Guide*.

- For API details, see [GetServiceProfile](https://docs.aws.amazon.com/cli/latest/reference/iotwireless/get-service-profile.html) in *AWS CLI Command Reference*.

### get-wireless-device

The following code example shows how to use `get-wireless-device`.

**AWS CLI**

#### To get information about the wireless device

The following `get-wireless-device` example lists the available widgets in your AWS account.

```bash
aws iotwireless get-wireless-device \
   --identifier "1ffd32c8-8130-4194-96df-622f072a315f" \
   --identifier-type WirelessDeviceID
```

**Output:**

```
{
   "Name": "myLoRaWANDevice",
   "ThingArn": "arn:aws:iot:us-east-1:123456789012:thing/44b87eb4-9bce-423d-b5fc-973f5ecc358b",
   "DestinationName": "IoTWirelessDestination",
   "Id": "1ffd32c8-8130-4194-96df-622f072a315f",
   "ThingName": "44b87eb4-9bce-423d-b5fc-973f5ecc358b",
   "Type": "LoRaWAN",
```
"LoRaWAN": {
    "DeviceProfileId": "ab0c23d3-b001-45ef-6a01-2bc3de4f5333",
    "ServiceProfileId": "fe98dc76-cd12-001e-2d34-5550432da100",
    "OtaaV1_1": {
        "AppKey": "3f4ca100e2fc675ea123f4eb12c4a012",
        "JoinEui": "b4c231a359bc2e3d",
        "NwkKey": "01c3f004a2d6efffe32c4eda14bcd2b4"
    },
    "DevEui": "ac12efc654d23fc2"
},
"Arn": "arn:aws:iotwireless:us-east-1:123456789012:WirelessDevice/1ffd32c8-8130-4194-96df-622f072a315f",
"Description": "My LoRaWAN wireless device"
}

For more information, see [Connecting devices and gateways to AWS IoT Core for LoRaWAN](https://docs.aws.amazon.com/iotwireless/latest/developerguide/connect-devices-to-iot-core-lorawan.html) in the [AWS IoT Developers Guide](https://docs.aws.amazon.com/iot/latest/developerguide/).


### get-wireless-device-statistics

The following code example shows how to use `get-wireless-device-statistics`.

**AWS CLI**

**To get operating information about a wireless device**

The following `get-wireless-device-statistics` example gets operating information about a wireless device.

```bash
aws iotwireless get-wireless-device-statistics \
    --wireless-device-id "1ffd32c8-8130-4194-96df-622f072a315f"
```

**Output:**

```json
{
    "WirelessDeviceId": "1ffd32c8-8130-4194-96df-622f072a315f"
}
```

For more information, see [Connecting devices and gateways to AWS IoT Core for LoRaWAN](https://docs.aws.amazon.com/iotwireless/latest/developerguide/connect-devices-to-iot-core-lorawan.html) in the [AWS IoT Developers Guide](https://docs.aws.amazon.com/iot/latest/developerguide/).
get-wireless-gateway

The following code example shows how to use get-wireless-gateway.

AWS CLI

To get information about a wireless gateway

The following get-wireless-gateway example gets information about the wireless gateway myFirstLoRaWANGateway.

```bash
aws iotwireless get-wireless-gateway \
   --identifier "12345678-a1b2-3c45-67d8-e90fa1b2c34d" \
   --identifier-type WirelessGatewayId
```

Output:

```json
{
   "Description": "My first LoRaWAN gateway",
   "ThingArn": "arn:aws:iot:us-east-1:123456789012:thing/a1b2c3d4-5678-90ab-cdef-12ab345c67de",
   "LoRaWAN": {
      "RfRegion": "US915",
      "GatewayEui": "a1b2c3d4567890ab"
   },
   "ThingName": "a1b2c3d4-5678-90ab-cdef-12ab345c67de",
   "Id": "12345678-a1b2-3c45-67d8-e90fa1b2c34d",
   "Arn": "arn:aws:iotwireless:us-east-1:123456789012:WirelessGateway/6c44ab31-8b4d-407a-bed3-19b6c7cda551",
   "Name": "myFirstLoRaWANGateway"
}
```

For more information, see Connecting devices and gateways to AWS IoT Core for LoRaWAN in the AWS IoT Developers Guide.

For API details, see GetWirelessGateway in AWS CLI Command Reference.

get-wireless-gateway-certificate

The following code example shows how to use get-wireless-gateway-certificate.
**AWS CLI**

**To get the ID of a certificate associated with a wireless gateway**

The following `get-wireless-gateway-certificate` example gets the certificate ID associated with a wireless gateway that has the specified ID.

```bash
aws iotwireless get-wireless-gateway-certificate \
   --id "6c44ab31-8b4d-407a-bed3-19b6c7cda551"
```

Output:

```json
{
   "IotCertificateId":
   "8ea4aeae3db34c78cce75d9abd830356869ead6972997e0603e5fd032c804b6f"
}
```

For more information, see [Connecting devices and gateways to AWS IoT Core for LoRaWAN](https://docs.aws.amazon.com/iotwireless/latest/developerguide/lorawan-aws-iot-core.html) in the [AWS IoT Developers Guide](https).


**get-wireless-gateway-firmware-information**

The following code example shows how to use `get-wireless-gateway-firmware-information`.

**AWS CLI**

**To get firmware information about a wireless gateway**

The following `get-wireless-gateway-firmware-information` example gets firmware version and other information about a wireless gateway.

```bash
aws iotwireless get-wireless-gateway-firmware-information \
   --id "3039b406-5cc9-4307-925b-9948c63da25b"
```

Output:

```json
{
   "LoRaWAN" :{

```

**Actions and scenarios**
For more information, see Connecting devices and gateways to AWS IoT Core for LoRaWAN in the AWS IoT Developers Guide.

- For API details, see GetWirelessGatewayFirmwareInformation in AWS CLI Command Reference.

get-wireless-gateway-statistics

The following code example shows how to use get-wireless-gateway-statistics.

**AWS CLI**

**To get operating information about a wireless gateway**

The following get-wireless-gateway-statistics example gets operating information about a wireless gateway.

```
aws iotwireless get-wireless-gateway-statistics \
    --wireless-gateway-id "3039b406-5cc9-4307-925b-9948c63da25b"
```

Output:

```
{
    "WirelessGatewayId": "3039b406-5cc9-4307-925b-9948c63da25b"
}
```

For more information, see Connecting devices and gateways to AWS IoT Core for LoRaWAN in the AWS IoT Developers Guide.

- For API details, see GetWirelessGatewayStatistics in AWS CLI Command Reference.

get-wireless-gateway-task

The following code example shows how to use get-wireless-gateway-task.
AWS CLI

To get information about the wireless gateway task

The following get-wireless-gateway-task example gets information about the wireless gateway task with the specified ID.

```
aws iotwireless get-wireless-gateway-task \
   --id "11693a46-6866-47c3-a031-c9a616e7644b"
```

Output:

```
{
   "WirelessGatewayId": "6c44ab31-8b4d-407a-bed3-19b6c7cda551",
   "WirelessGatewayTaskDefinitionId": "b7d3baad-25c7-35e7-a4e1-1683a0d61da9",
   "Status": "Success"
}
```

For more information, see [Connecting devices and gateways to AWS IoT Core for LoRaWAN](https://docs.aws.amazon.com/iot/latest/developerguide/lorawan.html) in the [AWS IoT Developers Guide](https://docs.aws.amazon.com/iot/latest/developerguide/lorawan.html).


get-wireless-gateway-task-definition

The following code example shows how to use get-wireless-gateway-task-definition.

AWS CLI

To get information about a wireless gateway task definition

The following get-wireless-gateway-task-definition example gets information about the wireless task definition with the specified ID.

```
aws iotwireless get-wireless-gateway-task-definition \
   --id "b7d3baad-25c7-35e7-a4e1-1683a0d61da9"
```

Output:

```
{
   "AutoCreateTasks": true,
```
For more information, see Connecting devices and gateways to AWS IoT Core for LoRaWAN in the AWS IoT Developers Guide.

- For API details, see GetWirelessGatewayTaskDefinition in AWS CLI Command Reference.

### list-destinations

The following code example shows how to use list-destinations.

**AWS CLI**

**To list the wireless destinations**

The following list-destinations example lists the available destinations registered to your AWS account.

```bash
aws iotwireless list-destinations
```

**Output:**

```json
{
    "DestinationList": [
    {
```
For more information, see Add destinations to AWS IoT Core for LoRaWAN in the AWS IoT Developers Guide.

• For API details, see ListDestinations in AWS CLI Command Reference.

**list-device-profiles**

The following code example shows how to use list-device-profiles.

**AWS CLI**

**To list the device profiles**

The following list-device-profiles example lists the available device profiles registered to your AWS account.

```
aws iotwireless list-device-profiles
```

**Output:**

```
{
   "DeviceProfileList": [
   {
      "Id": "12345678-a1b2-3c45-67d8-e90fa1b2c34d",
```
"Arn": "arn:aws:iotwireless:us-east-1:123456789012:DeviceProfile/12345678-a1b2-3c45-67d8-e90fa1b2c34d",
  
  "Id": "a1b2c3d4-5678-90ab-cdef-12ab345c67de",
  "Arn": "arn:aws:iotwireless:us-east-1:123456789012:DeviceProfile/a1b2c3d4-5678-90ab-cdef-12ab345c67de"
]
}

For more information, see Add profiles to AWS IoT Core for LoRaWAN in the AWS IoT Developers Guide.

- For API details, see ListDeviceProfiles in AWS CLI Command Reference.

**list-partner-accounts**

The following code example shows how to use list-partner-accounts.

**AWS CLI**

**To list the partner accounts**

The following list-partner-accounts example lists the available partner accounts associated with your AWS account.

```
aws iotwireless list-partner-accounts
```

**Output:**

```
{
  "Sidewalk": [
    {
      "AmazonId": "78965678771228",
      "Fingerprint":
      "bd96d8ef66dbfd2160eb60e156849e82ad7018b8b73c1ba0b4fc65c32498ee35"
    },
    {
      "AmazonId": "89656787651228",
      "Fingerprint":
      "bc5e99e151c07be14be7e6603e4489c53f858b271213a36ebe3370777ba06e9b"
    }
  ]
}```
The following code example shows how to use `list-service-profiles`.

**AWS CLI**

**To list the service profiles**

The following `list-service-profiles` example lists the available service profiles registered to your AWS account.

```
aws iotwireless list-service-profiles
```

Output:

```
{
   "ServiceProfileList": [
   {
      "Id": "12345678-a1b2-3c45-67d8-e90fa1b2c34d",
      "Arn": "arn:aws:iotwireless:us-east-1:123456789012:ServiceProfile/538185bb-d7e7-4b95-96a0-c51aa4a5b9a0"
   },
   {
      "Id": "a1b2c3d4-5678-90ab-cdef-12ab345c67de",
      "Arn": "arn:aws:iotwireless:us-east-1:123456789012:ServiceProfile/e8bc823-5d13-472e-8d26-9550737d8100"
   }
   ]
}
```

For more information, see [Add profiles to AWS IoT Core for LoRaWAN](https://docs.aws.amazon.com/iotwireless/howto/aws-iot-core-lorawan-profiles.html) in the *AWS IoT Developers Guide*.

- For API details, see [ListServiceProfiles](https://docs.aws.amazon.com/cli/latest/reference/iotwireless/list-service-profiles.html) in *AWS CLI Command Reference*.
list-tags-for-resource

The following code example shows how to use list-tags-for-resource.

AWS CLI

To list the tags assigned to the resource

The following list-tags-for-resource example lists the tags assigned to a wireless destination resource.

```bash
aws iotwireless list-tags-for-resource \
    --resource-arn "arn:aws:iotwireless:us-east-1:123456789012:Destination/IoTWirelessDestination"
```

Output:

```
{
    "Tags": [
        {
            "Value": "MyValue",
            "Key": "MyTag"
        }
    ]
}
```

For more information, see Describe your AWS IoT Core for LoRaWAN resources in the AWS IoT Developers Guide.

- For API details, see ListTagsForResource in AWS CLI Command Reference.

list-wireless-devices

The following code example shows how to use list-wireless-devices.

AWS CLI

To list the available wireless devices

The following list-wireless-devices example lists the available wireless devices registered to your AWS account.
aws iotwireless list-wireless-devices

Output:

```json
{
    "WirelessDeviceList": [
        {
            "Name": "myLoRaWANDevice",
            "DestinationName": "IoTWirelessDestination",
            "Id": "1ffd32c8-8130-4194-96df-622f072a315f",
            "Type": "LoRaWAN",
            "LoRaWAN": {
                "DevEui": "ac12efc654d23fc2"
            },
            "Arn": "arn:aws:iotwireless:us-east-1:123456789012:WirelessDevice/1ffd32c8-8130-4194-96df-622f072a315f"
        }
    ]
}
```

For more information, see Connecting devices and gateways to AWS IoT Core for LoRaWAN in the AWS IoT Developers Guide.

- For API details, see ListWirelessDevices in AWS CLI Command Reference.

### list-wireless-gateway-task-definitions

The following code example shows how to use list-wireless-gateway-task-definitions.

#### AWS CLI

**To list the wireless gateway task definitions**

The following list-wireless-gateway-task-definitions example lists the available wireless gateway task definitions registered to your AWS account.

```bash
aws iotwireless list-wireless-gateway-task-definitions
```

Output:

```json
{
    
```
"TaskDefinitions": [
   {
      "Id": "b7d3baad-25c7-35e7-a4e1-1683a0d61da9",
      "LoRaWAN" :
      {
         "CurrentVersion" :{
            "PackageVersion" : "1.0.0",
            "Station" : "2.0.5",
            "Model" : "linux"
         },
         "UpdateVersion" :{
            "PackageVersion" : "1.0.1",
            "Station" : "2.0.5",
            "Model" : "minihub"
         }
      }
   }
]}

For more information, see Connecting devices and gateways to AWS IoT Core for LoRaWAN in the AWS IoT Developers Guide.

- For API details, see ListWirelessGatewayTaskDefinitions in AWS CLI Command Reference.

**list-wireless-gateways**

The following code example shows how to use list-wireless-gateways.

**AWS CLI**

**To list the wireless gateways**

The following list-wireless-gateways example lists the available wireless gateways in your AWS account.

```
aws iotwireless list-wireless-gateways
```

Output:

```json
{
   "WirelessGatewayList": [
```
{"Description": "My first LoRaWAN gateway",
"LoRaWAN": {
    "RfRegion": "US915",
    "GatewayEui": "dac632ebc01d23e4"
},
"Id": "3039b406-5cc9-4307-925b-9948c63da25b",
"Name": "myFirstLoRaWANGateway"
},
{"Description": "My second LoRaWAN gateway",
"LoRaWAN": {
    "RfRegion": "US915",
    "GatewayEui": "cda123fffe92ecd2"
},
"Id": "3285bdc7-5a12-4991-84ed-dadca65e342e",
"Name": "mySecondLoRaWANGateway"
}
}

For more information, see Connecting devices and gateways to AWS IoT Core for LoRaWAN in the AWS IoT Developers Guide.

- For API details, see ListWirelessGateways in AWS CLI Command Reference.

**send-data-to-wireless-device**

The following code example shows how to use send-data-to-wireless-device.

**AWS CLI**

To send data to the wireless device

The following send-data-to-wireless-device example sends a decrypted application data frame to the wireless device.

```
aws iotwireless send-data-to-wireless-device \
--id "11aa5eae-2f56-4b8e-a023-b28d98494e49" \
```
Output:

```
{
  MessageId: "6011dd36-0043d6eb-0072-0008"
}
```

For more information, see Connecting devices and gateways to AWS IoT Core for LoRaWAN in the AWS IoT Developers Guide.

- For API details, see SendDataToWirelessDevice in AWS CLI Command Reference.

**tag-resource**

The following code example shows how to use `tag-resource`.

**AWS CLI**

**To specify a tag key and value for a resource**

The following `tag-resource` example tags the wireless destination IoTWirelessDestination with the key MyTag and value MyValue.

```
aws iotwireless tag-resource \
  --resource-arn "arn:aws:iotwireless:us-east-1:651419225604:Destination/\n  IoTWirelessDestination" \
  --tags Key="MyTag",Value="MyValue"
```

This command produces no output.

For more information, see Describe your AWS IoT Core for LoRaWAN resources in the AWS IoT Developers Guide.

- For API details, see TagResource in AWS CLI Command Reference.

**test-wireless-device**

The following code example shows how to use `test-wireless-device`.

```
AWS CLI

To test the wireless device

The following test-wireless-device example sends uplink data of Hello to a device with specified ID.

```
aws iotwireless test-wireless-device \
    --id "11aa5eae-2f56-4b8e-a023-b28d98494e49"
```

Output:

```
{
    Result: "Test succeeded. one message is sent with payload: hello"
}
```

For more information, see Connecting devices and gateways to AWS IoT Core for LoRaWAN in the AWS IoT Developers Guide.

- For API details, see TestWirelessDevice in AWS CLI Command Reference.

untag-resource

The following code example shows how to use untag-resource.

AWS CLI

To remove one or more tags from a resource

The following untag-resource example removes the tag MyTag and its value from the wireless destination IoTWirelessDestination.

```
aws iotwireless untag-resource \
    --resource-arn "arn:aws:iotwireless:us-east-1:123456789012:Destination/IoTWirelessDestination" \
    --tag-keys "MyTag"
```

This command produces no output.

For more information, see Describe your AWS IoT Core for LoRaWAN resources in the AWS IoT Developers Guide.
AWS Command Line Interface

- For API details, see UntagResource in AWS CLI Command Reference.

update-destination

The following code example shows how to use update-destination.

**AWS CLI**

_**To update the properties of a destination**_

The following update-destination example updates the description property of a wireless destination.

```bash
aws iotwireless update-destination \
   --name "IoTWirelessDestination" \
   --description "Destination for messages processed using IoTWirelessRule"
```

This command produces no output.

For more information, see Add destinations to AWS IoT Core for LoRaWAN in the AWS IoT Developers Guide.

- For API details, see UpdateDestination in AWS CLI Command Reference.

update-partner-account

The following code example shows how to use update-partner-account.

**AWS CLI**

_**To update the properties of a partner account**_

The following update-partner-account updates the AppServerPrivateKey for the account that has the specified ID.

```bash
aws iotwireless update-partner-account \
   --partner-account-id "78965678771228" \
   --partner-type "Sidewalk" \
   --sidewalk
   AppServerPrivateKey="f798ab4899346a88599180fee9e14fa1ada7b6df989425b7c6d2146dd6c815bb"
```

This command produces no output.
For more information, see Amazon Sidewalk Integration for AWS IoT Core in the AWS IoT Developers Guide.

- For API details, see UpdatePartnerAccount in AWS CLI Command Reference.

**update-wireless-device**

The following code example shows how to use `update-wireless-device`.

**AWS CLI**

**To update the properties of a wireless device**

The following `update-wireless-device` example updates the properties of a wireless device registered to your AWS account.

```bash
aws iotwireless update-wireless-device \
  --id "1ffd32c8-8130-4194-96df-622f072a315f" \
  --destination-name IoTWirelessDestination2 \
  --description "Using my first LoRaWAN device"
```

This command produces no output.

For more information, see Connecting devices and gateways to AWS IoT Core for LoRaWAN in the AWS IoT Developers Guide.

- For API details, see UpdateWirelessDevice in AWS CLI Command Reference.

**update-wireless-gateway**

The following code example shows how to use `update-wireless-gateway`.

**AWS CLI**

**To update the wireless gateway**

The following `update-wireless-gateway` example updates the description of your wireless gateway.

```bash
aws iotwireless update-wireless-gateway \
  --id "3285bdc7-5a12-4991-84ed-dadca65e342e" \
  --description "Using my LoRaWAN gateway"
```
This command produces no output.

For more information, see [Connecting devices and gateways to AWS IoT Core for LoRaWAN](https://aws.amazon.com/iot-devices/guides/lorawan/) in the *AWS IoT Developers Guide*.


## Amazon IVS examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon IVS.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

### Topics

- [Actions](#actions)

### Actions

#### batch-get-channel

The following code example shows how to use `batch-get-channel`.

**AWS CLI**

**To get channel configuration information about multiple channels**

The following `batch-get-channel` example lists information about the specified channels.

```bash
aws ivs batch-get-channel \
  --arns arn:aws:ivs:us-west-2:123456789012:channel/abcdABCDefgh \
  arn:aws:ivs:us-west-2:123456789012:channel/efghEFGHijkl
```
Output:

```json
{
  "channels": [
    {
      "authorized": false,
      "ingestEndpoint": "a1b2c3d4e5f6.global-contribute.live-video.net",
      "insecureIngest": false,
      "latencyMode": "LOW",
      "name": "channel-1",
      "playbackUrl": "https://a1b2c3d4e5f6.us-west-2.playback.live-video.net/api/video/v1/us-west-2.123456789012.channel-1.abcdEFGH.m3u8",
      "preset": "",
      "tags": {},
      "type": "STANDARD"
    },
    {
      "authorized": false,
      "ingestEndpoint": "a1b2c3d4e5f6.global-contribute.live-video.net",
      "insecureIngest": true,
      "latencyMode": "LOW",
      "name": "channel-2",
      "playbackUrl": "https://a1b2c3d4e5f6.us-west-2.playback.live-video.net/api/video/v1/us-west-2.123456789012.channel-2.abcdEFGH.m3u8",
      "preset": "",
      "recordingConfigurationArn": "",
      "tags": {},
      "type": "STANDARD"
    }
  ]
}
```

For more information, see [Create a Channel](https://docs.aws.amazon.com/ivs/latest/userguide/create-channel.html) in the *Amazon Interactive Video Service User Guide*.

- For API details, see [BatchGetChannel](https://docs.aws.amazon.com/cli/latest/reference/ivs/batch-get-channel.html) in *AWS CLI Command Reference*.

**batch-get-stream-key**

The following code example shows how to use `batch-get-stream-key`.
**AWS CLI**

**To get information about multiple stream keys**

The following batch-get-stream-key example gets information about the specified stream keys.

```bash
aws ivs batch-get-stream-key \
  --arns arn:aws:ivs:us-west-2:123456789012:stream-key/skSKABCDefgh \
  arn:aws:ivs:us-west-2:123456789012:stream-key/skSKIJKLmnop
```

Output:

```json
{
  "streamKeys": [
    {
      "value": "sk_us-west-2_abcdABCDefgh_567890abcdef",
      "channelArn": "arn:aws:ivs:us-west-2:123456789012:channel/abcdABCDefgh",
      "tags": {}
    },
    {
      "value": "sk_us-west-2_abcdABCDefgh_567890ghijkl",
      "channelArn": "arn:aws:ivs:us-west-2:123456789012:channel/abcdABCDefgh",
      "tags": {}
    }
  ]
}
```

For more information, see [Create a Channel](https://docs.aws.amazon.com/ivs/latest/userguide/) in the *Amazon Interactive Video Service User Guide*.

- For API details, see [BatchGetStreamKey](https://docs.aws.amazon.com/cli/latest/reference/ivs/batch-get-stream-key.html) in *AWS CLI Command Reference*.

**batch-start-viewer-session-revocation**

The following code example shows how to use batch-start-viewer-session-revocation.

**AWS CLI**

**To revoke viewer sessions for multiple channel-ARN and viewer-ID pairs**
The following `batch-start-viewer-session-revocation` example performs session revocation on multiple channel-ARN and viewer-ID pairs simultaneously. The request may complete normally but return values in the errors field if the caller does not have permission to revoke specified session.

```
aws ivs batch-start-viewer-session-revocation \
  --viewer-sessions '[["channelArn":"arn:aws:ivs:us-west-2:123456789012:channel/abcdABCDefgh1","viewerId":"abcdefg1","viewerSessionVersionsLessThanOrEqualTo":1234567890}, \
   {"channelArn":"arn:aws:ivs:us-west-2:123456789012:channel/abcdABCDefgh2","viewerId":"abcdefg2","viewerSessionVersionsLessThanOrEqualTo":1234567890}]]'
```

Output:

```
{
  "errors": [
    {
      "channelArn": "arn:aws:ivs:us-west-2:123456789012:channel/abcdABCDefgh1",
      "viewerId": "abcdefg1",
      "code": "403",
      "message": "not authorized",
    },
    {
      "channelArn": "arn:aws:ivs:us-west-2:123456789012:channel/abcdABCDefgh2",
      "viewerId": "abcdefg2",
      "code": "403",
      "message": "not authorized",
    }
  ]
}
```

For more information, see [Setting Up Private Channels](https://docs.aws.amazon.com/ivs/latest/userguide/privatechannel.html) in the *Amazon Interactive Video Service User Guide*.

- For API details, see [BatchStartViewerSessionRevocation](https://docs.aws.amazon.com/cli/latest/reference/ivs/batch-start-viewer-session-revocation.html) in *AWS CLI Command Reference*.

### create-channel

The following code example shows how to use `create-channel`. 

```
### AWS CLI

**Example 1: To create a channel with no recording**

The following `create-channel` example creates a new channel and an associated stream key to start streaming.

```
aws ivs create-channel \
   --name "test-channel" \
   --no-insecure-ingest
```

**Output:**

```
{
   "channel": {
      "authorized": false,
      "name": "test-channel",
      "latencyMode": "LOW",
      "recordingConfigurationArn": "",
      "ingestEndpoint": "a1b2c3d4e5f6.global-contribute.live-video.net",
      "insecureIngest": false,
      "playbackUrl": "https://a1b2c3d4e5f6.us-west-2.playback.live-video.net/api/video/v1/us-west-2.123456789012.channel.abcdEFGH.m3u8",
      "preset": "",
      "tags": {},
      "type": "STANDARD"
   },
   "streamKey": {
      "arn": "arn:aws:ivs:us-west-2:123456789012:stream-key/g1H2I3j4k5L6",
      "value": "sk_us-west-2_abcdABCDefgh_567890abcdef",
      "channelArn": "arn:aws:ivs:us-west-2:123456789012:channel/abcdABCDefgh",
      "tags": {}
   }
}
```

For more information, see [Create a Channel](#) in the *Amazon Interactive Video Service User Guide*.

**Example 2: To create a channel with recording enabled, using the RecordingConfiguration resource specified by its ARN**

The following `create-channel` example creates a new channel and an associated stream key to start streaming, and sets up recording for the channel:
aws ivs create-channel \
   --name test-channel-with-recording \
   --insecure-ingest \

Output:

```
{
  "channel": {
    "arn": "arn:aws:ivs:us-west-2:123456789012:channel/abcdABCDEFGh",
    "name": "test-channel-with-recording",
    "latencyMode": "LOW",
    "type": "STANDARD",
    "ingestEndpoint": "a1b2c3d4e5f6.global-contribute.live-video.net",
    "insecureIngest": true,
    "playbackUrl": "https://a1b2c3d4e5f6.us-west-2.playback.live-video.net/api/video/v1/us-west-2.123456789012.channel.abcdEFGH.m3u8",
    "preset": "",
    "authorized": false,
    "tags": {},
    "type": "STANDARD"
  },
  "streamKey": {
    "arn": "arn:aws:ivs:us-west-2:123456789012:stream-key/abcdABCDEFGh",
    "value": "sk_us-west-2_abcdABCDEFGh_567890abcdef",
    "channelArn": "arn:aws:ivs:us-west-2:123456789012:channel/abcdABCDEFGh",
    "tags": {}
  }
}
```

For more information, see [Record to Amazon S3](https://docs.aws.amazon.com/ivs/latest/userguide/index.html) in the *Amazon Interactive Video Service User Guide*.

- For API details, see [CreateChannel](https://docs.aws.amazon.com/cli/latest/reference/ivs/create-channel.html) in *AWS CLI Command Reference*.

### create-recording-configuration

The following code example shows how to use `create-recording-configuration`.
To create a RecordingConfiguration resource

The following create-recording-configuration example creates a RecordingConfiguration resource to enable recording to Amazon S3.

```
aws ivs create-recording-configuration \
  --name "test-recording-config" \
  --recording-reconnect-window-seconds 60 \
  --tags "key1=value1, key2=value2" \
  --rendition-configuration renditionSelection="CUSTOM",renditions="HD" \
  --thumbnail-configuration recordingMode="INTERVAL",targetIntervalSeconds=1,storage="LATEST",resolution="LOWEST_RESOLUTION" \
  --destination-configuration s3={bucketName=demo-recording-bucket}
```

Output:

```
{
  "recordingConfiguration": {
    "name": "test-recording-config",
    "destinationConfiguration": {
      "s3": {
        "bucketName": "demo-recording-bucket"
      }
    },
    "state": "CREATING",
    "tags": {
      "key1": "value1",
      "key2": "value2"
    },
    "thumbnailConfiguration": {
      "recordingMode": "INTERVAL",
      "targetIntervalSeconds": 1,
      "resolution": "LOWEST_RESOLUTION",
      "storage": [
        "LATEST"
      ],
      "recordingReconnectWindowSeconds": 60,
    }
  }
}
```
"renditionConfiguration": {  
    "renditionSelection": "CUSTOM",  
    "renditions": [  
        "HD"  
    ]  
}  
}

For more information, see Record to Amazon S3 in the Amazon Interactive Video Service User Guide.

- For API details, see CreateRecordingConfiguration in AWS CLI Command Reference.

create-stream-key

The following code example shows how to use create-stream-key.

AWS CLI

To create a stream key

The following create-stream-key example creates a stream key for a specified ARN (Amazon Resource Name).

```
aws ivs create-stream-key \
    --channel-arn arn:aws:ivs:us-west-2:123456789012:channel/abcdABCDefgh
```

Output:

```
{
    "streamKey": {
        "value": "sk_us-west-2_abcdABCDefgh_567890abcdef",
        "channelArn": "arn:aws:ivs:us-west-2:123456789012:channel/abcdABCDefgh",
        "tags": {}
    }
}
```

For more information, see Create a Channel in the Amazon Interactive Video Service User Guide.

- For API details, see CreateStreamKey in AWS CLI Command Reference.
delete-channel

The following code example shows how to use delete-channel.

AWS CLI

To delete a channel and its associated stream keys

The following delete-channel example deletes the channel with the specified ARN (Amazon Resource Name).

```
aws ivs delete-channel \
```

This command produces no output.

For more information, see Create a Channel in the Amazon Interactive Video Service User Guide.

- For API details, see DeleteChannel in AWS CLI Command Reference.

delete-playback-key-pair

The following code example shows how to use delete-playback-key-pair.

AWS CLI

To delete a specified playback key pair

The following delete-playback-key-pair example returns the fingerprint of the specified key pair.

```
aws ivs delete-playback-key-pair \
```

This command produces no output.

For more information, see Setting Up Private Channels in the Amazon Interactive Video Service User Guide.

- For API details, see DeletePlaybackKeyPair in AWS CLI Command Reference.
delete-recording-configuration

The following code example shows how to use delete-recording-configuration.

AWS CLI

To delete the RecordingConfiguration resource specified by its ARN

The following delete-recording-configuration example deletes the RecordingConfiguration resource with the specified ARN.

```bash
aws ivs delete-recording-configuration \  
    --arn "arn:aws:ivs:us-west-2:123456789012:recording-configuration/ABcdef34ghIJ"
```

This command produces no output.

For more information, see Record to Amazon S3 in the Amazon Interactive Video Service User Guide.

- For API details, see DeleteRecordingConfiguration in AWS CLI Command Reference.

delete-stream-key

The following code example shows how to use delete-stream-key.

AWS CLI

To delete a stream key

The following delete-stream-key example deletes the stream key for a specified ARN (Amazon Resource Name), so it can no longer be used to stream.

```bash
aws ivs delete-stream-key \  
    --arn arn:aws:ivs:us-west-2:123456789012:stream-key/g1H2I3j4k5L6
```

This command produces no output.

For more information, see Create a Channel in the Amazon Interactive Video Service User Guide.

- For API details, see DeleteStreamKey in AWS CLI Command Reference.
get-channel

The following code example shows how to use get-channel.

**AWS CLI**

**To get a channel's configuration information**

The following `get-channel` example gets the channel configuration for a specified channel ARN (Amazon Resource Name).

```bash
aws ivs get-channel \
    --arn arn:aws:ivs:us-west-2:123456789012:channel/abcdABCDefgh
```

Output:

```json
{
    "channel": {
        "name": "channel-1",
        "latencyMode": "LOW",
        "type": "STANDARD",
        "preset": ",",
        "ingestEndpoint": "a1b2c3d4e5f6.global-contribute.live-video.net",
        "insecureIngest": false,
        "playbackUrl": "https://a1b2c3d4e5f6.us-west-2.playback.live-video.net/api/video/v1/us-west-2.123456789012.channel.abcdEFGH.m3u8",
        "tags": {}
    }
}
```

For more information, see [Create a Channel](https://docs.aws.amazon.com/ivs/latest/dev/CreateChannel.html) in the *Amazon Interactive Video Service User Guide*.

- For API details, see [GetChannel](https://awscli.amazonaws.com/v2/documentation/api/2020-05-15/service/ivs.html#getchannel) in *AWS CLI Command Reference*.

get-playback-key-pair

The following code example shows how to use get-playback-key-pair.
AWS CLI

To get a specified playback key pair

The following get-playback-key-pair example returns the fingerprint of the specified key pair.

```
aws ivs get-playback-key-pair \
```

Output:

```
{
  "keyPair": {
    "name": "my-playback-key",
    "tags": {}
  }
}
```

For more information, see Setting Up Private Channels in the Amazon Interactive Video Service User Guide.

- For API details, see GetPlaybackKeyPair in AWS CLI Command Reference.

get-recording-configuration

The following code example shows how to use get-recording-configuration.

AWS CLI

To get information about a RecordingConfiguration resource

The following get-recording-configuration example gets information about the RecordingConfiguration resource for the specified ARN.

```
aws ivs get-recording-configuration \
  --arn "arn:aws:ivs:us-west-2:123456789012:recording-configuration/ABcdef34ghIJ"
```

Output:
For more information, see Record to Amazon S3 in the Amazon Interactive Video Service User Guide.

- For API details, see GetRecordingConfiguration in AWS CLI Command Reference.

get-stream

The following code example shows how to use get-stream.
To get information about a stream

The following `get-stream` example gets information about the stream for the specified channel.

```
aws ivs get-stream \
   --channel-arn arn:aws:ivs:us-west-2:123456789012:channel/abcdABCDEFGh
```

Output:

```
{
   "stream": {
       "channelArn": "arn:aws:ivs:us-west-2:123456789012:channel/abcdABCDEFGh",
       "playbackUrl": "https://a1b2c3d4e5f6.us-west-2.playback.live-video.net/api/video/v1/us-west-2.123456789012.channel.abcdEFGH.m3u8",
       "startTime": "2020-05-05T21:55:38Z",
       "state": "LIVE",
       "health": "HEALTHY",
       "streamId": "st-ABCDEFGhij01234KLMN5678",
       "viewerCount": 1
   }
}
```

For more information, see [Create a Channel](https://docs.aws.amazon.com/interactive-video/latest/devguide/creating-channel.html) in the Amazon Interactive Video Service User Guide.


**get-stream-key**

The following code example shows how to use `get-stream-key`.

```
aws ivs get-stream-key \
   --arn arn:aws:ivs:us-west-2:123456789012:stream-key/skSKABCDefgh \
   --region=us-west-2
```

**AWS CLI**

To get information about a stream

The following `get-stream-key` example gets information about the specified stream key.
Output:

```json
{
    "streamKey": {
        "value": "sk_us-west-2_abcdABCDefgh_567890abcdef",
        "channelArn": "arn: aws: ivs: us-west-2: 123456789012: channel/abcdABCDefgh",
        "tags": {}
    }
}
```

For more information, see [Create a Channel](#) in the Amazon Interactive Video Service User Guide.

- For API details, see [GetStreamKey](#) in AWS CLI Command Reference.

### get-stream-session

The following code example shows how to use `get-stream-session`.

**AWS CLI**

**To get metadata for a specified stream**

The following `get-stream-session` example gets the metadata configuration for the specified channel ARN (Amazon Resource Name) and the specified stream; if `streamId` is not provided, the most recent stream for the channel is selected.

```
aws ivs get-stream-session \
    --channel-arn arn:aws:ivs:us-west-2:123456789012:channel/abcdABCDefgh \
    --stream-id "mystream"
```

Output:

```json
{
    "streamSession": {
        "streamId": "mystream1",
        "startTime": "2023-06-26T19:09:28+00:00",
        "channel": {
            "name": "mychannel",
            "latencyMode": "LOW",
            "type": "STANDARD",
```
"ingestEndpoint": "a1b2c3d4e5f6.global-contribute.live-video.net",
"playbackUrl": "url-string",
"authorized": false,
"insecureIngest": false,
"preset": ""
},
"ingestConfiguration": {
  "video": {
    "avcProfile": "Baseline",
    "avcLevel": "4.2",
    "codec": "avc1.42C02A",
    "encoder": "Lavf58.45.100",
    "targetBitrate": 8789062,
    "targetFramerate": 60,
    "videoHeight": 1080,
    "videoWidth": 1920
  },
  "audio": {
    "codec": "mp4a.40.2",
    "targetBitrate": 46875,
    "sampleRate": 8000,
    "channels": 2
  }
},
"recordingConfiguration": {
  "name": "test-recording-config",
  "destinationConfiguration": {
    "s3": {
      "bucketName": "demo-recording-bucket"
    }
  },
  "state": "ACTIVE",
  "tags": {
    "key1": "value1",
    "key2": "value2"
  },
  "thumbnailConfiguration": {
    "recordingMode": "INTERVAL",
    "targetIntervalSeconds": 1,
    "resolution": "LOWEST_RESOLUTION"
import-playback-key-pair

The following code example shows how to use import-playback-key-pair.

AWS CLI

To import the public portion of a new key pair
The following `import-playback-key-pair` example imports the specified public key (specified as a string in PEM format) and returns the arn and fingerprint of the new key pair.

```bash
aws ivs import-playback-key-pair \
  --name "my-playback-key" \
  --public-key-material "G1lbnQxOTA3BgNVBAMMMFdoeSBhcmUgeW91IGRl..."
```

Output:

```
{
  "keyPair": {
    "name": "my-playback-key",
    "tags": {}
  }
}
```

For more information, see [Setting Up Private Channels](#) in the *Amazon Interactive Video Service User Guide*.

- For API details, see [ImportPlaybackKeyPair](#) in *AWS CLI Command Reference*.

### list-channels

The following code example shows how to use `list-channels`.

**AWS CLI**

**Example 1: To get summary information about all channels**

The following `list-channels` example lists all channels for your AWS account.

```bash
aws ivs list-channels
```

Output:

```
{
  "channels": [
    {
    
```
For more information, see Create a Channel in the Amazon Interactive Video Service User Guide.

Example 2: To get summary information about all channels, filtered by the specified RecordingConfiguration ARN

The following list-channels example lists all channels for your AWS account, that are associated with the specified RecordingConfiguration ARN.

```
aws ivs list-channels \
```

Output:

```
{
   "channels": [
   {
      "name": "channel-1",
      "latencyMode": "LOW",
      "authorized": false,
      "insecureIngest": false,
      "preset": "",
      ..
```
For more information, see [Record to Amazon S3](https://docs.aws.amazon.com/ivs/latest/devguide/record-to-amazon-s3.html) in the *Amazon Interactive Video Service User Guide*.

- For API details, see [ListChannels](https://docs.aws.amazon.com/cli/latest/reference/ivs/list-channels.html) in *AWS CLI Command Reference*.

### list-playback-key-pairs

The following code example shows how to use `list-playback-key-pairs`.

**AWS CLI**

**To get summary information about all playback key pairs**

The following `list-playback-key-pairs` example returns information about all key pairs.

```bash
aws ivs list-playback-key-pairs
```

**Output:**

```json
{
   "keyPairs": [
   {
        "name": "test-key-0",
        "tags": {}
    },
    {
        "name": "test-key-1",
        "tags": {}
    }
   ]
}
```
For more information, see Setting Up Private Channels in the Amazon Interactive Video Service User Guide.

- For API details, see ListPlaybackKeyPairs in AWS CLI Command Reference.

**list-recording-configurations**

The following code example shows how to use list-recording-configurations.

**AWS CLI**

To list all the RecordingConfiguration resources created in this account

The following list-recording-configurations example gets information about all RecordingConfiguration resources in your account.

```bash
aws ivs list-recording-configurations
```

Output:

```json
{
  "recordingConfigurations": [
    {
      "name": "test-recording-config-1",
      "destinationConfiguration": {
        "s3": {
          "bucketName": "demo-recording-bucket-1"
        }
      },
      "state": "ACTIVE",
      "tags": {}
    },
    {
      "name": "test-recording-config-2",
      "destinationConfiguration": {
        "s3": {
```
"bucketName": "demo-recording-bucket-2"
}
],
"state": "ACTIVE",
"tags": {}
}
]
}

For more information, see [Record to Amazon S3](https://docs.aws.amazon.com/ivs/latest/userguide/record-to-amazon-s3.html) in the *Amazon Interactive Video Service User Guide*.

- For API details, see [ListRecordingConfigurations](https://docs.aws.amazon.com/cli/latest/reference/ivs/list-recording-configurations.html) in *AWS CLI Command Reference*.

### list-stream-keys

The following code example shows how to use `list-stream-keys`.

**AWS CLI**

**To get a list of stream keys**

The following `list-stream-keys` example lists all stream keys for a specified ARN (Amazon Resource Name).

```bash
aws ivs list-stream-keys \
  --channel-arn arn:aws:ivs:us-west-2:123456789012:channel/abcdABCDefgh
```

**Output:**

```json
{
  "streamKeys": [
    {
      "channelArn": "arn:aws:ivs:us-west-2:123456789012:channel/abcdABCDefgh",
      "tags": {}
    }
  ]
}
```

For more information, see [Create a Channel](https://docs.aws.amazon.com/ivs/latest/userguide/create-a-channel.html) in the *Amazon Interactive Video Service User Guide*.

- For API details, see [ListStreamKeys](https://docs.aws.amazon.com/cli/latest/reference/ivs/list-stream-keys.html) in *AWS CLI Command Reference*.
list-stream-sessions

The following code example shows how to use list-stream-sessions.

AWS CLI

To get a summary of current and previous streams for a specified channel in the current AWS region

The following list-stream-sessions example reports summary information for streams for a specified channel ARN (Amazon Resource Name).

```bash
aws ivs list-stream-sessions \
   --channel-arn arn:aws:ivs:us-west-2:123456789012:channel/abcdABCDefgh \
   --max-results 25 \n   --next-token ""
```

Output:

```json
{
   "nextToken": "set-2",
   "streamSessions": [
       {
           "startTime": 1641578182,
           "endTime": 1641579982,
           "hasErrorEvent": false,
           "streamId": "mystream"
       }
       ...
   ]
}
```

For more information, see Create a Channel in the Amazon Interactive Video Service User Guide.
- For API details, see ListStreamSessions in AWS CLI Command Reference.

list-streams

The following code example shows how to use list-streams.

AWS CLI

To get a list of live streams and their state
The following list-streams example lists all live streams for your AWS account.

```
aws ivs list-streams
```

Output:

```
{
   "streams": [
   {
      "channelArn": "arn:aws:ivs:us-west-2:123456789012:channel/abcdABCDefgh",
      "state": "LIVE",
      "health": "HEALTHY",
      "streamId": "st-ABCDefghij01234KLMN5678",
      "viewerCount": 1
   }
   ]
}
```

For more information, see Create a Channel in the Amazon Interactive Video Service User Guide.

- For API details, see ListStreams in AWS CLI Command Reference.

list-tags-for-resource

The following code example shows how to use list-tags-for-resource.

**AWS CLI**

To list all tags for an AWS resource (for example: channel, stream key)

The following list-tags-for-resource example lists all tags for a specified resource ARN (Amazon Resource Name).

```
aws ivs list-tags-for-resource \
```

Output:

```
{
   "tags":
   {
      "key1": "value1",
```
For more information, see Tagging in the Amazon Interactive Video Service API Reference.

- For API details, see ListTagsForResource in AWS CLI Command Reference.

put-metadata

The following code example shows how to use put-metadata.

**AWS CLI**

To insert metadata into the active stream for a specified channel

The following put-metadata example inserts the given metadata into the stream for the specified channel.

```
aws ivs put-metadata \
   --channel-arn arn:aws:ivs:us-west-2:123456789012:channel/abcdABCDefgh \
   --metadata '{"my": "metadata"}'}
```

This command produces no output.

For more information, see Create a Channel in the Amazon Interactive Video Service User Guide.

- For API details, see PutMetadata in AWS CLI Command Reference.

start-viewer-session-revocation

The following code example shows how to use start-viewer-session-revocation.

**AWS CLI**

To revoke a viewer session for a given multiple channel-ARN and viewer-ID pair

The following start-viewer-session-revocation example starts the process of revoking the viewer session associated with a specified channel ARN and viewer ID, up to and including the specified session version number. If the version is not provided, it defaults to 0.

```
aws ivs batch-start-viewer-session-revocation \
```
This command produces no output.

For more information, see Setting Up Private Channels in the Amazon Interactive Video Service User Guide.

- For API details, see StartViewerSessionRevocation in AWS CLI Command Reference.

**stop-stream**

The following code example shows how to use stop-stream.

**AWS CLI**

**To stop a specified stream**

The following stop-stream example stops the stream on the specified channel.

```bash
aws ivs stop-stream \
   --channel-arn arn:aws:ivs:us-west-2:123456789012:channel/abcdABCDefgh
```

This command produces no output.

For more information, see Create a Channel in the Amazon Interactive Video Service User Guide.

- For API details, see StopStream in AWS CLI Command Reference.

**tag-resource**

The following code example shows how to use tag-resource.

**AWS CLI**

**To add or update tags for an AWS resource (for example: channel, stream key)**

The following tag-resource example adds or updates tags for a specified resource ARN (Amazon Resource Name).

```bash
aws ivs tag-resource \
```
This command produces no output.

For more information, see Tagging in the Amazon Interactive Video Service API Reference.

- For API details, see TagResource in AWS CLI Command Reference.

**untag-resource**

The following code example shows how to use `untag-resource`.

**AWS CLI**

To remove tags for an AWS resource (for example: channel, stream key)

The following `untag-resource` example removes the specified tags for a specified resource ARN (Amazon Resource Name).

```
aws ivs untag-resource \
  --resource-arn arn:aws:ivs:us-west-2:123456789012:channel/abcdABCDefgh \
  --tag-keys "tagkey1, tagkey2"
```

This command produces no output.

For more information, see Tagging in the Amazon Interactive Video Service API Reference.

- For API details, see UntagResource in AWS CLI Command Reference.

**update-channel**

The following code example shows how to use `update-channel`.

**AWS CLI**

**Example 1: To update a channel's configuration information**

The following `update-channel` example updates the channel configuration for a specified channel ARN to change the channel name. This does not affect an ongoing stream of this channel; you must stop and restart the stream for the changes to take effect.

```
aws ivs update-channel \
  --arn arn:aws:ivs:us-west-2:123456789012:channel/abcdABCDefgh \
```
Output:

```json
{
    "channel": {
        "name": "channel-1",
        "latencyMode": "LOW",
        "type": "STANDARD",
        "recordingConfigurationArn": "",
        "ingestEndpoint": "a1b2c3d4e5f6.global-contribute.live-video.net",
        "insecureIngest": true,
        "playbackUrl": "https://a1b2c3d4e5f6.us-west-2.playback.live-video.net/api/video/v1/us-west-2.123456789012.channel.abcdEFGH.m3u8",
        "preset": "",
        "authorized": false,
        "tags": {}
    }
}
```

For more information, see Create a Channel in the Amazon Interactive Video Service User Guide.

**Example 2: To update a channel's configuration to enable recording**

The following update-channel example updates the channel configuration for a specified channel ARN to enable recording. This does not affect an ongoing stream of this channel; you must stop and restart the stream for the changes to take effect.

```
aws ivs update-channel \
    --arn "arn:aws:ivs:us-west-2:123456789012:channel/abcdABCDefgh" \ 
    --no-insecure-ingest \ 
```

Output:

```json
{
    "channel": {
        "name": "test-channel-with-recording",
        "latencyMode": "LOW",
```
For more information, see [Record to Amazon S3](#) in the [Amazon Interactive Video Service User Guide](#).

**Example 3: To update a channel's configuration to disable recording**

The following `update-channel` example updates the channel configuration for a specified channel ARN to disable recording. This does not affect an ongoing stream of this channel; you must stop and restart the stream for the changes to take effect.

```bash
aws ivs update-channel \
   --arn "arn:aws:ivs:us-west-2:123456789012:channel/abcdABCDefgh" \
   --recording-configuration-arn ""
```

**Output:**

```json
{
   "channel": {
      "name": "test-channel-with-recording",
      "latencyMode": "LOW",
      "type": "STANDARD",
      "recordingConfigurationArn": "",
      "ingestEndpoint": "a1b2c3d4e5f6.global-contribute.live-video.net",
      "insecureIngest": false,
      "playbackUrl": "https://a1b2c3d4e5f6.us-west-2.playback.live-video.net/api/video/v1/us-west-2.123456789012.channel.abcdEFGH.m3u8",
      "preset": "",
      "authorized": false,
      "tags": {}
   }
}
```
The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon IVS Chat.

**Actions** are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

**Scenarios** are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- **Actions**

**Actions**

**create-chat-token**

The following code example shows how to use `create-chat-token`.

**AWS CLI**

**To create a chat token**

The following `create-chat-token` example creates an encrypted chat token that is used to establish an individual WebSocket connection to a room. The token is valid for one minute, and a connection (session) established with the token is valid for the specified duration.

```
aws ivschat create-chat-token \
    --roomIdentifier "arn:aws:ivschat:us-west-2:12345689012:room/g1H2I3j4k5L6", \n```
create-logging-configuration

The following code example shows how to use create-logging-configuration.

AWS CLI

To create a chat LoggingConfiguration resource

The following create-logging-configuration example creates a LoggingConfiguration resource that allows clients to store and record sent messages.

```
aws ivschat create-logging-configuration \
   --destination-configuration s3={bucketName=demo-logging-bucket} \
   --name "test-logging-config" \
   --tags "key1=value1, key2=value2"
```

Output:

```
{
   "createTime": "2022-09-14T17:48:00.653000+00:00",
   "destinationConfiguration": {
      "s3": {
```
For more information, see Getting Started with Amazon IVS Chat in the Amazon Interactive Video Service User Guide.

- For API details, see CreateLoggingConfiguration in AWS CLI Command Reference.

create-room

The following code example shows how to use create-room.

AWS CLI

To create a room

The following create-room example creates a new room.

```
aws ivschat create-room \
  --name "test-room-1" \
  --logging-configuration-identifiers "arn:aws:ivschat:us-west-2:123456789012:logging-configuration/ABcdef34ghIJ" \
  --maximum-message-length 256 \
  --maximum-message-rate-per-second 5
```

Output:

```
{
  "arn": "arn:aws:ivschat:us-west-2:123456789012:room/g1H2I3j4k5L6",
  "id": "g1H2I3j4k5L6",
  "createTime": "2022-03-16T04:44:09+00:00",
  "loggingConfigurationIdentifiers": ["arn:aws:ivschat:us-west-2:123456789012:logging-configuration/ABcdef34ghIJ"],
  "maximumMessageLength": 256,
  "maximumMessageRatePerSecond": 5,
  "name": "test-room-1",
}```
For more information, see Step 2: Create a Chat Room in the Amazon Interactive Video Service User Guide.

- For API details, see CreateRoom in AWS CLI Command Reference.

delete-logging-configuration

The following code example shows how to use delete-logging-configuration.

AWS CLI

To delete a chat LoggingConfiguration resource

The following delete-logging-configuration example deletes the LoggingConfiguration resource for the specified ARN.

```
aws ivschat delete-logging-configuration \
```

This command produces no output.

For more information, see Getting Started with Amazon IVS Chat in the Amazon Interactive Video Service User Guide.

- For API details, see DeleteLoggingConfiguration in AWS CLI Command Reference.

delete-message

The following code example shows how to use delete-message.

AWS CLI

To delete messages from a specified room

The following delete-message example sends an even to the specified room, which directs clients to delete the specified message: that is, unrender it from view and delete it from the client's chat history.
aws ivschat delete-message \
   --roomIdentifier "arn:aws:ivschat:us-west-2:12345689012:room/g1H2I3j4k5L6" \
   --id "ABC123def456" \
   --reason "Message contains profanity"

Output:

```json
{
   "id": "12345689012"
}
```

For more information, see [Getting Started with Amazon IVS Chat](https://docs.aws.amazon.com/ivs/chat/latest/gsg/getting-started.html) in the [Amazon Interactive Video Service User Guide](https://docs.aws.amazon.com/ivs/latest/userguide/).  

- For API details, see [DeleteMessage](https://docs.aws.amazon.com/cli/latest/reference/ivschat/delete-message.html) in [AWS CLI Command Reference](https://docs.aws.amazon.com/cli/latest/reference/).  

### delete-room

The following code example shows how to use delete-room.

**AWS CLI**

**To delete a room**

The following delete-room example deletes the specified room. Connected clients are disconnected. On success it returns HTTP 204 with an empty response body.

```bash
aws ivschat delete-room \
   --identifier "arn:aws:ivschat:us-west-2:12345689012:room/g1H2I3j4k5L6"
```

This command produces no output.

For more information, see [Getting Started with Amazon IVS Chat](https://docs.aws.amazon.com/ivs/chat/latest/gsg/getting-started.html) in the [Amazon Interactive Video Service User Guide](https://docs.aws.amazon.com/ivs/latest/userguide/).  

- For API details, see [DeleteRoom](https://docs.aws.amazon.com/cli/latest/reference/ivschat/delete-room.html) in [AWS CLI Command Reference](https://docs.aws.amazon.com/cli/latest/reference/).  

### disconnect-user

The following code example shows how to use disconnect-user.
AWS CLI

To disconnect a user from a room

The following `disconnect-user` example disconnects all connections for the specified user from the specified room. On success it returns HTTP 200 with an empty response body.

```
aws ivschat disconnect-user \
    --roomIdentifier "arn:aws:ivschat:us-west-2:12345689012:room/g1H2I3j4k5L6" \
    --userId "ABC123def456" \
    --reason "Violated terms of service"
```

This command produces no output.

For more information, see Getting Started with Amazon IVS Chat in the Amazon Interactive Video Service User Guide.

- For API details, see `DisconnectUser` in AWS CLI Command Reference.

get-logging-configuration

The following code example shows how to use `get-logging-configuration`.

AWS CLI

To get information about a LoggingConfiguration resource

The following `get-logging-configuration` example gets information about the LoggingConfiguration resource for the specified ARN.

```
aws ivschat get-logging-configuration \
```

Output:

```
{
    "createTime": "2022-09-14T17:48:00.653000+00:00",
    "destinationConfiguration": {
        "s3": {
            "Bucket": "my-bucket",
            "Prefix": "logs/"
        }
    }
}
```
"bucketName": "demo-logging-bucket"
}
,
"id": "ABcdef34ghIJ",
"name": "test-logging-config",
"state": "ACTIVE",
"tags": { "key1" : "value1", "key2" : "value2" },
"updateTime": "2022-09-14T17:48:01.104000+00:00"
}

For more information, see Getting Started with Amazon IVS Chat in the Amazon Interactive Video Service User Guide.

- For API details, see GetLoggingConfiguration in AWS CLI Command Reference.

**get-room**

The following code example shows how to use get-room.

**AWS CLI**

To get the specified room

The following get-room example gets information about the specified room.

```bash
aws ivschat get-room \
    --identifier "arn:aws:ivschat:us-west-2:12345689012:room/g1H2I3j4k5L6"
```

Output:

```json
{
    "arn": "arn:aws:ivschat:us-west-2:12345689012:room/g1H2I3j4k5L6",
    "createTime": "2022-03-16T04:44:09+00:00",
    "id": "g1H2I3j4k5L6",
    "loggingConfigurationIdentifiers": ["arn:aws:ivschat:us-west-2:123456789012:logging-configuration/ABcdef34ghIJ"],
    "maximumMessageLength": 256,
    "maximumMessageRatePerSecond": 5,
    "name": "test-room-1",
    "tags": {},
    "updateTime": "2022-03-16T07:22:09+00:00"
}
```
For more information, see Getting Started with Amazon IVS Chat in the Amazon Interactive Video Service User Guide.

- For API details, see GetRoom in AWS CLI Command Reference.

list-logging-configurations

The following code example shows how to use list-logging-configurations.

AWS CLI

To get summary information about all logging configurations for the user in the AWS region where the API request is processed

The following list-logging-configurations example lists information about all LoggingConfiguration resources for the user in the AWS region where the API request is processed.

```bash
aws ivschat list-logging-configurations \
   --max-results 2 \
   --next-token ""
```

Output:

```json
{
   "nextToken": "set-2",
   "loggingConfigurations": [
   {
      "createTime": "2022-09-14T17:48:00.653000+00:00",
      "destinationConfiguration": {
         "s3": {
            "bucketName": "demo-logging-bucket"
         }
      },
      "id": "ABcdef34ghIJ",
      "name": "test-logging-config",
      "state": "ACTIVE",
      "tags": { "key1": "value1", "key2": "value2" },
      "updateTime": "2022-09-14T17:48:01.104000+00:00"
   }
}
For more information, see Getting Started with Amazon IVS Chat in the Amazon Interactive Video Service User Guide.

- For API details, see ListLoggingConfigurations in AWS CLI Command Reference.

list-rooms

The following code example shows how to use list-rooms.

AWS CLI

To get summary information about all your rooms in the current region

The following list-rooms example gets summary information about all the rooms in the AWS region where the request is processed. Results are sorted in descending order of updateTime.

```bash
aws ivschat list-rooms \
  --max-results 10 \n  --next-token ""
```

Output:

```
{
  "nextToken": "page3",
  "rooms": [
    {
      "arn:aws:ivschat:us-west-2:12345689012:room/g1H2I3j4k5L6",
      "createTime": "2022-03-16T04:44:09+00:00",
      "id": "g1H2I3j4k5L6",
      "loggingConfigurationIdentifiers": ["arn:aws:ivschat:us-west-2:123456789012:logging-configuration/ABcdef34ghIJ"],
      "name": "test-room-1",
      "tags": {},
      "updateTime": "2022-03-16T07:22:09+00:00"
    }
  ]
}
```
For more information, see Getting Started with Amazon IVS Chat in the Amazon Interactive Video Service User Guide.

- For API details, see ListRooms in AWS CLI Command Reference.

**list-tags-for-resource**

The following code example shows how to use list-tags-for-resource.

**AWS CLI**

To list all tags for an AWS resource (for example: Room)

The following list-tags-for-resource example lists all tags for a specified resource ARN (Amazon Resource Name).

```bash
aws ivschat list-tags-for-resource \
    --resource-arn arn:aws:ivschat:us-west-2:12345689012:room/g1H2I3j4k5L6
```

Output:

```
{
    "tags":
    {
        "key1": "value1",
        "key2": "value2"
    }
}
```

For more information, see Tagging in the Amazon Interactive Video Service API Reference.

- For API details, see ListTagsForResource in AWS CLI Command Reference.

**send-event**

The following code example shows how to use send-event.

**AWS CLI**

To send an event to a room
The following send-event example sends the given event to the specified room.

```bash
aws ivschat send-event \
   --roomIdentifier "arn:aws:ivschat:us-west-2:12345689012:room/g1H2I3j4k5L6" \
   --eventName "SystemMessage" \
   --attributes \
       "msgType"="user-notification", \
       "msgText"="This chat room will close in 15 minutes."
```

Output:

```json
{
   "id": "12345689012"
}
```

For more information, see [Getting Started with Amazon IVS Chat](https://docs.aws.amazon.com/streaming-media/latest/ivs-chat-getting-started.html) in the *Amazon Interactive Video Service User Guide*.

- For API details, see [SendEvent](https://docs.aws.amazon.com/cli/latest/reference/ivschat/send-event.html) in *AWS CLI Command Reference*.

**tag-resource**

The following code example shows how to use tag-resource.

**AWS CLI**

**To add or update tags for an AWS resource (for example: Room)**

The following tag-resource example adds or updates tags for a specified resource ARN (Amazon Resource Name). On success it returns HTTP 200 with an empty response body.

```bash
aws ivschat tag-resource \
   --resource-arn arn:aws:ivschat:us-west-2:12345689012:room/g1H2I3j4k5L6 \
   --tags "tagkey1=tagkeyvalue1, tagkey2=tagkeyvalue2"
```

This command produces no output.

For more information, see [Tagging](https://docs.aws.amazon.com/streaming-media/latest/ivs-chat/api-reference.html) in the *Amazon Interactive Video Service API Reference*.

- For API details, see [TagResource](https://docs.aws.amazon.com/cli/latest/reference/ivschat/tag-resource.html) in *AWS CLI Command Reference*.
untag-resource

The following code example shows how to use untag-resource.

AWS CLI

To remove tags for an AWS resource (for example: Room)

The following untag-resource example removes the specified tags for a specified resource ARN (Amazon Resource Name). On success it returns HTTP 200 with an empty response body.

```
aws ivschat untag-resource \\
    --resource-arn arn:aws:ivschat:us-west-2:12345689012:room/g1H2I3j4k5L6 \\
    --tag-keys "tagkey1, tagkey2"
```

This command produces no output.

For more information, see Tagging in the Amazon Interactive Video Service API Reference.

- For API details, see UntagResource in AWS CLI Command Reference.

update-logging-configuration

The following code example shows how to use update-logging-configuration.

AWS CLI

To update a room's logging configuration

The following update-logging-configuration example updates a LoggingConfiguration resource with the given data.

```
aws ivschat update-logging-configuration \\
    --destination-configuration s3={bucketName=demo-logging-bucket} \\
    --name "test-logging-config"
```

Output:

```
{
```
For more information, see [Getting Started with Amazon IVS Chat](https://docs.aws.amazon.com/ivs/latest/dg/getting-started-chat.html) in the *Amazon Interactive Video Service User Guide*.

- For API details, see [UpdateLoggingConfiguration](https://docs.aws.amazon.com/cli/latest/reference/ivschat/update-logging-configuration.html) in *AWS CLI Command Reference*.

**update-room**

The following code example shows how to use update-room.

**AWS CLI**

**To update a room's configuration**

The following update-room example updates the specified room's configuration with the given data.

```
aws ivschat update-room
   --identifier "arn:aws:ivschat:us-west-2:12345689012:room/g1H2I3j4k5L6" 
   --name "chat-room-a" 
   --maximum-message-length 256 
   --maximum-message-rate-per-second 5
```

**Output:**

```
{
  "arn": "arn:aws:ivschat:us-west-2:12345689012:room/g1H2I3j4k5L6",
  "createTime": "2022-03-16T04:44:09+00:00",
  "id": "g1H2I3j4k5L6",
  "name": "chat-room-a",
  "state": "ACTIVE",
  "tags": {
    "key1": "value1",
    "key2": "value2"
  },
  "updateTime": "2022-09-14T17:48:01.104000+00:00"
}
```
For more information, see Getting Started with Amazon IVS Chat in the Amazon Interactive Video Service User Guide.

- For API details, see UpdateRoom in AWS CLI Command Reference.

Amazon IVS Real-Time Streaming examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon IVS Real-Time Streaming. 

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics

- Actions

Actions

create-encoder-configuration

The following code example shows how to use create-encoder-configuration.

AWS CLI

To create a composition encoder configuration
The following `create-encoder-configuration` example creates a composition encoder configuration with the specified properties.

```
aws ivs-realtime create-encoder-configuration \
    --name test-ec --video bitrate=3500000,framerate=30.0,height=1080,width=1920
```

Output:

```json
{
    "encoderConfiguration": {
        "arn": "arn:aws:ivs:ap-northeast-1:123456789012:encoder-configuration/ABabCDcdEFef",
        "name": "test-ec",
        "tags": {},
        "video": {
            "bitrate": 3500000,
            "framerate": 30,
            "height": 1080,
            "width": 1920
        }
    }
}
```

For more information, see [Enabling Multiple Hosts on an Amazon IVS Stream](https://docs.aws.amazon.com/AmazonIVS/latest/dev/Enabling-Multiple-Hosts-on-an-Amazon-IVS-Stream.html) in the *Amazon Interactive Video Service User Guide*.

- For API details, see [CreateEncoderConfiguration](https://docs.aws.amazon.com/cli/latest/reference/ivs-realtime/create-encoder-configuration.html) in *AWS CLI Command Reference*.

---

**create-participant-token**

The following code example shows how to use `create-participant-token`.

**AWS CLI**

To create a stage participant token

The following `create-participant-token` example creates a participant token for the specified stage.

```
aws ivs-realtime create-participant-token \
    --stage-arn arn:aws:ivs:us-west-2:123456789012:stage/abcdABCDefgh \
    --user-id bob
```
Output:

```json
{
    "participantToken": {
        "expirationTime": "2023-03-07T09:47:43+00:00",
        "participantId": "ABCDEfghij01234KLMN6789",
        "token": "abcd1234defg5678"
    }
}
```

For more information, see [Enabling Multiple Hosts on an Amazon IVS Stream](#) in the *Amazon Interactive Video Service User Guide*.

- For API details, see [CreateParticipantToken](#) in *AWS CLI Command Reference*.

**create-stage**

The following code example shows how to use `create-stage`.

**AWS CLI**

**To create a stage**

The following `create-stage` example creates a stage and stage participant token for a specified user.

```bash
aws ivs-realtime create-stage \
    --name stage1 \
    --participant-token-configurations userId=alice
```

Output:

```json
{
    "participantTokens": [
        {
            "participantId": "ABCDEfghij01234KLMN5678",
            "token": "a1b2c3d4567890ab",
            "userId": "alice"
        }
    ],
    "stage": {
        "activeSessionId": "st-a1b2c3d4567890ab",
    }
}
```
"name": "stage1",
"tags": {}}
}

For more information, see [Enabling Multiple Hosts on an Amazon IVS Stream](https://docs.aws.amazon.com/ivs/latest/userguide/enabling-multiple-hosts-on-an-amazon-ivs-stream.html) in the [Amazon Interactive Video Service User Guide](https://docs.aws.amazon.com/ivs/latest/userguide/).

- For API details, see [CreateStage](https://docs.aws.amazon.com/cli/latest/reference/ivs-realtime/create-stage.html) in [AWS CLI Command Reference](https://docs.aws.amazon.com/cli/latest/reference/ivs-realtime/create-stage.html).

**create-storage-configuration**

The following code example shows how to use create-storage-configuration.

### AWS CLI

**To create a composition storage configuration**

The following create-storage-configuration example creates a composition storage configuration with the specified properties.

```
aws ivs-realtime create-storage-configuration \
    --name "test-sc" --s3 "bucketName=test-bucket-name"
```

**Output:**

```
{
    "storageConfiguration": {
        "arn": "arn:aws:ivs:ap-northeast-1:123456789012:storage-configuration/ABabCDcdEFef",
        "name": "test-sc",
        "s3": {
            "bucketName": "test-bucket-name"
        },
        "tags": {}
    }
}
```

For more information, see [Enabling Multiple Hosts on an Amazon IVS Stream](https://docs.aws.amazon.com/ivs/latest/userguide/enabling-multiple-hosts-on-an-amazon-ivs-stream.html) in the [Amazon Interactive Video Service User Guide](https://docs.aws.amazon.com/ivs/latest/userguide/).
For API details, see [CreateStorageConfiguration](#) in [AWS CLI Command Reference](#).

### delete-encoder-configuration

The following code example shows how to use `delete-encoder-configuration`.

**AWS CLI**

#### To delete a composition encoder configuration

The following `delete-encoder-configuration` deletes the composition encoder configuration specified by the given ARN (Amazon Resource Name).

```bash
aws ivs-realtime delete-encoder-configuration
  --arn "arn:aws:ivs:ap-northeast-1:123456789012:encoder-configuration/ABabCDcdEFef"
```

This command produces no output.

For more information, see [Enabling Multiple Hosts on an Amazon IVS Stream](#) in the [Amazon Interactive Video Service User Guide](#).

For API details, see [DeleteEncoderConfiguration](#) in [AWS CLI Command Reference](#).

### delete-stage

The following code example shows how to use `delete-stage`.

**AWS CLI**

#### To delete a stage

The following `delete-stage` example deletes the specified stage.

```bash
aws ivs-realtime delete-stage
  --arn arn:aws:ivs:us-west-2:123456789012:stage/abcdABCDefgh
```

This command produces no output.

For more information, see [Enabling Multiple Hosts on an Amazon IVS Stream](#) in the [Amazon Interactive Video Service User Guide](#).
For API details, see DeleteStage in AWS CLI Command Reference.

delete-storage-configuration

The following code example shows how to use delete-storage-configuration.

AWS CLI

To delete a composition storage configuration

The following delete-storage-configuration deletes the composition storage
configuration specified by the given ARN (Amazon Resource Name).

```
aws ivs-realtime delete-storage-configuration  
   --arn "arn:aws:ivs:ap-northeast-1:123456789012:storage-configuration/ABabCDcdEFef"
```

This command produces no output.

For more information, see Enabling Multiple Hosts on an Amazon IVS Stream in the Amazon Interactive Video Service User Guide.

For API details, see DeleteStorageConfiguration in AWS CLI Command Reference.

disconnect-participant

The following code example shows how to use disconnect-participant.

AWS CLI

To disconnect a stage participant

The following disconnect-participant example disconnects the specified participant from the specified stage.

```
aws ivs-realtime disconnect-participant  
   --stage-arn arn:aws:ivs:us-west-2:123456789012:stage/abcdABCDefgh  
   --participant-id ABCDEfghij01234KLMN5678
```

This command produces no output.
For more information, see Enabling Multiple Hosts on an Amazon IVS Stream in the Amazon Interactive Video Service User Guide.

- For API details, see DisconnectParticipant in AWS CLI Command Reference.

get-composition

The following code example shows how to use get-composition.

AWS CLI

To get a composition

The following get-composition example gets the composition for the ARN (Amazon Resource Name) specified.

```bash
aws ivs-realtime get-composition \
  --name arn "arn:aws:ivs:ap-northeast-1:123456789012:composition/abcdABCDefgh"
```

Output:

```json
{
  "composition": {
    "destinations": [
      {
        "configuration": {
          "channel": {
            "channelArn": "arn:aws:ivs:ap-northeast-1:123456789012:channel/abcABCdefDEg",
            "encoderConfigurationArn": "arn:aws:ivs:ap-northeast-1:123456789012:encoder-configuration/ABabCDcdEFef"
          },
          "name": "",
          "id": "AabBCcdDEefF",
          "startTime": "2023-10-16T23:26:00+00:00",
          "state": "ACTIVE"
        }
      },
      {
        "configuration": {
          "name": "",
          "id": "AabBCcdDEefF",
          "startTime": "2023-10-16T23:26:00+00:00",
          "state": "ACTIVE"
        }
      }
    ]
  }
}
```
For more information, see Enabling Multiple Hosts on an Amazon IVS Stream in the Amazon Interactive Video Service User Guide.

- For API details, see GetComposition in AWS CLI Command Reference.

get-encoder-configuration

The following code example shows how to use get-encoder-configuration.
AWS CLI

To get a composition encoder configuration

The following get-encoder-configuration example gets the composition encoder configuration specified by the given ARN (Amazon Resource Name).

```bash
aws ivs-realtime get-encoder-configuration
   --arn "arn:aws:ivs:ap-northeast-1:123456789012:encoder-configuration/abcdABCDefgh"
```

Output:

```json
{
   "encoderConfiguration": {
      "name": "test-ec",
      "tags": {},
      "video": {
         "bitrate": 3500000,
         "framerate": 30,
         "height": 1080,
         "width": 1920
      }
   }
}
```

For more information, see [Enabling Multiple Hosts on an Amazon IVS Stream](#) in the Amazon Interactive Video Service User Guide.

- For API details, see [GetEncoderConfiguration](#) in AWS CLI Command Reference.

get-participant

The following code example shows how to use get-participant.

AWS CLI

To get a stage participant

The following get-participant example gets the stage participant for a specified participant ID and session ID in the specified stage ARN (Amazon Resource Name).
aws ivs-realtime get-participant \
   --stage-arn arn:aws:ivs:us-west-2:123456789012:stage/abcdABCDefgh \
   --session-id st-a1b2c3d4e5f6g \
   --participant-id abCDEf12GHIj

Output:

```json
{
   "participant": {
      "browserName", "Google Chrome",
      "browserVersion", "116",
      "firstJoinTime": "2023-04-26T20:30:34+00:00",
      "ispName", "Comcast",
      "osName", "Microsoft Windows 10 Pro",
      "osVersion", "10.0.19044",
      "participantId": "abCDEf12GHIj",
      "published": true,
      "sdkVersion", "",
      "state": "DISCONNECTED",
      "userId": ""
   }
}
```

For more information, see [Enabling Multiple Hosts on an Amazon IVS Stream](https://docs.aws.amazon.com/ivs/latest/dg/enable-clients-streams.html) in the Amazon Interactive Video Service User Guide.


get-stage

The following code example shows how to use get-stage.

AWS CLI

**To get a stage's configuration information**

The following get-stage example gets the stage configuration for a specified stage ARN (Amazon Resource Name).

```bash
aws ivs-realtime get-stage \
   --arn arn:aws:ivs:us-west-2:123456789012:stage/abcdABCDefgh
```
Output:

```
{
    "stage": {
        "activeSessionId": "st-a1b2c3d4e5f6g",
        "name": "test",
        "tags": {}
    }
}
```

For more information, see [Enabling Multiple Hosts on an Amazon IVS Stream](https://docs.aws.amazon.com/interactive-video-service/latest/userguide/enabling-multiple-hosts-on-an-amazon-ivs-stream.html) in the *Amazon Interactive Video Service User Guide*.

- For API details, see [GetStage](https://docs.aws.amazon.com/cli/latest/reference/ivs-realtime/get-stage-session.html) in *AWS CLI Command Reference*.

**get-stage-session**

The following code example shows how to use `get-stage-session`.

**AWS CLI**

**To get a stage session**

The following `get-stage-session` example gets the stage session for a specified session ID of a specified stage ARN (Amazon Resource Name).

```
aws ivs-realtime get-stage-session \
    --stage-arn arn:aws:ivs:us-west-2:123456789012:stage/abcdABCDefgh \
    --session-id st-a1b2c3d4e5f6g
```

Output:

```
{
    "stageSession": {
        "endTime": "2023-04-26T20:36:29+00:00",
        "sessionId": "st-a1b2c3d4e5f6g",
        "startTime": "2023-04-26T20:30:29.602000+00:00"
    }
}
```
For more information, see Enabling Multiple Hosts on an Amazon IVS Stream in the Amazon Interactive Video Service User Guide.

- For API details, see GetStageSession in AWS CLI Command Reference.

get-storage-configuration

The following code example shows how to use get-storage-configuration.

AWS CLI

To get a composition storage configuration

The following get-storage-configuration example gets the composition storage configuration specified by the given ARN (Amazon Resource Name).

```
aws ivs-realtime get-storage-configuration \
  --name arn "arn:aws:ivs:ap-northeast-1:123456789012:storage-configuration/abcdABCDefgh"
```

Output:

```json
{
  "storageConfiguration": {
    "arn": "arn:aws:ivs:ap-northeast-1:123456789012:storage-configuration/abcdABCDefgh",
    "name": "test-sc",
    "s3": {
      "bucketName": "test-bucket-name"
    },
    "tags": {}
  }
}
```

For more information, see Enabling Multiple Hosts on an Amazon IVS Stream in the Amazon Interactive Video Service User Guide.

- For API details, see GetStorageConfiguration in AWS CLI Command Reference.

list-compositions

The following code example shows how to use list-compositions.
AWS CLI

To get a list of compositions

The following `list-compositions` lists all compositions for your AWS account, in the AWS region where the API request is processed.

```bash
aws ivs-realtime list-compositions
```

Output:

```json
{
  "compositions": [
    {
      "destinations": [
        {
          "id": "AabBCcdDEefF",
          "startTime": "2023-10-16T23:25:23+00:00",
          "state": "ACTIVE"
        }
      ],
      "stageArn": "arn:aws:ivs:ap-northeast-1:123456789012:stage/defgABCDabcd",
      "startTime": "2023-10-16T23:25:21+00:00",
      "state": "ACTIVE",
      "tags": {}
    },
    {
      "destinations": [
        {
          "endTime": "2023-10-16T23:25:00.786512+00:00",
          "id": "aABbcCDdeEff",
          "startTime": "2023-10-16T23:24:01+00:00",
          "state": "STOPPED"
        },
        {
          "endTime": "2023-10-16T23:25:00.786512+00:00",
          "id": "deEffaABbcCD",
          "startTime": "2023-10-16T23:24:01+00:00",
```
For more information, see Enabling Multiple Hosts on an Amazon IVS Stream in the Amazon Interactive Video Service User Guide.

- For API details, see ListCompositions in AWS CLI Command Reference.

### list-encoder-configurations

The following code example shows how to use list-encoder-configurations.

**AWS CLI**

**To list composition encoder configurations**

The following list-encoder-configurations lists all composition encoder configurations for your AWS account, in the AWS region where the API request is processed.

```bash
aws ivs-realtime list-encoder-configurations
```

**Output:**

```json
{
    "encoderConfigurations": [
    {
        "name": "test-ec-1",
        "tags": {}
    },
    {}
}]
```
For more information, see Enabling Multiple Hosts on an Amazon IVS Stream in the Amazon Interactive Video Service User Guide.

- For API details, see ListEncoderConfigurations in AWS CLI Command Reference.

**list-participant-events**

The following code example shows how to use list-participant-events.

**AWS CLI**

**To get a list of stage participant events**

The following list-participant-events example lists all participant events for a specified participant ID and session ID of a specified stage ARN (Amazon Resource Name).

```
aws ivs-realtime list-participant-events \
  --stage-arn arn:aws:ivs:us-west-2:123456789012:stage/abcdABCDefgh \
  --session-id st-a1b2c3d4e5f6g \
  --participant-id abCDEf12GHIj
```

Output:

```
{
  "events": [
    {
      "eventTime": "2023-04-26T20:36:28+00:00",
      "name": "LEFT",
      "participantId": "abCDEf12GHIj"
    },
    {
      "eventTime": "2023-04-26T20:36:28+00:00",
      "name": "PUBLISH_STOPPED",
      "participantId": "abCDEf12GHIj"
    }
  ]
}
```
For more information, see Enabling Multiple Hosts on an Amazon IVS Stream in the Amazon Interactive Video Service User Guide.

- For API details, see ListParticipantEvents in AWS CLI Command Reference.

**list-participants**

The following code example shows how to use list-participants.

**AWS CLI**

**To get a list of stage participants**

The following list-participants example lists all participants for a specified session ID of a specified stage ARN (Amazon Resource Name).

```bash
aws ivs-realtime list-participants \
  --stage-arn arn:aws:ivs:us-west-2:123456789012:stage/abcdABCDefgh \
  --session-id st-a1b2c3d4e5f6g
```

Output:

```json
{  
  "participants": [
    
    
    ]
}
```
For more information, see [Enabling Multiple Hosts on an Amazon IVS Stream](amazon-interactive-video-service-user-guide) in the *Amazon Interactive Video Service User Guide*.

- For API details, see [ListParticipants](aws-cli-command-reference) in *AWS CLI Command Reference*.

**list-stage-sessions**

The following code example shows how to use `list-stage-sessions`.

**AWS CLI**

**To get a list of stage sessions**

The following `list-stage-sessions` example lists all sessions for a specified stage ARN (Amazon Resource Name).

```sh
aws ivs-realtime list-stage-sessions \   --stage-arn arn:aws:ivs:us-west-2:123456789012:stage/abcdABCDefgh
```

**Output:**

```
{
    "stageSessions": [  
        {
            "endTime": "2023-04-26T20:36:29+00:00",
            "sessionId": "st-a1b2c3d4e5f6g",
            "startTime": "2023-04-26T20:30:29.602000+00:00"
        }
    ]
}
```

For more information, see [Enabling Multiple Hosts on an Amazon IVS Stream](amazon-interactive-video-service-user-guide) in the *Amazon Interactive Video Service User Guide*.

- For API details, see [ListStageSessions](aws-cli-command-reference) in *AWS CLI Command Reference*. 
list-stages

The following code example shows how to use list-stages.

AWS CLI

To get summary information about all stages

The following list-stages example lists all stages for your AWS account, in the AWS region where the API request is processed.

```bash
aws ivs-realtime list-stages
```

Output:

```json
{
   "stages": [
      {
         "activeSessionId": "st-a1b2c3d4e5f6g",
         "name": "stage1",
         "tags": {}
      },
      {
         "activeSessionId": "st-a123bcd456efg",
         "arn": "arn:aws:ivs:us-west-2:123456789012:stage/abcd1234ABCD",
         "name": "stage2",
         "tags": {}
      },
      {
         "activeSessionId": "st-abcDEF1234ghi",
         "name": "stage3",
         "tags": {}
      }
   ]
}
```

For more information, see [Enabling Multiple Hosts on an Amazon IVS Stream](https://docs.aws.amazon.com/ivs/latest/devguide/enable-multiple-hosts.html) in the *Amazon Interactive Video Service User Guide*.

- For API details, see [ListStages](https://docs.aws.amazon.com/cli/latest/userguide/amazon_cmd-list-stages.html) in *AWS CLI Command Reference*. 
**list-storage-configurations**

The following code example shows how to use `list-storage-configurations`.

**AWS CLI**

**To list composition storage configurations**

The following `list-storage-configurations` lists all composition storage configurations for your AWS account, in the AWS region where the API request is processed.

```bash
aws ivs-realtime list-storage-configurations
```

**Output:**

```json
{
   "storageConfigurations": [
      {
         "arn": "arn:aws:ivs:ap-northeast-1:123456789012:storage-configuration/abcdABCDefgh",
         "name": "test-sc-1",
         "s3": {
            "bucketName": "test-bucket-1-name"
         },
         "tags": {}
      },
      {
         "name": "test-sc-2",
         "s3": {
            "bucketName": "test-bucket-2-name"
         },
         "tags": {}
      }
   ]
}
```

For more information, see [Enabling Multiple Hosts on an Amazon IVS Stream](https://docs.aws.amazon.com/ivs/latest/dg/Enabling-Multiple-Hosts.html) in the *Amazon Interactive Video Service User Guide*.

- For API details, see [ListStorageConfigurations](https://docs.aws.amazon.com/cli/latest/reference/ivs-realtime/list-storage-configurations.html) in *AWS CLI Command Reference*. 
The following code example shows how to use `start-composition`.

**AWS CLI**

**To start a composition**

The following `start-composition` example starts a composition for the specified stage to be streamed to the specified locations.

```bash
aws ivs-realtime start-composition \
  --stage-arn arn:aws:ivs:ap-northeast-1:123456789012:stage/defgABCDabcd \
  --destinations '
    [{
      "channel": {
        "channelArn": "arn:aws:ivs:ap-northeast-1:123456789012:channel/abcABCdefDEg",
        "encoderConfigurationArn": "arn:aws:ivs:ap-northeast-1:123456789012:encoder-configuration/ABabCDcdEFef"
      },
      "s3": {
        "encoderConfigurationArns": ["arn:aws:ivs:ap-northeast-1:123456789012:encoder-configuration/ABabCDcdEFef"],
        "storageConfigurationArn": "arn:aws:ivs:ap-northeast-1:123456789012:storage-configuration/FefABabCDcdE"
      }
    }
  ]'
```

**Output:**

```json
{
  "composition": {
    "destinations": [
      {
        "configuration": {
          "channel": {
            "channelArn": "arn:aws:ivs:ap-northeast-1:123456789012:channel/abcABCdefDEg",
            "encoderConfigurationArn": "arn:aws:ivs:ap-northeast-1:123456789012:encoder-configuration/ABabCDcdEFef"
          },
          "name": ""
        },
        "id": "AabBCcdDEefF",
        "state": "STARTING"
      },
      {
        "configuration": {
```
For more information, see Enabling Multiple Hosts on an Amazon IVS Stream in the Amazon Interactive Video Service User Guide.

- For API details, see StartComposition in AWS CLI Command Reference.

stop-composition

The following code example shows how to use stop-composition.
AWS CLI

**To stop a composition**

The following `stop-composition` stops the composition specified by the given ARN (Amazon Resource Name).

```
aws ivs-realtime stop-composition \
    --arn "arn:aws:ivs:ap-northeast-1:123456789012:composition/abcdABCDefgh"
```

This command produces no output.

For more information, see [Enabling Multiple Hosts on an Amazon IVS Stream](#) in the *Amazon Interactive Video Service User Guide*.

- For API details, see [StopComposition](#) in *AWS CLI Command Reference*.

**update-stage**

The following code example shows how to use `update-stage`.

AWS CLI

**To update a stage's configuration**

The following `update-stage` example updates a stage for a specified stage ARN to update the stage name.

```
aws ivs-realtime update-stage \
    --arn arn:aws:ivs:us-west-2:123456789012:stage/abcdABCDefgh \
    --name stage1a
```

Output:

```
{
    "stage": {
        "name": "stage1a"
    }
}
```
For more information, see Enabling Multiple Hosts on an Amazon IVS Stream in the Amazon Interactive Video Service User Guide.

- For API details, see UpdateStage in AWS CLI Command Reference.

Kinesis examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Kinesis.

**Actions** are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

**Scenarios** are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- **Actions**

**Actions**

**Create a stream**

The following code example shows how to create a Kinesis stream.

**AWS CLI**

**To create a data stream**

The following `create-stream` example creates a data stream named `samplestream` with 3 shards.

```
aws kinesis create-stream \
    --stream-name samplestream \
    --shard-count 3
```

This command produces no output.
For more information, see Creating a Stream in the Amazon Kinesis Data Streams Developer Guide.

- For API details, see CreateStream in AWS CLI Command Reference.

Delete a stream

The following code example shows how to delete a Kinesis stream.

AWS CLI

To delete a data stream

The following delete-stream example deletes the specified data stream.

```bash
aws kinesis delete-stream \
   --stream-name samplestream
```

This command produces no output.

For more information, see Deleting a Stream in the Amazon Kinesis Data Streams Developer Guide.

- For API details, see DeleteStream in AWS CLI Command Reference.

Describe a stream

The following code example shows how to describe a Kinesis stream.

AWS CLI

To describe a data stream

The following describe-stream example returns the details of the specified data stream.

```bash
aws kinesis describe-stream \
   --stream-name samplestream
```

Output:

```json
{
   "StreamDescription": {
      "Shards": [
```
```json
{
  "ShardId": "shardId-000000000000",
  "HashKeyRange": {
    "StartingHashKey": "0",
    "EndingHashKey": "113427455640312821154458202477256070484"
  },
  "SequenceNumberRange": {
    "StartingSequenceNumber": "4960087168295703644235024926191073437251060580128653314"
  }
},
{
  "ShardId": "shardId-000000000001",
  "HashKeyRange": {
    "StartingHashKey": "113427455640312821154458202477256070485",
    "EndingHashKey": "226854911280625642308916404954512140969"
  },
  "SequenceNumberRange": {
    "StartingSequenceNumber": "4960087168297937187563555549332609155523708941634633746"
  }
},
{
  "ShardId": "shardId-000000000002",
  "HashKeyRange": {
    "StartingHashKey": "226854911280625642308916404954512140970",
    "EndingHashKey": "340282366920938463463374607431768211455"
  },
  "SequenceNumberRange": {
    "StartingSequenceNumber": "49600871683001637932762086172474144873796357303140614178"
  }
},
"StreamName": "samplestream",
"StreamStatus": "ACTIVE",
"RetentionPeriodHours": 24,
"EnhancedMonitoring": [
  {
    "ShardLevelMetrics": []
  }
],
"EncryptionType": "NONE",
```

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For more information, see Creating and Managing Streams in the Amazon Kinesis Data Streams Developer Guide.

- For API details, see DescribeStream in AWS CLI Command Reference.

Get data in batches from a stream

The following code example shows how to get data in batches from a Kinesis stream.

AWS CLI

To obtain records from a shard

The following get-records example gets data records from a Kinesis data stream's shard using the specified shard iterator.

```
aws kinesis get-records \
   --shard-iterator AAAAAAAAAAF7/0mWD7IuHj1yGv/TKuNgx2ukD5xipCY4cy4gU96orWw2zcSXh3K9tAmGYeO2yLZrvzzeOFVf9iN99hUPw/w/b0YWYeef7nYs1DYt5XpDJghLKr3DzgznkTmMymDP3R+3wRKeuEw6/kdxY2yKJH0veaiekaVc4N2VwK/GvaGP2Hh9Fg7N++q0Adg6fIDQPt4p8RpavDbk+A4sL95WGE1
```

Output:

```
{
    "Records": [],
    "MillisBehindLatest": 80742000
}
```

For more information, see Developing Consumers Using the Kinesis Data Streams API with the AWS SDK for Java in the Amazon Kinesis Data Streams Developer Guide.

- For API details, see the following topics in AWS CLI Command Reference.
  - GetRecords
  - GetShardIterator
List streams

The following code example shows how to list information about one or more Kinesis streams.

AWS CLI

To list data streams

The following `list-streams` example lists all active data streams in the current account and region.

```bash
aws kinesis list-streams
```

Output:

```json
{
    "StreamNames": [
        "samplestream",
        "samplestream1"
    ]
}
```

For more information, see [Listing Streams](#) in the *Amazon Kinesis Data Streams Developer Guide*.

- For API details, see [ListStreams](#) in *AWS CLI Command Reference*.

Put data into a stream

The following code example shows how to put data into a Kinesis stream.

AWS CLI

To write a record into a data stream

The following `put-record` example writes a single data record into the specified data stream using the specified partition key.

```bash
aws kinesis put-record \
    --stream-name samplestream \
    --data sampledaterecord \
    --partition-key samplepartitionkey
```
Output:

```json
{
    "ShardId": "shardId-000000000009",
    "SequenceNumber": "49600902273357540915989931256901506243878407835297513618",
    "EncryptionType": "KMS"
}
```

For more information, see Developing Producers Using the Amazon Kinesis Data Streams API with the AWS SDK for Java in the Amazon Kinesis Data Streams Developer Guide.

- For API details, see PutRecord in AWS CLI Command Reference.

add-tags-to-stream

The following code example shows how to use add-tags-to-stream.

**AWS CLI**

**To add tags to a data stream**

The following add-tags-to-stream example assigns a tag with the key samplekey and value example to the specified stream.

```
aws kinesis add-tags-to-stream \
    --stream-name samplestream \
    --tags samplekey=example
```

This command produces no output.

For more information, see Tagging Your Streams in the Amazon Kinesis Data Streams Developer Guide.

- For API details, see AddTagsToStream in AWS CLI Command Reference.

decrease-stream-retention-period

The following code example shows how to use decrease-stream-retention-period.

**AWS CLI**

**To decrease data stream retention period**

---

Actions and scenarios
The following decrease-stream-retention-period example decreases the retention period (the length of time data records are accessible after they are added to the stream) of a stream named samplestream to 48 hours.

```bash
aws kinesis decrease-stream-retention-period \
   --stream-name samplestream \
   --retention-period-hours 48
```

This command produces no output.

For more information, see [Changing the Data Retention Period](https://docs.aws.amazon.com/kinesis/data-streams/latest/dev/retention-period-change.html) in the *Amazon Kinesis Data Streams Developer Guide*.

- For API details, see [DecreaseStreamRetentionPeriod](https://docs.aws.amazon.com/cli/latest/reference/kinesis/decrease-stream-retention-period.html) in *AWS CLI Command Reference*.

---

deregister-stream-consumer

The following code example shows how to use deregister-stream-consumer.

**AWS CLI**

**To deregister a data stream consumer**

The following deregister-stream-consumer example deregisters the specified consumer from the specified data stream.

```bash
aws kinesis deregister-stream-consumer \
   --consumer-name KinesisConsumerApplication
```

This command produces no output.

For more information, see [Developing Consumers with Enhanced Fan-Out Using the Kinesis Data Streams API](https://docs.aws.amazon.com/kinesis/data-streams/latest/dev/consumers.html) in the *Amazon Kinesis Data Streams Developer Guide*.

- For API details, see [DeregisterStreamConsumer](https://docs.aws.amazon.com/cli/latest/reference/kinesis/deregister-stream-consumer.html) in *AWS CLI Command Reference*.

---

describe-limits

The following code example shows how to use describe-limits.
AWS CLI

**To describe shard limits**

The following `describe-limits` example displays the shard limits and usage for the current AWS account.

```bash
aws kinesis describe-limits
```

Output:

```json
{
    "ShardLimit": 500,
    "OpenShardCount": 29
}
```

For more information, see [Resharding a Stream](https://docs.aws.amazon.com/kinesis/dev_guide/resharding-streams.html) in the *Amazon Kinesis Data Streams Developer Guide*.

- For API details, see [DescribeLimits](https://docs.aws.amazon.com/cli/latest/reference/kinesis/describe-limits.html) in *AWS CLI Command Reference*.

**describe-stream-consumer**

The following code example shows how to use `describe-stream-consumer`.

AWS CLI

**To describe a data stream consumer**

The following `describe-stream-consumer` example returns the description of the specified consumer, registered with the specified data stream.

```bash
aws kinesis describe-stream-consumer \
    --consumer-name KinesisConsumerApplication
```

Output:

```json
{
    "ConsumerDescription": {
        "ConsumerName": "KinesisConsumerApplication",
        "OpenReaders": 10
    }
}
```
For more information, see Reading Data from Amazon Kinesis Data Streams in the Amazon Kinesis Data Streams Developer Guide.

- For API details, see DescribeStreamConsumer in AWS CLI Command Reference.

**describe-stream-summary**

The following code example shows how to use describe-stream-summary.

**AWS CLI**

To describe a data stream summary

The following describe-stream-summary example provides a summarized description (without the shard list) of the specified data stream.

```
aws kinesis describe-stream-summary \
   --stream-name samplestream
```

Output:

```
{
  "StreamDescriptionSummary": {
    "StreamName": "samplestream",
    "StreamStatus": "ACTIVE",
    "RetentionPeriodHours": 48,
    "StreamCreationTimestamp": 1572297168.0,
    "EnhancedMonitoring": [
      {
        "ShardLevelMetrics": []
      }
    ],
    "EncryptionType": "NONE",
```

Actions and scenarios
"OpenShardCount": 3,
"ConsumerCount": 0
}
}

For more information, see Creating and Managing Streams in the Amazon Kinesis Data Streams Developer Guide.

- For API details, see DescribeStreamSummary in AWS CLI Command Reference.

disable-enhanced-monitoring

The following code example shows how to use disable-enhanced-monitoring.

AWS CLI

To disable enhanced monitoring for shard-level metrics

The following disable-enhanced-monitoring example disables enhanced Kinesis data stream monitoring for shard-level metrics.

```
aws kinesis disable-enhanced-monitoring \
    --stream-name samplestream --shard-level-metrics ALL
```

Output:

```
{
    "StreamName": "samplestream",
    "CurrentShardLevelMetrics": [
        "IncomingBytes",
        "OutgoingRecords",
        "IteratorAgeMilliseconds",
        "IncomingRecords",
        "ReadProvisionedThroughputExceeded",
        "WriteProvisionedThroughputExceeded",
        "OutgoingBytes"
    ],
    "DesiredShardLevelMetrics": []
}
```

For more information, see Monitoring Streams in Amazon Kinesis Data Streams in the Amazon Kinesis Data Streams Developer Guide.
enable-enhanced-monitoring

The following code example shows how to use enable-enhanced-monitoring.

AWS CLI

To enable enhanced monitoring for shard-level metrics

The following enable-enhanced-monitoring example enables enhanced Kinesis data stream monitoring for shard-level metrics.

```
aws kinesis enable-enhanced-monitoring \
   --stream-name samplestream \
   --shard-level-metrics ALL
```

Output:

```
{
    "StreamName": "samplestream",
    "CurrentShardLevelMetrics": [],
    "DesiredShardLevelMetrics": [
        "IncomingBytes",
        "OutgoingRecords",
        "IteratorAgeMilliseconds",
        "IncomingRecords",
        "ReadProvisionedThroughputExceeded",
        "WriteProvisionedThroughputExceeded",
        "OutgoingBytes"
    ]
}
```

For more information, see Monitoring Streams in Amazon Kinesis Data Streams in the Amazon Kinesis Data Streams Developer Guide.

- For API details, see EnableEnhancedMonitoring in AWS CLI Command Reference.

get-shard-iterator

The following code example shows how to use get-shard-iterator.
AWS CLI

To obtain a shard iterator

The following get-shard-iterator example uses the AT_SEQUENCE_NUMBER shard iterator type and generates a shard iterator to start reading data records exactly from the position denoted by the specified sequence number.

```bash
aws kinesis get-shard-iterator \
--stream-name samplestream \
--shard-id shardId-000000000001 \
--shard-iterator-type LATEST
```

Output:

```json
{
   "ShardIterator": "AAAAAAABf7YI+3jw/4aqqH9FifJ+n48XWTh/\nIFIsbILP6o5eDueD39NXNBFpZ10WL5K6ADXk8w+5H+Qhd9cFA9k268CPXcz//kebq1TGYI7Vy\n+1UkA9BuN3xvATxMBGxRY3zYK05qqgvaIRn9408SqeEqwhigwZxNWxID3Ej7YYYcxQ18Q/fIrcjGAy/\nN2r5Z9G864YpWDfN9upNNQAR/ii0WKs"
}
```

For more information, see [Developing Consumers Using the Kinesis Data Streams API with the AWS SDK for Java](https://docs.aws.amazon.com/kinesis/latest/dev/develop-consumers-sdk-java.html) in the *Amazon Kinesis Data Streams Developer Guide*.

- For API details, see [GetShardIterator](https://docs.aws.amazon.com/cli/latest/reference/kinesis/get-shard-iterator.html) in *AWS CLI Command Reference*.

increase-stream-retention-period

The following code example shows how to use increase-stream-retention-period.

AWS CLI

To increase data stream retention period

The following increase-stream-retention-period example increases the retention period (the length of time data records are accessible after they are added to the stream) of the specified stream to 168 hours.

```bash
aws kinesis increase-stream-retention-period \
--stream-name samplestream \
```

Actions and scenarios
This command produces no output.

For more information, see Changing the Data Retention Period in the Amazon Kinesis Data Streams Developer Guide.

- For API details, see IncreaseStreamRetentionPeriod in AWS CLI Command Reference.

list-shards

The following code example shows how to use list-shards.

AWS CLI

To list shards in a data stream

The following list-shards example lists all shards in the specified stream starting with the shard whose ID immediately follows the specified exclusive-start-shard-id of shardId-000000000000.

```
aws kinesis list-shards \
    --stream-name samplestream \
    --exclusive-start-shard-id shardId-000000000000
```

Output:

```
{
    "Shards": [
    {
        "ShardId": "shardId-000000000001",
        "HashKeyRange": {
            "StartingHashKey": "113427455640312821154458202477256070485",
            "EndingHashKey": "226854911280625642308916404954512140969"
        },
        "SequenceNumberRange": {
            "StartingSequenceNumber": "4960087168297933718756355549332609155523708941634633746"
        }
    },
    {
        "ShardId": "shardId-000000000002",
```
"HashKeyRange": {
    "StartingHashKey": "226854911280625642308916404954512140970",
    "EndingHashKey": "340282366920938463463374607431768211455"
},
"SequenceNumberRange": {
    "StartingSequenceNumber": "49600871683001637932762086172474144873796357303140614178"
}
]
}

For more information, see Listing Shards in the Amazon Kinesis Data Streams Developer Guide.

- For API details, see ListShards in AWS CLI Command Reference.

list-tags-for-stream

The following code example shows how to use list-tags-for-stream.

AWS CLI

To list tags for a data stream

The following list-tags-for-stream example lists the tags attached to the specified data stream.

```bash
aws kinesis list-tags-for-stream \
    --stream-name samplestream
```

Output:

```json
{
    "Tags": [
        {
            "Key": "samplekey",
            "Value": "example"
        }
    ],
    "HasMoreTags": false
}
```
For more information, see Tagging Your Streams in the Amazon Kinesis Data Streams Developer Guide.

- For API details, see ListTagsForStream in AWS CLI Command Reference.

merge-shards

The following code example shows how to use merge-shards.

AWS CLI

To merge shards

The following merge-shards example merges two adjacent shards with IDs of shardId-000000000000 and shardId-000000000001 in the specified data stream and combines them into a single shard.

```bash
aws kinesis merge-shards \
  --stream-name samplestream \
  --shard-to-merge shardId-000000000000 \
  --adjacent-shard-to-merge shardId-000000000001
```

This command produces no output.

For more information, see Merging Two Shards in the Amazon Kinesis Data Streams Developer Guide.

- For API details, see MergeShards in AWS CLI Command Reference.

put-records

The following code example shows how to use put-records.

AWS CLI

To write multiple records into a data stream

The following put-records example writes a data record using the specified partition key and another data record using a different partition key in a single call.

```bash
aws kinesis put-records \
```
--stream-name samplestream \
--records Data=blob1,PartitionKey=partitionkey1 
Data=blob2,PartitionKey=partitionkey2

Output:

{
   "FailedRecordCount": 0,
   "Records": [
   {
      "SequenceNumber": "496008333117147151967479558823853149846539900093808706",
      "ShardId": "shardId-000000000004"
   },
   {
      "SequenceNumber": "49600902273575409159899531256902715169698037102720764562",
      "ShardId": "shardId-000000000009"
   }
   ],
   "EncryptionType": "KMS"
}

For more information, see Developing Producers Using the Amazon Kinesis Data Streams API with the AWS SDK for Java in the Amazon Kinesis Data Streams Developer Guide.

• For API details, see PutRecords in AWS CLI Command Reference.

register-stream-consumer

The following code example shows how to use register-stream-consumer.

AWS CLI

To register a data stream consumer

The following register-stream-consumer example registers a consumer called KinesisConsumerApplication with the specified data stream.

aws kinesis register-stream-consumer \
   --consumer-name KinesisConsumerApplication
Output:

```
{
    "Consumer": {
        "ConsumerName": "KinesisConsumerApplication",
        "ConsumerStatus": "CREATING",
        "ConsumerCreationTimestamp": 1572383852.0
    }
}
```

For more information, see Developing Consumers with Enhanced Fan-Out Using the Kinesis Data Streams API in the Amazon Kinesis Data Streams Developer Guide.

- For API details, see RegisterStreamConsumer in AWS CLI Command Reference.

**remove-tags-from-stream**

The following code example shows how to use remove-tags-from-stream.

**AWS CLI**

**To remove tags from a data stream**

The following remove-tags-from-stream example removes the tag with the specified key from the specified data stream.

```
aws kinesis remove-tags-from-stream \
    --stream-name samplestream \
    --tag-keys samplekey
```

This command produces no output.

For more information, see Tagging Your Streams in the Amazon Kinesis Data Streams Developer Guide.

- For API details, see RemoveTagsFromStream in AWS CLI Command Reference.

**split-shard**

The following code example shows how to use split-shard.
AWS CLI

To split shards

The following split-shard example splits the specified shard into two new shards using a new starting hash key of 10.

```
aws kinesis split-shard \
  --stream-name samplestream \
  --shard-to-split shardId-000000000000 \
  --new-starting-hash-key 10
```

This command produces no output.

For more information, see Splitting a Shard in the Amazon Kinesis Data Streams Developer Guide.

- For API details, see SplitShard in AWS CLI Command Reference.

start-stream-encryption

The following code example shows how to use start-stream-encryption.

AWS CLI

To enable data stream encryption

The following start-stream-encryption example enables server-side encryption for the specified stream, using the specified AWS KMS key.

```
aws kinesis start-stream-encryption \
  --encryption-type KMS \
  --key-id arn:aws:kms:us-west-2:012345678912:key/a3c4a7cd-728b-45dd-b334-4d3eb496e452 \
  --stream-name samplestream
```

This command produces no output.

For more information, see Data Protection in Amazon Kinesis Data Streams in the Amazon Kinesis Data Streams Developer Guide.

- For API details, see StartStreamEncryption in AWS CLI Command Reference.
**stop-stream-encryption**

The following code example shows how to use stop-stream-encryption.

**AWS CLI**

**To disable data stream encryption**

The following stop-stream-encryption example disables server-side encryption for the specified stream, using the specified AWS KMS key.

```
aws kinesis start-stream-encryption \
  --encryption-type KMS \
  --key-id arn:aws:kms:us-west-2:012345678912:key/a3c4a7cd-728b-45dd-b334-4d3eb496e452 \
  --stream-name samplestream
```

This command produces no output.

For more information, see Data Protection in Amazon Kinesis Data Streams in the Amazon Kinesis Data Streams Developer Guide.

- For API details, see StopStreamEncryption in AWS CLI Command Reference.

**update-shard-count**

The following code example shows how to use update-shard-count.

**AWS CLI**

**To update the shard count in a data stream**

The following update-shard-count example updates the shard count of the specified data stream to 6. This example uses uniform scaling, which creates shards of equal size.

```
aws kinesis update-shard-count \
  --stream-name samplestream \
  --scaling-type UNIFORM_SCALING \
  --target-shard-count 6
```

**Output:**
For more information, see Resharding a Stream in the Amazon Kinesis Data Streams Developer Guide.

- For API details, see UpdateShardCount in AWS CLI Command Reference.

Firehose examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Firehose.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics
- Actions

Actions

Write multiple data records

The following code example shows how to write multiple data records into a Firehose delivery stream in a single call, which can achieve higher throughput per producer than when writing single records.

AWS CLI

To write multiple records to a stream
The following `put-record-batch` example writes three records to a stream. The data is encoded in Base64 format.

```bash
aws firehose put-record-batch
  --delivery-stream-name my-stream
  --records file://records.json
```

Contents of `myfile.json`:

```json
[
  {"Data": "Rmlyc3QgdGhpbmcyM="},
  {"Data": "U2Vjb25kIHRoaW5n"},
  {"Data": "VGhpcmQgdGhpbmcyM="}
]
```

Output:

```json
{
  "FailedPutCount": 0,
  "Encrypted": false,
  "RequestResponses": [
    {
      "RecordId": "9D20J6t2EqCTZTwGzeSv/EVHxRoRCw89xd+o3+sXg8DhY0aWKP5mZy/CGlRVEys1u1beKh6VofEYKkoeiDrjrxhQp9iF7sUW7pujiMEQ5Lz1rzCkGosxQn+3boDnURDEaD42V7GiixpOyL3kJYcaei7Hz1CEoy9LJhMr8EjDSi40m/9Vc2uhwwuAtGEOXKpxJ2W7ZWRtAnY1KAvvJkCvIbik8",
    },
    {
      "RecordId": "jFirej2xCLlT5xjH/UNmlMVcjtEN76I7916X9PaZ+PVaOSXdfU1WGOqEzhhxq2js7xcZ552oeeDxsuTU1MSq9nZTBvVfb6cQTIXxm/GsuF37Uh6G7KmR5z9016XKJ+/+pDloFv7H9a3oUS6wYm3DcNRLTHHAimANp1PhkQvWpLRfzbuCUkJBphR2QVzhP90iHlbzGwy8/DFh8sqWEUYASNJK58XGP5s"
    },
    {
      "RecordId": "oy0amQ4o05Y2YV4vxzufdcM00w6n3EP3tpPJgoYV/NKH4APPvQncbUgfo1stEFRg4hTlr2k6elHiH/9+YJ5R3ieDTBt3qBlmTj7xQ8S5Tvbo1s7YymTpkWkMKA8f8J7mT8BMKoMb4XZS/sOkQLe+qh0sYXWl"
    }
  ]
}
```

For more information, see [Sending Data to an Amazon Kinesis Data Firehose Delivery Stream](https://docs.aws.amazon.com/kinesis/firehose/latest/dev/sending-data-to-an-aws-kinesis-data-firehose-delivery-stream.html) in the [Amazon Kinesis Data Firehose Developer Guide](https://docs.aws.amazon.com/kinesis/datafirehose/latest/dev/).
list-delivery-streams

The following code example shows how to use list-delivery-streams.

AWS CLI

To list the available delivery streams

The following list-delivery-streams example lists the available delivery streams in your AWS account.

```bash
aws firehose list-delivery-streams
```

Output:

```json
{
  "DeliveryStreamNames": [
    "my-stream"
  ],
  "HasMoreDeliveryStreams": false
}
```

For more information, see Creating an Amazon Kinesis Data Firehose Delivery Stream in the Amazon Kinesis Data Firehose Developer Guide.

put-record

The following code example shows how to use put-record.

AWS CLI

To write a record to a stream

The following put-record example writes data to a stream. The data is encoded in Base64 format.

```bash
aws firehose put-record \
```
--delivery-stream-name my-stream \
--record '{"Data":"SGVsbG8gd29ybGQ="}'

Output:

```
{
  "RecordId": "RjB5K/nnoGFHqwTsZ1Nd/TTvqjE8V5dsyXZTQn2JXrdbpMToWssyEb6nfC8fwf1whwnItt4mvrn+gsqek5jB7QjuLg283+Ps4Sz/j1Xujv31iDhnPdaLw4B0yM9Amv7PcCuB2079RuM0NhakbyUymlwY8yt20G8X2420wu1jlFafhc14erAt7QhDEvpwuK8 "Encrypted": false
}
```

For more information, see [Sending Data to an Amazon Kinesis Data Firehose Delivery Stream](https://docs.aws.amazon.com/kinesis/data-exports/latest/devguide/Sending-Deliveries.html) in the *Amazon Kinesis Data Firehose Developer Guide*.

- For API details, see [PutRecord](https://docs.aws.amazon.com/cli/latest/reference/kinesis.PutRecord.html) in *AWS CLI Command Reference*.

**AWS KMS examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS KMS.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- **Actions**

**Actions**

**Create a grant for a key**

The following code example shows how to create a grant for a KMS key.
AWS CLI

To create a grant

The following create-grant example creates a grant that allows the exampleUser user to use the decrypt command on the 1234abcd-12ab-34cd-56ef-1234567890ab example KMS key. The retiring principal is the adminRole role. The grant uses the EncryptionContextSubset grant constraint to allow this permission only when the encryption context in the decrypt request includes the "Department": "IT" key-value pair.

```
aws kms create-grant \
  --key-id 1234abcd-12ab-34cd-56ef-1234567890ab \
  --grantee-principal arn:aws:iam::123456789012:user/exampleUser \
  --operations Decrypt \
  --constraints EncryptionContextSubset={Department=IT} \
  --retiring-principal arn:aws:iam::123456789012:role/adminRole
```

Output:

```
{
  "GrantId": "1a2b3c4d2f5e69f440bae30eaec9570bb1fb7358824f9ddfa1aa5a0dab1a59b2",
  "GrantToken": "<grant token here>"
}
```

To view detailed information about the grant, use the list-grants command.

For more information, see Grants in AWS KMS in the AWS Key Management Service Developer Guide.

- For API details, see CreateGrant in AWS CLI Command Reference.

Create a key

The following code example shows how to create an AWS KMS key.

AWS CLI

Example 1: To create a customer managed KMS key in AWS KMS

The following create-key example creates a symmetric encryption KMS key.
To create the basic KMS key, a symmetric encryption key, you do not need to specify any parameters. The default values for those parameters create a symmetric encryption key.

Because this command doesn't specify a key policy, the KMS key gets the default key policy for programmatically created KMS keys. To view the key policy, use the get-key-policy command. To change the key policy, use the put-key-policy command.

```bash
aws kms create-key
```

The `create-key` command returns the key metadata, including the key ID and ARN of the new KMS key. You can use these values to identify the KMS key in other AWS KMS operations. The output does not include the tags. To view the tags for a KMS key, use the `list-resource-tags` command.

### Output:

```json
{
   "KeyMetadata": {
      "AWSAccountId": "111122223333",
      "Arn": "arn:aws:kms:us-west-2:111122223333:key/1234abcd-12ab-34cd-56ef-1234567890ab",
      "CreationDate": "2017-07-05T14:04:55-07:00",
      "CustomerMasterKeySpec": "SYMMETRIC_DEFAULT",
      "Description": "",
      "Enabled": true,
      "KeyId": "1234abcd-12ab-34cd-56ef-1234567890ab",
      "KeyManager": "CUSTOMER",
      "KeySpec": "SYMMETRIC_DEFAULT",
      "KeyState": "Enabled",
      "KeyUsage": "ENCRYPT_DECRYPT",
      "MultiRegion": false,
      "Origin": "AWS_KMS",
      "EncryptionAlgorithms": [
         "SYMMETRIC_DEFAULT"
      ]
   }
}
```

Note: The `create-key` command does not let you specify an alias. To create an alias for the new KMS key, use the `create-alias` command.

For more information, see [Creating keys](#) in the [AWS Key Management Service Developer Guide](#).

**Actions and scenarios**
Example 2: To create an asymmetric RSA KMS key for encryption and decryption

The following `create-key` example creates a KMS key that contains an asymmetric RSA key pair for encryption and decryption.

```aws
aws kms create-key
   --key-spec RSA_4096
   --key-usage ENCRYPT_DECRYPT
```

Output:

```json
{
   "KeyMetadata": {
      "Arn": "arn:aws:kms:us-east-2:111122223333:key/1234abcd-12ab-34cd-56ef-1234567890ab",
      "AWSAccountId": "111122223333",
      "CreationDate": "2021-04-05T14:04:55-07:00",
      "CustomerMasterKeySpec": "RSA_4096",
      "Description": "",
      "Enabled": true,
      "EncryptionAlgorithms": [
         "RSAES_OAEP_SHA_1",
         "RSAES_OAEP_SHA_256"
      ],
      "KeyId": "1234abcd-12ab-34cd-56ef-1234567890ab",
      "KeyManager": "CUSTOMER",
      "KeySpec": "RSA_4096",
      "KeyState": "Enabled",
      "KeyUsage": "ENCRYPT_DECRYPT",
      "MultiRegion": false,
      "Origin": "AWS_KMS"
   }
}
```

For more information, see the `Asymmetric keys in AWS KMS` in the *AWS Key Management Service Developer Guide*.

Example 3: To create an asymmetric elliptic curve KMS key for signing and verification

To create an asymmetric KMS key that contains an asymmetric elliptic curve (ECC) key pair for signing and verification. The `--key-usage` parameter is required even though `SIGN_VERIFY` is the only valid value for ECC KMS keys.
aws kms create-key \ 
   --key-spec ECC_NIST_P521 \ 
   --key-usage SIGN_VERIFY

Output:

{
   "KeyMetadata": {
       "Arn": "arn:aws:kms:us-east-2:111122223333:key/1234abcd-12ab-34cd-56ef-1234567890ab",
       "AWSAccountId": "111122223333",
       "CreationDate": "2019-12-02T07:48:55-07:00",
       "CustomerMasterKeySpec": "ECC_NIST_P521",
       "Description": "",
       "Enabled": true,
       "KeyId": "1234abcd-12ab-34cd-56ef-1234567890ab",
       "KeyManager": "CUSTOMER",
       "KeySpec": "ECC_NIST_P521",
       "KeyState": "Enabled",
       "KeyUsage": "SIGN_VERIFY",
       "MultiRegion": false,
       "Origin": "AWS_KMS",
       "SigningAlgorithms": [
           "ECDSA_SHA_512"
       ]
   }
}

For more information, see Asymmetric keys in AWS KMS in the AWS Key Management Service Developer Guide.

Example 4: To create an HMAC KMS key

The following create-key example creates a 384-bit HMAC KMS key. The GENERATE_VERIFY_MAC value for the --key-usage parameter is required even though it's the only valid value for HMAC KMS keys.

aws kms create-key \ 
   --key-spec HMAC_384 \ 
   --key-usage GENERATE_VERIFY_MAC

Output:
For more information, see [HMAC keys in AWS KMS](https://docs.aws.amazon.com/kms/latest/developerguide/hmac-keys.html) in the *AWS Key Management Service Developer Guide*.

**Example 4: To create a multi-Region primary KMS key**

The following `create-key` example creates a multi-Region primary symmetric encryption key. Because the default values for all parameters create a symmetric encryption key, only the `--multi-region` parameter is required for this KMS key. In the AWS CLI, to indicate that a Boolean parameter is true, just specify the parameter name.

```
aws kms create-key
   --multi-region
```

**Output:**

```json
{
   "KeyMetadata": {
      "Arn": "arn:aws:kms:us-west-2:111122223333:key/mrk-1234abcd12ab34cd56ef1234567890ab",
      "AWSAccountId": "111122223333",
      "CreationDate": "2022-04-05T14:04:55-07:00",
      "CustomerMasterKeySpec": "HMAC_384",
      "Description": "",
      "Enabled": true,
      "KeyId": "1234abcd-12ab-34cd-56ef-1234567890ab",
      "KeyManager": "CUSTOMER",
      "KeySpec": "HMAC_384",
      "KeyState": "Enabled",
      "KeyUsage": "GENERATE_VERIFY_MAC",
      "MacAlgorithms": [
         "HMAC_SHA_384"
      ],
      "MultiRegion": false,
      "Origin": "AWS_KMS"
   }
}
```
For more information, see [Asymmetric keys in AWS KMS](https://docs.aws.amazon.com/kms/latest/developerguide/asymmetric-keys.html) in the *AWS Key Management Service Developer Guide*.

**Example 5: To create a KMS key for imported key material**

The following `create-key` example creates a KMS key with no key material. When the operation is complete, you can import your own key material into the KMS key. To create this KMS key, set the `--origin` parameter to `EXTERNAL`.

```
aws kms create-key \
  --origin EXTERNAL
```

Output:

```json
{
}
```
For more information, see [Importing key material in AWS KMS keys](https://docs.aws.amazon.com/kms/latest/developerguide/import-key-material.html) in the *AWS Key Management Service Developer Guide*.

**Example 6: To create a KMS key in an AWS CloudHSM key store**

The following `create-key` example creates a key in the specified AWS CloudHSM key store. The operation creates the KMS key and its metadata in AWS KMS and creates the key material in the AWS CloudHSM cluster associated with the custom key store. The `--custom-key-store-id` and `--origin` parameters are required.

```
aws kms create-key \
  --origin AWS_CLOUDHSM \
  --custom-key-store-id cks-1234567890abcdef0
```

**Output:**

```json
{
  "KeyMetadata": {
    "Arn": "arn:aws:kms:us-east-2:111122223333:key/1234abcd-12ab-34cd-56ef-1234567890ab",
    "AWSAccountId": "111122223333",
    "CreationDate": "2019-12-02T07:48:55-07:00",
    "CustomerMasterKeySpec": "SYMMETRIC_DEFAULT",
    "Description": "",
    "Enabled": false,
    "EncryptionAlgorithms": [
      "SYMMETRIC_DEFAULT"
    ],
    "KeyId": "1234abcd-12ab-34cd-56ef-1234567890ab",
    "KeyManager": "CUSTOMER",
    "KeySpec": "SYMMETRIC_DEFAULT",
    "KeyState": "PendingImport",
    "KeyUsage": "ENCRYPT_DECRYPT",
    "MultiRegion": false,
    "Origin": "EXTERNAL"
  }
}
```
For more information, see [AWS CloudHSM key stores](https://aws.amazon.com/cloudhsm(key)) in the [AWS Key Management Service Developer Guide](https://docs.aws.amazon.com/kms/latest/userguide/what-is-kms.html).

**Example 7: To create a KMS key in an external key store**

The following `create-key` example creates a KMS key in the specified external key store. The `--custom-key-store-id`, `--origin`, and `--xks-key-id` parameters are required in this command.

The `--xks-key-id` parameter specifies the ID of an existing symmetric encryption key in your external key manager. This key serves as the external key material for the KMS key. The value of the `--origin` parameter must be `EXTERNAL_KEY_STORE`. The `custom-key-store-id` parameter must identify an external key store that is connected to its external key store proxy.

```
aws kms create-key \
  --origin EXTERNAL_KEY_STORE \
  --custom-key-store-id cks-9876543210fedcba9 \
  --xks-key-id bb8562717f809024
```

Output:

```
{
  "KeyMetadata": {
```

Actions and scenarios
For more information, see External key stores in the AWS Key Management Service Developer Guide.

- For API details, see CreateKey in AWS CLI Command Reference.

Create a random byte string

The following code example shows how to create a random byte string that is cryptographically secure using AWS KMS.

AWS CLI

Example 1: To generate a 256-bit random byte string (Linux or macOS)

The following generate-random example generates a 256-bit (32-byte), base64-encoded random byte string. The example decodes the byte string and saves it in the random file.

When you run this command, you must use the number-of-bytes parameter to specify the length of the random value in bytes.
You don't specify a KMS key when you run this command. The random byte string is unrelated to any KMS key.

By default, AWS KMS generates the random number. However, if you specify a custom key store, the random byte string is generated in the AWS CloudHSM cluster associated with the custom key store.

This example uses the following parameters and values:

It uses the required `--number-of-bytes` parameter with a value of 32 to request a 32-byte (256-bit) string. It uses the `--output` parameter with a value of `text` to direct the AWS CLI to return the output as text, instead of JSON. It uses the `--query` parameter to extract the value of the `Plaintext` property from the response. It pipes (|) the output of the command to the `base64` utility, which decodes the extracted output. It uses the redirection operator (>) to save decoded byte string to the `ExampleRandom` file. It uses the redirection operator (>) to save the binary ciphertext to a file.

```bash
aws kms generate-random
--number-of-bytes 32
--output text
--query Plaintext | base64 --decode > ExampleRandom
```

This command produces no output.

For more information, see GenerateRandom in the AWS Key Management Service API Reference.

**Example 2: To generate a 256-bit random number (Windows Command Prompt)**

The following example uses the `generate-random` command to generate a 256-bit (32-byte), base64-encoded random byte string. The example decodes the byte string and saves it in the random file. This example is the same as the previous example, except that it uses the `certutil` utility in Windows to base64-decode the random byte string before saving it in a file.

First, generate a base64-encoded random byte string and saves it in a temporary file, `ExampleRandom.base64`.

```bash
aws kms generate-random
--number-of-bytes 32
```
Because the output of the generate-random command is saved in a file, this example produces no output.

Now use the certutil -decode command to decode the base64-encoded byte string in the ExampleRandom.base64 file. Then, it saves the decoded byte string in the ExampleRandom file.

certutil -decode ExampleRandom.base64 ExampleRandom

Output:

Input Length = 18
Output Length = 12
CertUtil: -decode command completed successfully.

For more information, see GenerateRandom in the AWS Key Management Service API Reference.

• For API details, see GenerateRandom in AWS CLI Command Reference.

Create an alias for a key

The following code example shows how to create an alias for a KMS key key.

AWS CLI

To create an alias for a KMS key

The following create-alias command creates an alias named example-alias for the KMS key identified by key ID 1234abcd-12ab-34cd-56ef-1234567890ab.

Alias names must begin with alias/. Do not use alias names that begin with alias/aws; these are reserved for use by AWS.

aws kms create-alias \
   --alias-name alias/example-alias \
   --target-key-id 1234abcd-12ab-34cd-56ef-1234567890ab
This command doesn't return any output. To see the new alias, use the `list-aliases` command.

For more information, see **Using aliases** in the *AWS Key Management Service Developer Guide*.

- For API details, see **CreateAlias** in *AWS CLI Command Reference*.

**Decrypt ciphertext**

The following code example shows how to decrypt ciphertext that was encrypted by a KMS key.

**AWS CLI**

**Example 1: To decrypt an encrypted message with a symmetric KMS key (Linux and macOS)**

The following decrypt command example demonstrates the recommended way to decrypt data with the AWS CLI. This version shows how to decrypt data under a symmetric KMS key.


Specify the KMS key to decrypt the ciphertext. The `--key-id` parameter is not required when decrypting with a symmetric KMS key. AWS KMS can get the key ID of the KMS key that was used to encrypt the data from the metadata in the ciphertext. But it's always a best practice to specify the KMS key you are using. This practice ensures that you use the KMS key that you intend, and prevents you from inadvertently decrypting a ciphertext using a KMS key you do not trust.

Request the plaintext output as a text value. The `--query` parameter tells the CLI to get only the value of the `Plaintext` field from the output. The `--output` parameter returns the output as text. Base64-decode the plaintext and save it in a file. The following example pipes (`|`) the value of the `Plaintext` parameter to the Base64 utility, which decodes it. Then, it redirects (`>`) the decoded output to the `ExamplePlaintext` file.

Before running this command, replace the example key ID with a valid key ID from your AWS account.
aws kms decrypt \
    --ciphertext-blob fileb://ExampleEncryptedFile \
    --key-id 1234abcd-12ab-34cd-56ef-1234567890ab \
    --output text \
    --query Plaintext | base64 \
    --decode > ExamplePlaintextFile

This command produces no output. The output from the decrypt command is base64-decoded and saved in a file.

For more information, see Decrypt in the AWS Key Management Service API Reference.

Example 2: To decrypt an encrypted message with a symmetric KMS key (Windows command prompt)

The following example is the same as the previous one except that it uses the certutil utility to Base64-decode the plaintext data. This procedure requires two commands, as shown in the following examples.

Before running this command, replace the example key ID with a valid key ID from your AWS account.

aws kms decrypt ^
    --ciphertext-blob fileb://ExampleEncryptedFile ^
    --key-id 1234abcd-12ab-34cd-56ef-1234567890ab ^
    --output text ^
    --query Plaintext > ExamplePlaintextFile.base64

Run the certutil command.

certutil -decode ExamplePlaintextFile.base64 ExamplePlaintextFile

Output:

Input Length = 18
Output Length = 12
CertUtil: -decode command completed successfully.

For more information, see Decrypt in the AWS Key Management Service API Reference.
Example 3: To decrypt an encrypted message with an asymmetric KMS key (Linux and macOS)

The following decrypt command example shows how to decrypt data encrypted under an RSA asymmetric KMS key.

When using an asymmetric KMS key, the encryption-algorithm parameter, which specifies the algorithm used to encrypt the plaintext, is required.

Before running this command, replace the example key ID with a valid key ID from your AWS account.

```
aws kms decrypt \
    --ciphertext-blob fileb://ExampleEncryptedFile \
    --key-id 0987dcba-09fe-87dc-65ba-ab0987654321 \
    --encryption-algorithm RSAES_OAEP_SHA_256 \
    --output text \
    --query Plaintext | base64 \
    --decode > ExamplePlaintextFile
```

This command produces no output. The output from the decrypt command is base64-decoded and saved in a file.

For more information, see Asymmetric keys in AWS KMS in the AWS Key Management Service Developer Guide.

- For API details, see Decrypt in AWS CLI Command Reference.

Delete an alias

The following code example shows how to delete an AWS KMS alias.

AWS CLI

To delete an AWS KMS alias

The following delete-alias example deletes the alias alias/example-alias. The alias name must begin with alias/.

```
aws kms delete-alias \
```
describe-key

The following code example shows how to describe a KMS key.

AWS CLI

Example 1: To find detailed information about a KMS key

The following describe-key example gets detailed information about the AWS managed key for Amazon S3 in the example account and Region. You can use this command to find details about AWS managed keys and customer managed keys.

To specify the KMS key, use the key-id parameter. This example uses an alias name value, but you can use a key ID, key ARN, alias name, or alias ARN in this command.

```bash
aws kms describe-key
   --key-id alias/aws/s3
```

Output:

```json
{
   "KeyMetadata": {
      "AWSAccountId": "846764612917",
      "KeyId": "b8a9477d-836c-491f-857e-07937918959b",
      "CreationDate": 2017-06-30T21:44:32.140000+00:00,
      "Enabled": true,
      "Description": "Default KMS key that protects my S3 objects when no other key is defined",
      "KeyUsage": "ENCRYPT_DECRYPT",
      "KeyState": "Enabled",
```
"Origin": "AWS_KMS",
"KeyManager": "AWS",
"CustomerMasterKeySpec": "SYMMETRIC_DEFAULT",
"EncryptionAlgorithms": [
  "SYMMETRIC_DEFAULT"
]
}
}

For more information, see Viewing keys in the AWS Key Management Service Developer Guide.

Example 2: To get details about an RSA asymmetric KMS key

The following describe-key example gets detailed information about an asymmetric RSA KMS key used for signing and verification.

```bash
aws kms describe-key \
  --key-id 1234abcd-12ab-34cd-56ef-1234567890ab
```

Output:

```json
{
  "KeyMetadata": {
    "AWSAccountId": "111122223333",
    "KeyId": "1234abcd-12ab-34cd-56ef-1234567890ab",
    "Arn": "arn:aws:kms:us-west-2:111122223333:key/1234abcd-12ab-34cd-56ef-1234567890ab",
    "CreationDate": "2019-12-02T19:47:14.861000+00:00",
    "CustomerMasterKeySpec": "RSA_2048",
    "Enabled": false,
    "Description": "",
    "KeyState": "Disabled",
    "Origin": "AWS_KMS",
    "MultiRegion": false,
    "KeyManager": "CUSTOMER",
    "KeySpec": "RSA_2048",
    "KeyUsage": "SIGN_VERIFY",
    "SigningAlgorithms": [
      "RSASSA_PKCS1_V1_5_SHA_256",
      "RSASSA_PKCS1_V1_5_SHA_384",
      "RSASSA_PKCS1_V1_5_SHA_512",
      "RSASSA_PSS_SHA_256",
      "RSASSA_PSS_SHA_384"
    ]
  }
}
Example 3: To get details about a multi-Region replica key

The following describe-key example gets metadata for a multi-Region replica key. This multi-Region key is a symmetric encryption key. The output of a describe-key command for any multi-Region key returns information about the primary key and all of its replicas.

```bash
aws kms describe-key \
--key-id arn:aws:kms:ap-northeast-1:111122223333:key/mrk-1234abcd12ab34cd56ef1234567890ab
```

Output:

```
{
   "KeyMetadata": {
      "MultiRegion": true,
      "AWSAccountId": "111122223333",
      "Arn": "arn:aws:kms:ap-northeast-1:111122223333:key/mrk-1234abcd12ab34cd56ef1234567890ab",
      "CreationDate": "2021-06-28T21:09:16.114000+00:00",
      "Description": "",
      "Enabled": true,
      "KeyId": "mrk-1234abcd12ab34cd56ef1234567890ab",
      "KeyManager": "CUSTOMER",
      "KeyState": "Enabled",
      "KeyUsage": "ENCRYPT_DECRYPT",
      "Origin": "AWS_KMS",
      "CustomerMasterKeySpec": "SYMMETRIC_DEFAULT",
      "EncryptionAlgorithms": [
         "SYMMETRIC_DEFAULT"
      ],
      "MultiRegionConfiguration": {
         "MultiRegionKeyType": "PRIMARY",
         "PrimaryKey": {
            "Arn": "arn:aws:kms:us-west-2:111122223333:key/mrk-1234abcd12ab34cd56ef1234567890ab",
            "Region": "us-west-2"
         }
      }
   }
}
```
Example 4: To get details about an HMAC KMS key

The following `describe-key` example gets detailed information about an HMAC KMS key.

```
aws kms describe-key \
    --key-id 1234abcd-12ab-34cd-56ef-1234567890ab
```

Output:

```json
{
    "KeyMetadata": {
        "AWSAccountId": "123456789012",
        "KeyId": "1234abcd-12ab-34cd-56ef-1234567890ab",
        "Arn": "arn:aws:kms:us-west-2:123456789012:key/1234abcd-12ab-34cd-56ef-1234567890ab",
        "CreationDate": "2022-04-03T22:23:10.194000+00:00",
        "Enabled": true,
        "Description": "Test key",
        "KeyUsage": "GENERATE_VERIFY_MAC",
        "KeyState": "Enabled",
        "Origin": "AWS_KMS",
        "KeyManager": "CUSTOMER",
```
• For API details, see DescribeKey in AWS CLI Command Reference.

Disable a key

The following code example shows how to disable a KMS key.

**AWS CLI**

To temporarily disable a KMS key

The following example uses the disable-key command to disable a customer managed KMS key. To re-enable the KMS key, use the enable-key command.

```bash
aws kms disable-key \
    --key-id 1234abcd-12ab-34cd-56ef-1234567890ab
```

This command produces no output.

For more information, see Enabling and Disabling Keys in the AWS Key Management Service Developer Guide.

• For API details, see DisableKey in AWS CLI Command Reference.

Enable a key

The following code example shows how to enable a KMS key.

**AWS CLI**

To enable a KMS key

The following enable-key example enables a customer managed key. You can use a command like this one to enable a KMS key that you temporarily disabled by using the disable-key
command. You can also use it to enable a KMS key that is disabled because it was scheduled for deletion and the deletion was canceled.

To specify the KMS key, use the key-id parameter. This example uses an key ID value, but you can use a key ID or key ARN value in this command.

Before running this command, replace the example key ID with a valid one.

```
aws kms enable-key \
    --key-id 1234abcd-12ab-34cd-56ef-1234567890ab
```

This command produces no output. To verify that the KMS key is enabled, use the describe-key command. See the values of the KeyState and Enabled fields in the describe-key output.

For more information, see [Enabling and Disabling Keys](https://docs.aws.amazon.com/kms/latest/developerguide/enabling-disabling-keys.html) in the AWS Key Management Service Developer Guide.

- For API details, see [EnableKey](https://docs.aws.amazon.com/cli/latest/reference/kms/enable-key.html) in AWS CLI Command Reference.

### Encrypt text using a key

The following code example shows how to encrypt text using a KMS key.

#### AWS CLI

**Example 1: To encrypt the contents of a file on Linux or MacOS**

The following `encrypt` command demonstrates the recommended way to encrypt data with the AWS CLI.

```
aws kms encrypt \
    --key-id 1234abcd-12ab-34cd-56ef-1234567890ab \
    --plaintext fileb://ExamplePlaintextFile \
    --output text \
    --query CiphertextBlob | base64 \
    --decode > ExampleEncryptedFile
```

The command does several things:

- Uses the `--plaintext` parameter to indicate the data to encrypt. This parameter value must be base64-encoded. The value of the plaintext parameter must be base64-encoded, or you
must use the fileb:// prefix, which tells the AWS CLI to read binary data from the file. If the file is not in the current directory, type the full path to file. For example: fileb://var/tmp/ExamplePlaintextFile or fileb://C:\Temp\ExamplePlaintextFile. For more information about reading AWS CLI parameter values from a file, see Loading Parameters from a File in the AWS Command Line Interface User Guide and Best Practices for Local File Parameters on the AWS Command Line Tool Blog. Uses the --output and --query parameters to control the command's output. These parameters extract the encrypted data, called the ciphertext, from the command's output. For more information about controlling output, see Controlling Command Output in the AWS Command Line Interface User Guide. Uses the base64 utility to decode the extracted output into binary data. The ciphertext that is returned by a successful encrypt command is base64-encoded text. You must decode this text before you can use the AWS CLI to decrypt it. Saves the binary ciphertext to a file. The final part of the command (> ExampleEncryptedFile) saves the binary ciphertext to a file to make decryption easier. For an example command that uses the AWS CLI to decrypt data, see the decrypt examples.

**Example 2: Using the AWS CLI to encrypt data on Windows**

This example is the same as the previous one, except that it uses the certutil tool instead of base64. This procedure requires two commands, as shown in the following example.

```
aws kms encrypt \
  --key-id 1234abcd-12ab-34cd-56ef-1234567890ab \
  --plaintext fileb://ExamplePlaintextFile \
  --output text \
  --query CiphertextBlob > C:\Temp\ExampleEncryptedFile.base64

certutil -decode C:\Temp\ExampleEncryptedFile.base64 C:\Temp\ExampleEncryptedFile
```

**Example 3: Encrypting with an asymmetric KMS key**

The following encrypt command shows how to encrypt plaintext with an asymmetric KMS key. The --encryption-algorithm parameter is required. As in all encrypt CLI commands, the plaintext parameter must be base64-encoded, or you must use the fileb:// prefix, which tells the AWS CLI to read binary data from the file.

```
aws kms encrypt \
  --key-id 1234abcd-12ab-34cd-56ef-1234567890ab \
  --encryption-algorithm RSAES_OAEP_SHA_256 \
```
Generate a plaintext data key for client-side encryption

The following code example shows how to generate a unique symmetric data key for client-side encryption from an AWS KMS key. The key contains both plaintext and ciphertext versions.

**AWS CLI**

**Example 1: To generate a 256-bit symmetric data key**

The following generate-data-key example requests a 256-bit symmetric data key for use outside of AWS. The command returns a plaintext data key for immediate use and deletion, and a copy of that data key encrypted under the specified KMS key. You can safely store the encrypted data key with the encrypted data.

To request a 256-bit data key, use the `key-spec` parameter with a value of AES_256. To request a 128-bit data key, use the `key-spec` parameter with a value of AES_128. For all other data key lengths, use the `number-of-bytes` parameter.

The KMS key you specify must be a symmetric encryption KMS key, that is, a KMS key with a key spec value of SYMMETRIC_DEFAULT.

```
aws kms generate-data-key \
    --key-id alias/ExampleAlias \
    --key-spec AES_256
```

```
Output:
{
    "Plaintext": "VdzKNHgzUAzJeRBVY+uUmofUGGiDzyB3+i9fVkh3piw=",
    "KeyId": "arn:aws:kms:us-east-2:111122223333:key/1234abcd-12ab-34cd-56ef-1234567890ab",
}
```
"CiphertextBlob": "AQEDAHjRYf5WytIc0C857tFSnBaPn2F8DgmThbJ1gFR8P3W1wAAAAH4wfAYJKoZIhvcNAQcGoG8wbQIBADB0bzgkqh73kV8MfKQPeac0ReRVNDt9qleAt+S9gIRF8P0H+7U="
}

The Plaintext (plaintext data key) and the CiphertextBlob (encrypted data key) are returned in base64-encoded format.

For more information, see Data keys <https://docs.aws.amazon.com/kms/latest/developerguide/concepts.html#data-keys in the AWS Key Management Service Developer Guide>.

**Example 2: To generate a 512-bit symmetric data key**

The following generate-data-key example requests a 512-bit symmetric data key for encryption and decryption. The command returns a plaintext data key for immediate use and deletion, and a copy of that data key encrypted under the specified KMS key. You can safely store the encrypted data key with the encrypted data.

To request a key length other than 128 or 256 bits, use the number-of-bytes parameter. To request a 512-bit data key, the following example uses the number-of-bytes parameter with a value of 64 (bytes).

The KMS key you specify must be a symmetric encryption KMS key, that is, a KMS key with a key spec value of SYMMETRIC_DEFAULT.

NOTE: The values in the output of this example are truncated for display.

```
aws kms generate-data-key \
  --key-id 1234abcd-12ab-34cd-56ef-1234567890ab \
  --number-of-bytes 64
```

Output:

```
{
  "CiphertextBlob": "AQIBAhI6LtupRpdK12aJTkK6Fbh0tQkM1QJJH3PdtHvS/y+hAErX/QQNmWdfg2korNMEd8AAAAcmDCCAmQGCsgqS1b3QHEHbQCCALuwgJRAgEAMIICsgYJKoZ...",
  "Plaintext": "ty8Lz0BkG0F07M2s6qFdNB
+G0ZLtf5MSEb4al3R2UKGo0p06nhyW2n72VM2m7z/
Pm9WpbvttzG41sO9hgPvKhZ5y6RTm40ovEXiVFbveyX3DQxDzRSwbKDPk/...",
  "KeyId": "arn:aws:kms:us-west-2:111122223333:key/1234abcd-12ab-34cd-56ef-1234567890ab"
}
```
The Plaintext (plaintext data key) and CiphertextBlob (encrypted data key) are returned in base64-encoded format.

For more information, see Data keys <https://docs.aws.amazon.com/kms/latest/developerguide/concepts.html#data-keys in the AWS Key Management Service Developer Guide.>

- For API details, see GenerateDataKey in AWS CLI Command Reference.

Generate an encrypted data key

The following code example shows how to generate an encrypted data key from an AWS KMS key. The key contains only a ciphertext version.

AWS CLI

To generate a 256-bit symmetric data key without a plaintext key

The following generate-data-key-without-plaintext example requests an encrypted copy of a 256-bit symmetric data key for use outside of AWS. You can call AWS KMS to decrypt the data key when you are ready to use it.

To request a 256-bit data key, use the key-spec parameter with a value of AES_256. To request a 128-bit data key, use the key-spec parameter with a value of AES_128. For all other data key lengths, use the number-of-bytes parameter.

The KMS key you specify must be a symmetric encryption KMS key, that is, a KMS key with a key spec value of SYMMETRIC_DEFAULT.

```
aws kms generate-data-key-without-plaintext \
  --key-id "arn:aws:kms:us-west-2:111122223333:key/1234abcd-12ab-34cd-56ef-1234567890ab" \
  --key-spec AES_256
```

Output:

```
{
  "CiphertextBlob": "AQEDAHjRYf5WytiC0C857tFSnBapN2f8DgfmThbj1Glfr8P3w1wAAAh4wFAYJKoZlhlvNAQcGoG8wQIBADBoB9kqHkKg",  "KeyId": "arn:aws:kms:us-east-2:111122223333:key/1234abcd-12ab-34cd-56ef-1234567890ab"
}
```
The CiphertextBlob (encrypted data key) is returned in base64-encoded format.

For more information, see Data keys in the AWS Key Management Service Developer Guide.
- For API details, see GenerateDataKeyWithoutPlaintext in AWS CLI Command Reference.

Get a policy for a key

The following code example shows how to get a policy by name for a KMS key.

AWS CLI

To copy a key policy from one KMS key to another KMS key

The following get-key-policy example gets the key policy from one KMS key and saves it in a text file. Then, it replaces the policy of a different KMS key using the text file as the policy input.

Because the --policy parameter of put-key-policy requires a string, you must use the --output text option to return the output as a text string instead of JSON.

```
aws kms get-key-policy \
  --policy-name default \
  --key-id 1234abcd-12ab-34cd-56ef-1234567890ab \
  --query Policy \
  --output text > policy.txt
```

```
aws kms put-key-policy \
  --policy-name default \
  --key-id 0987dcba-09fe-87dc-65ba-ab0987654321 \
  --policy file://policy.txt
```

This command produces no output.

For more information, see PutKeyPolicy in the AWS KMS API Reference.
- For API details, see GetKeyPolicy in AWS CLI Command Reference.

List aliases for a key

The following code example shows how to list aliases for a KMS key.
Example 1: To list all aliases in an AWS account and Region

The following example uses the `list-aliases` command to list all aliases in the default Region of the AWS account. The output includes aliases associated with AWS managed KMS keys and customer managed KMS keys.

```
aws kms list-aliases
```

Output:

```json
{
  "Aliases": [
    {
      "AliasName": "alias/testKey",
      "TargetKeyId": "1234abcd-12ab-34cd-56ef-1234567890ab"
    },
    {
      "AliasName": "alias/FinanceDept",
      "TargetKeyId": "0987dcba-09fe-87dc-65ba-ab0987654321"
    },
    {
      "AliasName": "alias/aws/dynamodb",
      "TargetKeyId": "1a2b3c4d-5e6f-1a2b-3c4d-5e6f1a2b3c4d"
    },
    {
      "AliasName": "alias/aws/ebs",
      "TargetKeyId": "0987ab65-43cd-21ef-09ab-87654321cdef"
    },
    ...
  ]
}
```

Example 2: To list all aliases for a particular KMS key

The following example uses the `list-aliases` command and its `key-id` parameter to list all aliases that are associated with a particular KMS key.
Each alias is associated with only one KMS key, but a KMS key can have multiple aliases. This command is very useful because the AWS KMS console lists only one alias for each KMS key. To find all aliases for a KMS key, you must use the `list-aliases` command.

This example uses the key ID of the KMS key for the `--key-id` parameter, but you can use a key ID, key ARN, alias name, or alias ARN in this command.

```
aws kms list-aliases --key-id 1234abcd-12ab-34cd-56ef-1234567890ab
```

Output:

```
{
   "Aliases": [
      {
         "TargetKeyId": "1234abcd-12ab-34cd-56ef-1234567890ab",
         "AliasName": "alias/oregon-test-key"
      },
      {
         "TargetKeyId": "1234abcd-12ab-34cd-56ef-1234567890ab",
         "AliasName": "alias/project121-test"
      }
   ]
}
```

For more information, see [Working with Aliases](#) in the *AWS Key Management Service Developer Guide*.

- For API details, see [ListAliases](#) in *AWS CLI Command Reference*.

### List grants for a key

The following code example shows how to list grants for a KMS key.

**AWS CLI**

**To view the grants on an AWS KMS key**

The following `list-grants` example displays all of the grants on the specified AWS managed KMS key for Amazon DynamoDB in your account. This grant allows DynamoDB to use the KMS key on your behalf to encrypt a DynamoDB table before writing it to disk. You can use
a command like this one to view the grants on the AWS managed KMS keys and customer managed KMS keys in the AWS account and Region.

This command uses the key-id parameter with a key ID to identify the KMS key. You can use a key ID or key ARN to identify the KMS key. To get the key ID or key ARN of an AWS managed KMS key, use the list-keys or list-aliases command.

```bash
aws kms list-grants \
   --key-id 1234abcd-12ab-34cd-56ef-1234567890ab
```

The output shows that the grant gives Amazon DynamoDB permission to use the KMS key for cryptographic operations, and gives it permission to view details about the KMS key (DescribeKey) and to retire grants (RetireGrant). The EncryptionContextSubset constraint limits these permission to requests that include the specified encryption context pairs. As a result, the permissions in the grant are effective only on specified account and DynamoDB table.

```json
{
    "Grants": [
        {
            "Constraints": {
                "EncryptionContextSubset": {
                    "aws:dynamodb:subscriberId": "123456789012",
                    "aws:dynamodb:tableName": "Services"
                }
            },
            "IssuingAccount": "arn:aws:iam::123456789012:root",
            "Name": "8276b9a6-6cf0-46f1-b2f0-7993a7f8c89a",
            "Operations": [
                "Decrypt",
                "Encrypt",
                "GenerateDataKey",
                "ReEncryptFrom",
                "ReEncryptTo",
                "RetireGrant",
                "DescribeKey"
            ],
            "GrantId": "1667b97d27cf748cf05b487217dd4179526c949d14fb3903858e25193253fe59",
            "KeyId": "arn:aws:kms:us-west-2:123456789012:key/1234abcd-12ab-34cd-56ef-1234567890ab"
        }
    ]
}
```
For more information, see Grants in AWS KMS in the AWS Key Management Service Developer Guide.

- For API details, see ListGrants in AWS CLI Command Reference.

List keys

The following code example shows how to list KMS keys.

AWS CLI

To get the KMS keys in an account and Region

The following list-keys example gets the KMS keys in an account and Region. This command returns both AWS managed keys and customer managed keys.

```
aws kms list-keys
```

Output:

```json
{
    "Keys": [
      {
        "KeyArn": "arn:aws:kms:us-west-2:111122223333:key/1234abcd-12ab-34cd-56ef-1234567890ab",
        "KeyId": "1234abcd-12ab-34cd-56ef-1234567890ab"
      },
      {
        "KeyArn": "arn:aws:kms:us-west-2:111122223333:key/0987dcba-09fe-87dc-65ba-ab0987654321",
        "KeyId": "0987dcba-09fe-87dc-65ba-ab0987654321"
      },
      {
        "KeyArn": "arn:aws:kms:us-east-2:111122223333:key/1a2b3c4d-5e6f-1a2b-3c4d-5e6f1a2b3c4d",
```

"RetiringPrincipal": "dynamodb.us-west-2.amazonaws.com",
"GranteePrincipal": "dynamodb.us-west-2.amazonaws.com",
"CreationDate": "2021-05-13T18:32:45.144000+00:00"
"KeyId": "1a2b3c4d-5e6f-1a2b-3c4d-5e6f1a2b3c4d"
]
}

For more information, see Viewing Keys in the AWS Key Management Service Developer Guide.

• For API details, see ListKeys in AWS CLI Command Reference.

List policies for a key

The following code example shows how to list policies for a KMS key.

AWS CLI

To get the names of key policies for a KMS key

The following list-key-policies example gets the names of the key policies for a customer managed key in the example account and Region. You can use this command to find the names of key policies for AWS managed keys and customer managed keys.

Because the only valid key policy name is default, this command is not useful.

To specify the KMS key, use the key-id parameter. This example uses a key ID value, but you can use a key ID or key ARN in this command.

```
aws kms list-key-policies \
   --key-id 1234abcd-12ab-34cd-56ef-1234567890ab
```

Output:

```
{
   "PolicyNames": [
   "default"
   ]
}
```

For more information about AWS KMS key policies, see Using Key Policies in AWS KMS in the AWS Key Management Service Developer Guide.

• For API details, see ListKeyPolicies in AWS CLI Command Reference.
Recencrypt ciphertext from one key to another

The following code example shows how to reencrypt ciphertext from one KMS key to another.

**AWS CLI**

**Example 1: To re-encrypt an encrypted message under a different symmetric KMS key (Linux and macOS).**

The following `re-encrypt` command example demonstrates the recommended way to re-encrypt data with the AWS CLI.

Provide the ciphertext in a file. In the value of the `--ciphertext-blob` parameter, use the `fileb://` prefix, which tells the CLI to read the data from a binary file. If the file is not in the current directory, type the full path to file. For more information about reading AWS CLI parameter values from a file, see Loading AWS CLI parameters from a file <https://docs.aws.amazon.com/cli/latest/userguide/cli-usage-parameters-file.html> in the AWS Command Line Interface User Guide and Best Practices for Local File Parameters <https://aws.amazon.com/blogs/developer/best-practices-for-local-file-parameters/> in the AWS Command Line Tool Blog. Specify the source KMS key, which decrypts the ciphertext. The `--source-key-id` parameter is not required when decrypting with symmetric encryption KMS keys. AWS KMS can get the KMS key that was used to encrypt the data from the metadata in the ciphertext blob. But it's always a best practice to specify the KMS key you are using. This practice ensures that you use the KMS key that you intend, and prevents you from inadvertently decrypting a ciphertext using a KMS key you do not trust. Specify the destination KMS key, which re-encrypts the data. The `--destination-key-id` parameter is always required. This example uses a key ARN, but you can use any valid key identifier. Request the plaintext output as a text value. The `--query` parameter tells the CLI to get only the value of the `Plaintext` field from the output. The `--output` parameter returns the output as text. Base64-decode the plaintext and save it in a file. The following example pipes (`|`) the value of the `Plaintext` parameter to the Base64 utility, which decodes it. Then, it redirects (`>`) the decoded output to the `ExamplePlaintext` file.

Before running this command, replace the example key IDs with valid key identifiers from your AWS account.

```
aws kms re-encrypt \
  --ciphertext-blob fileb://ExampleEncryptedFile \
  --source-key-id 1234abcd-12ab-34cd-56ef-1234567890ab \
```

Actions and scenarios
This command produces no output. The output from the `re-encrypt` command is base64-decoded and saved in a file.

For more information, see ReEncrypt <https://docs.aws.amazon.com/kms/latest/APIReference/API_ReEncrypt.html> in the AWS Key Management Service API Reference.

**Example 2: To re-encrypt an encrypted message under a different symmetric KMS key (Windows command prompt).**

The following `re-encrypt` command example is the same as the previous one except that it uses the `certutil` utility to Base64-decode the plaintext data. This procedure requires two commands, as shown in the following examples.

Before running this command, replace the example key ID with a valid key ID from your AWS account.

```bash
aws kms re-encrypt ^
   --ciphertext-blob fileb://ExampleEncryptedFile ^
   --source-key-id 1234abcd-12ab-34cd-56ef-1234567890ab ^
   --destination-key-id 0987dcba-09fe-87dc-65ba-ab0987654321 ^
   --query CiphertextBlob ^
   --output text > ExampleReEncryptedFile.base64
```

Then use the `certutil` utility

```
certutil -decode ExamplePlaintextFile.base64 ExamplePlaintextFile
```

Output:

```
Input Length = 18
Output Length = 12
CertUtil: -decode command completed successfully.
```

For more information, see ReEncrypt <https://docs.aws.amazon.com/kms/latest/APIReference/API_ReEncrypt.html> in the AWS Key Management Service API Reference.
Retire a grant for a key

The following code example shows how to retire a grant for a KMS key.

**AWS CLI**

**To retire a grant on a customer master key**

The following `retire-grant` example deletes a grant from a KMS key.

The following example command specifies the `grant-id` and the `key-id` parameters. The value of the `key-id` parameter must be the key ARN of the KMS key.

```
aws kms retire-grant \
  --grant-id 1234a2345b8a4e350500d432bccf8ecd6506710e1391880c4f7f7140160c9af3 \
  --key-id arn:aws:kms:us-west-2:111122223333:key/1234abcd-12ab-34cd-56ef-1234567890ab
```

This command produces no output. To confirm that the grant was retired, use the `list-grants` command.

For more information, see [Retiring and revoking grants](https://docs.aws.amazon.com/kms/latest/developerguide/key-management-key-lifecycle-tools-revoke-grant.html) in the *AWS Key Management Service Developer Guide*.

- For API details, see [RetireGrant](https://docs.aws.amazon.com/cli/latest/reference/kms/revoke-grant.html) in *AWS CLI Command Reference*.

Revoke a grant for a key

The following code example shows how to revoke a grant for a KMS key.

**AWS CLI**

**To revoke a grant on a customer master key**

The following `revoke-grant` example deletes a grant from a KMS key. The following example command specifies the `grant-id` and the `key-id` parameters. The value of the `key-id` parameter can be the key ID or key ARN of the KMS key.

```
aws kms revoke-grant \
```

- For API details, see [ReEncrypt](https://docs.aws.amazon.com/cli/latest/reference/kms/reencrypt.html) in *AWS CLI Command Reference*. 

For more information, see [Retiring and revoking grants](https://docs.aws.amazon.com/kms/latest/developerguide/key-management-key-lifecycle-tools-revoke-grant.html) in the *AWS Key Management Service Developer Guide*. 
This command produces no output. To confirm that the grant was revoked, use the list-grants command.

For more information, see Retiring and revoking grants in the AWS Key Management Service Developer Guide.

- For API details, see RevokeGrant in AWS CLI Command Reference.

Schedule deletion of a key

The following code example shows how to schedule deletion of a KMS key.

AWS CLI

To schedule the deletion of a customer managed KMS key.

The following schedule-key-deletion example schedules the specified customer managed KMS key to be deleted in 15 days.

The --key-id parameter identifies the KMS key. This example uses a key ARN value, but you can use either the key ID or the ARN of the KMS key. The --pending-window-in-days parameter specifies the length of the 7-30 day waiting period. By default, the waiting period is 30 days. This example specifies a value of 15, which tells AWS to permanently delete the KMS key 15 days after the command completes.

```
aws kms schedule-key-deletion \
    --key-id arn:aws:kms:us-west-2:123456789012:key/1234abcd-12ab-34cd-56ef-1234567890ab \
    --pending-window-in-days 15
```

The response includes the key ARN, key state, waiting period (PendingWindowInDays), and the deletion date in Unix time. To view the deletion date in local time, use the AWS KMS console. KMS keys in the PendingDeletion key state cannot be used in cryptographic operations.

```
{
    "KeyId": "arn:aws:kms:us-west-2:123456789012:key/1234abcd-12ab-34cd-56ef-1234567890ab",
```
For more information, see [Deleting keys](https://docs.aws.amazon.com/kms/latest/developerguide/) in the *AWS Key Management Service Developer Guide*.

- For API details, see [ScheduleKeyDeletion](https://docs.aws.amazon.com/cli/latest/reference/kms/schedule-key-deletion.html) in *AWS CLI Command Reference*.

**Set the policy for a key**

The following code example shows how to set the policy for a KMS key.

### AWS CLI

#### To change the key policy for a KMS key

The following `put-key-policy` example changes the key policy for a customer managed key.

To begin, create a key policy and save it in a local JSON file. In this example, the file is `key_policy.json`. You can also specify the key policy as a string value of the `policy` parameter.

The first statement in this key policy gives the AWS account permission to use IAM policies to control access to the KMS key. The second statement gives the test-user user permission to run the `describe-key` and `list-keys` commands on the KMS key.

**Contents of `key_policy.json`:**

```json
{
    "Version" : "2012-10-17",
    "Id" : "key-default-1",
    "Statement" : [
        {
            "Sid" : "Enable IAM User Permissions",
            "Effect" : "Allow",
            "Principal" : {
                "AWS" : "arn:aws:iam::111122223333:root"
            },
            "Action" : "kms:*",
            "Resource" : "*"
        }
    ]
}
```
To identify the KMS key, this example uses the key ID, but you can also use a key ARN. To specify the key policy, the command uses the policy parameter. To indicate that the policy is in a file, it uses the required file:// prefix. This prefix is required to identify files on all supported operating systems. Finally, the command uses the policy-name parameter with a value of default. This parameter is required, even though default is the only valid value.

```
aws kms put-key-policy \
    --policy-name default \ 
    --key-id 1234abcd-12ab-34cd-56ef-1234567890ab \ 
    --policy file://key_policy.json
```

This command does not produce any output. To verify that the command was effective, use the get-key-policy command. The following example command gets the key policy for the same KMS key. The output parameter with a value of text returns a text format that is easy to read.

```
aws kms get-key-policy \
    --policy-name default \ 
    --key-id 1234abcd-12ab-34cd-56ef-1234567890ab \ 
    --output text
```

Output:

```
{
    "Version" : "2012-10-17",
}
```
"Id" : "key-default-1",
"Statement" : [
  {
    "Sid" : "Enable IAM User Permissions",
    "Effect" : "Allow",
    "Principal" : {
      "AWS" : "arn:aws:iam::111122223333:root"
    },
    "Action" : "kms:*",
    "Resource" : "*"
  },
  {
    "Sid" : "Allow Use of Key",
    "Effect" : "Allow",
    "Principal" : {
      "AWS" : "arn:aws:iam::111122223333:user/test-user"
    },
    "Action" : [ "kms:Describe", "kms:List" ],
    "Resource" : "*"
  }
]}

For more information, see Changing a Key Policy in the AWS Key Management Service Developer Guide.

- For API details, see PutKeyPolicy in AWS CLI Command Reference.

Update the key referred to by an alias

The following code example shows how to update the KMS key referred to by an alias.

AWS CLI

To associate an alias with a different KMS key

The following update-alias example associates the alias alias/test-key with a different KMS key.

The --alias-name parameter specifies the alias. The alias name value must begin with alias/. The --target-key-id parameter specifies the KMS key to associate with the alias. You don't need to specify the current KMS key for the alias.
**aws kms update-alias**
```
aws kms update-alias \
    --alias-name alias/test-key \
    --target-key-id 1234abcd-12ab-34cd-56ef-1234567890ab
```

This command produces no output. To find the alias, use the `list-aliases` command.

For more information, see [Updating aliases](https://docs.aws.amazon.com/kms/latest/developerguide) in the *AWS Key Management Service Developer Guide*.

- For API details, see [UpdateAlias](https://docs.aws.amazon.com/cli/latest/reference/kms/update-alias.html) in *AWS CLI Command Reference*.

### cancel-key-deletion

The following code example shows how to use `cancel-key-deletion`.

**AWS CLI**

**To cancel the scheduled deletion of a customer managed KMS key**

The following `cancel-key-deletion` example cancels the scheduled deletion of a customer managed KMS key.

```
aws kms cancel-key-deletion \
    --key-id 1234abcd-12ab-34cd-56ef-1234567890ab
```

Output:
```
{
    "KeyId": "arn:aws:kms:us-west-2:123456789012:key/1234abcd-12ab-34cd-56ef-1234567890ab"
}
```

When the `cancel-key-deletion` command succeeds, the scheduled deletion is canceled. However, the key state of the KMS key is `Disabled`, so you can't use the KMS key in cryptographic operations. To restore its functionality, use the `enable-key` command.

For more information, see [Scheduling and canceling key deletion](https://docs.aws.amazon.com/kms/latest/developerguide) in the *AWS Key Management Service Developer Guide*.

- For API details, see [CancelKeyDeletion](https://docs.aws.amazon.com/cli/latest/reference/kms/cancel-key-deletion.html) in *AWS CLI Command Reference*. 
connect-custom-key-store

The following code example shows how to use `connect-custom-key-store`.

**AWS CLI**

To connect a custom key store

The following `connect-custom-key-store` example reconnects the specified custom key store. You can use a command like this one to connect a custom key store for the first time or to reconnect a key store that was disconnected.

You can use this command to connect an AWS CloudHSM key store or an external key store.

```bash
aws kms connect-custom-key-store \
--custom-key-store-id cks-1234567890abcdef0
```

This command does not return any output. To verify that the command was effective, use the `describe-custom-key-stores` command.

For information about connecting an AWS CloudHSM key store, see [Connecting and disconnecting an AWS CloudHSM key store](#) in the [AWS Key Management Service Developer Guide](#).

For information about connecting an external key store, see [Connecting and disconnecting an external key store](#) in the [AWS Key Management Service Developer Guide](#).

- For API details, see [ConnectCustomKeyStore](#) in [AWS CLI Command Reference](#).

create-custom-key-store

The following code example shows how to use `create-custom-key-store`.

**AWS CLI**

Example 1: To create an AWS CloudHSM key store

The following `create-custom-key-store` example creates an AWS CloudHSM key store backed by an AWS CloudHSM cluster using the required parameters. You can also add the `custom-key-store-type` parameter with the default value: `AWS_CLOUDHSM`. 
To specify the file input for the `trust-anchor-certificate` command in the AWS CLI, the `file://` prefix is required.

```
aws kms create-custom-key-store \
    --custom-key-store-name ExampleCloudHSMKeyStore \
    --cloud-hsm-cluster-id cluster-1a23b4cdefg \
    --key-store-password kmsPswd \
    --trust-anchor-certificate file://customerCA.crt
```

Output:

```
{
    "CustomKeyStoreId": cks-1234567890abcdef0
}
```

For more information, see [Creating an AWS CloudHSM key store](https://docs.aws.amazon.com/kms/latest/developerguide/aws-cloudhsm-key-store.html) in the *AWS Key Management Service Developer Guide*.

**Example 2: To create an external key store with public endpoint connectivity**

The following `create-custom-key-store` example creates an external key store (XKS) that communicates with AWS KMS over the internet.

In this example, the `XksProxyUriPath` uses an optional prefix of `example-prefix`.

NOTE: If you use AWS CLI version 1.0, run the following command before specifying a parameter with an HTTP or HTTPS value, such as the `XksProxyUriEndpoint` parameter.

```
aws configure set cli_follow_urlparam false
```

Otherwise, AWS CLI version 1.0 replaces the parameter value with the content found at that URI address.

```
aws kms create-custom-key-store \
    --custom-key-store-name ExamplePublicEndpointXKS \
    --custom-key-store-type EXTERNAL_KEY_STORE \
    --xks-proxy-connectivity PUBLIC_ENDPOINT \
    --xks-proxy-uri-endpoint "https://myproxy.xks.example.com" \
    --xks-proxy-uri-path "/example-prefix/kms/xks/v1"
```
--xks-proxy-authentication-credential "AccessKeyId=ABCDE12345670EXAMPLE, RawSecretAccessKey=DXjSUawne12fr6SKC7G25CNxTyWKE5PF9XX6H/u9pSo=

Output:

```
{
  "CustomKeyStoreId": cks-2234567890abcdef0
}
```

For more information, see [Creating an external key store](https://docs.aws.amazon.com/kms/latest/developerguide/external-key-store.html) in the *AWS Key Management Service Developer Guide*.

**Example 3: To create an external key store with VPC endpoint service connectivity**

The following `create-custom-key-store` example creates an external key store (XKS) that uses an Amazon VPC endpoint service to communicate with AWS KMS.

NOTE: If you use AWS CLI version 1.0, run the following command before specifying a parameter with an HTTP or HTTPS value, such as the `XksProxyUriEndpoint` parameter.

```
aws configure set cli_follow_urlparam false
```

Otherwise, AWS CLI version 1.0 replaces the parameter value with the content found at that URI address.

```
aws kms create-custom-key-store \
  --custom-key-store-name ExampleVPCEndpointXKS \
  --custom-key-store-type EXTERNAL_KEY_STORE \
  --xks-proxy-connectivity VPC_ENDPOINT_SERVICE \
  --xks-proxy-uri-endpoint "https://myproxy-private.xks.example.com" \
  --xks-proxy-uri-path "/kms/xks/v1" \
  --xks-proxy-vpc-endpoint-service-name "com.amazonaws.vpce.us-east-1.vpce-svc-example1" \
  --xks-proxy-authentication-credential "AccessKeyId=ABCDE12345670EXAMPLE, RawSecretAccessKey=DXjSUawne12fr6SKC7G25CNxTyWKE5PF9XX6H/u9pSo="
```

Output:

```
{
```

"CustomKeyStoreId": cks-3234567890abcdef0
}

For more information, see Creating an external key store in the AWS Key Management Service Developer Guide.

- For API details, see CreateCustomKeyStore in AWS CLI Command Reference.

delete-custom-key-store

The following code example shows how to use delete-custom-key-store.

AWS CLI

To delete a custom key store

The following delete-custom-key-store example deletes the specified custom key store.

Deleting an AWS CloudHSM key store has no effect on the associated CloudHSM cluster. Deleting an external key store has no effect on the associated external key store proxy, external key manager, or external keys.

NOTE: Before you can delete a custom key store, you must schedule the deletion of all KMS keys in the custom key store and then wait for those KMS keys to be deleted. Then, you must disconnect the custom key store. For help finding the KMS keys in your custom key store, see Delete an AWS CloudHSM key store (API) in the AWS Key Management Service Developer Guide.

delete-custom-key-store \
   --custom-key-store-id cks-1234567890abcdef0

This command does not return any output. To verify that the custom key store is deleted, use the describe-custom-key-stores command.

For information about deleting an AWS CloudHSM key stores, see Deleting an AWS CloudHSM key store in the AWS Key Management Service Developer Guide.

For information about deleting external key stores, see Deleting an external key store in the AWS Key Management Service Developer Guide.

- For API details, see DeleteCustomKeyStore in AWS CLI Command Reference.
delete-imported-key-material

The following code example shows how to use delete-imported-key-material.

**AWS CLI**

**To delete imported key material from a KMS key**

The following delete-imported-key-material example deletes key material that had been imported into a KMS key.

```
aws kms delete-imported-key-material \
   --key-id 1234abcd-12ab-34cd-56ef-1234567890ab
```

This command produces no output. To verify that the key material is deleted, use the describe-key command to look for a key state of PendingImport or PendingDeletion.

For more information, see Deleting imported key material<https://docs.aws.amazon.com/kms/latest/developerguide/importing-keys-delete-key-material.html> in the AWS Key Management Service Developer Guide.

- For API details, see [DeleteImportedKeyMaterial](https://docs.aws.amazon.com/cli/latest/reference/kms/delete-imported-key-material.html) in AWS CLI Command Reference.

describe-custom-key-stores

The following code example shows how to use describe-custom-key-stores.

**AWS CLI**

**Example 1: To get details about an AWS CloudHSM key store**

The following describe-custom-key-store example displays details about the specified AWS CloudHSM key store. The command is the same for all types of custom key stores, but the output differs with the key store type and, for an external key store, its connectivity option.

By default, this command displays information about all custom key stores in the account and Region. To display information about a particular custom key store, use the custom-key-store-name or custom-key-store-id parameter.

```
aws kms describe-custom-key-stores \
   --custom-key-store-name ExampleCloudHSMKeyStore
```
The output of this command includes useful details about the AWS CloudHSM key store including its connection state (ConnectionState). If the connection state is FAILED, the output includes a ConnectionErrorCode field that describes the problem.

Output:

```json
{
    "CustomKeyStores": [
    {
        "CloudHsmClusterId": "cluster-1a23b4cdefg",
        "ConnectionState": "CONNECTED",
        "CreationDate": "2022-04-05T14:04:55-07:00",
        "CustomKeyStoreId": "cks-1234567890abcdef0",
        "CustomKeyStoreName": "ExampleExternalKeyStore",
        "TrustAnchorCertificate": "<certificate appears here>"
    }
    ]
}
```

For more information, see Viewing an AWS CloudHSM key store in the AWS Key Management Service Developer Guide.

**Example 2: To get details about an external key store with public endpoint connectivity**

The following describe-custom-key-store example displays details about the specified external key store. The command is the same for all types of custom key stores, but the output differs with the key store type and, for an external key store, its connectivity option.

By default, this command displays information about all custom key stores in the account and Region. To display information about a particular custom key store, use the custom-key-store-name or custom-key-store-id parameter.

```
aws kms describe-custom-key-stores \
    --custom-key-store-id cks-9876543210fedc9a9
```

The output of this command includes useful details about the external key store including its connection state (ConnectionState). If the connection state is FAILED, the output includes a ConnectionErrorCode field that describes the problem.

Output:
For more information, see Viewing an external key store in the AWS Key Management Service Developer Guide.

Example 3: To get details about an external key store with VPC endpoint service connectivity

The following describe-custom-key-store example displays details about the specified external key store. The command is the same for all types of custom key stores, but the output differs with the key store type and, for an external key store, its connectivity option.

By default, this command displays information about all custom key stores in the account and Region. To display information about a particular custom key store, use the custom-key-store-name or custom-key-store-id parameter.

```
aws kms describe-custom-key-stores \
   --custom-key-store-id cks-2234567890abcdef0
```

The output of this command includes useful details about the external key store including its connection state (ConnectionState). If the connection state is FAILED, the output includes a ConnectionErrorCode field that describes the problem.

Output:
For more information, see Viewing an external key store in the AWS Key Management Service Developer Guide.

- For API details, see DescribeCustomKeyStores in AWS CLI Command Reference.

**disable-key-rotation**

The following code example shows how to use disable-key-rotation.

**AWS CLI**

**To disable automatic rotation of a KMS key**

The following disable-key-rotation example disables automatic rotation of a customer managed KMS key. To reenable automatic rotation, use the enable-key-rotation command.

```
aws kms disable-key-rotation \
   --key-id arn:aws:kms:us-west-2:111122223333:key/1234abcd-12ab-34cd-56ef-1234567890ab
```

This command produces no output. To verify that automatic rotation is disable for the KMS key, use the get-key-rotation-status command.
For more information, see Rotating keys in the AWS Key Management Service Developer Guide.

- For API details, see DisableKeyRotation in AWS CLI Command Reference.

**disconnect-custom-key-store**

The following code example shows how to use disconnect-custom-key-store.

**AWS CLI**

**To disconnect a custom key store**

The following disconnect-custom-key-store example disconnects a custom key store from its AWS CloudHSM cluster. You might disconnect a key store to troubleshoot a problem, to update its settings, or to prevent KMS keys in the keystore from being used in cryptographic operations.

This command is the same for all custom key stores, including AWS CloudHSM key stores and external key stores.

Before running this command, replace the example custom key store ID with a valid one.

```
$ aws kms disconnect-custom-key-store \\
   --custom-key-store-id cks-1234567890abcdef0
```

This command produces no output. verify that the command was effective, use the describe-custom-key-stores command.

For more information about disconnecting an AWS CloudHSM key store, see Connecting and disconnecting an AWS CloudHSM key store in the AWS Key Management Service Developer Guide.

For more information about disconnecting an external key store, see Connecting and disconnecting an external key store in the AWS Key Management Service Developer Guide.

- For API details, see DisconnectCustomKeyStore in AWS CLI Command Reference.

**enable-key-rotation**

The following code example shows how to use enable-key-rotation.
AWS CLI

To enable automatic rotation of a KMS key

The following enable-key-rotation example enables automatic rotation of a customer managed KMS key. The KMS key will be rotated one year (approximate 365 days) from the date that this command completes and every year thereafter.

```
aws kms enable-key-rotation \
   --key-id arn:aws:kms:us-west-2:111122223333:key/1234abcd-12ab-34cd-56ef-1234567890ab
```

This command produces no output. To verify that the KMS key is enabled, use the get-key-rotation-status command.

For more information, see Rotating keys in the AWS Key Management Service Developer Guide. For API details, see EnableKeyRotation in AWS CLI Command Reference.

generate-data-key-pair

The following code example shows how to use generate-data-key-pair.

AWS CLI

To generate an 2048-bit RSA asymmetric data key pair

The following generate-data-key-pair example requests a 2048-bit RSA asymmetric data key pair for use outside of AWS. The command returns a plaintext public key and a plaintext private key for immediate use and deletion, and a copy of the private key encrypted under the specified KMS key. You can safely store the encrypted private key with the encrypted data.

To request a 2048-bit RSA asymmetric data key pair, use the key-pair-spec parameter with a value of RSA_2048.

The KMS key you specify must be a symmetric encryption KMS key, that is, a KMS key with aKeySpec value of SYMMETRIC_DEFAULT.

NOTE: The values in the output of this example are truncated for display.

```
aws kms generate-data-key-pair \
```
The PublicKey, PrivateKeyPlaintext, and PrivateKeyCiphertextBlob are returned in base64-encoded format.

For more information, see Data key pairs in the AWS Key Management Service Developer Guide.

- For API details, see GenerateDataKeyPair in AWS CLI Command Reference.

**generate-data-key-pair-without-plaintext**

The following code example shows how to use generate-data-key-pair-without-plaintext.

**AWS CLI**

**To generate an ECC NIST P384 asymmetric data key pair**

The following generate-data-key-pair-without-plaintext example requests an ECC NIST P384 key pair for use outside of AWS.

The command returns a plaintext public key and a copy of the private key encrypted under the specified KMS key. It does not return a plaintext private key. You can safely store the encrypted private key with the encrypted data, and call AWS KMS to decrypt the private key when you need to use it.
To request an ECC NIST P384 asymmetric data key pair, use the key-pair-spec parameter with a value of ECC_NIST_P384.

The KMS key you specify must be a symmetric encryption KMS key, that is, a KMS key with aKeySpec value of SYMMETRIC_DEFAULT.

NOTE: The values in the output of this example are truncated for display.

```bash
aws kms generate-data-key-pair-without-plaintext \
    --key-id 1234abcd-12ab-34cd-56ef-1234567890ab \
    --key-pair-spec ECC_NIST_P384
```

Output:

```
{
    "PrivateKeyCiphertextBlob": "AQIDAHi6LtupRpdKl2aJTzkK6FbhOtQkMlQJJH3PdtHvS/y" +hAFFxmIdI34doUDzMGmfcETcAAAHaTCCB2UGC5qGSIb3DQEHBqCCB1...",
    "PublicKey": "MIIBofANBgkqhkiG9w0BQEFAAOCAAY8AMIIgiAlgYEA3A3eGMyPrvSn7+Ld1JE1oUoQV5HpEuHAVbdoYND +NmYDH/ml1OSIEuLrcdZ5hrMH4pk83r401...",
    "KeyId": "arn:aws:kms:us-west-2:111122223333:key/1234abcd-12ab-34cd-56ef-1234567890ab",
    "KeyPairSpec": "ECC_NIST_P384"
}
```

The PublicKey and PrivateKeyCiphertextBlob are returned in base64-encoded format.

For more information, see [Data key pairs](https://docs.aws.amazon.com/kms/latest/developerguide/data-key-pairs.html) in the *AWS Key Management Service Developer Guide*.

- For API details, see [GenerateDataKeyPairWithoutPlaintext](https://docs.aws.amazon.com/cli/latest/reference/kms/generate-data-key-pair-without-plaintext.html) in *AWS CLI Command Reference*.

---

### get-key-rotation-status

The following code example shows how to use get-key-rotation-status.

**AWS CLI**

**To determine whether a KMS key is automatically rotated.**

The following get-key-rotation-status example determines whether a KMS key is automatically rotated. You can use this command on customer managed KMS keys and AWS managed KMS keys. However, all AWS managed KMS keys are automatically rotated every year.
aws kms get-key-rotation-status \
--key-id 1234abcd-12ab-34cd-56ef-1234567890ab

Output:

{
   "KeyRotationEnabled": true
}

For more information, see [Rotating keys](https://docs.aws.amazon.com/kms/latest/developerguide/rotation-ctrl-cli.html) in the *AWS Key Management Service Developer Guide*.

- For API details, see [GetKeyRotationStatus](https://awscli.amazonaws.com/clireference/2.0.0/kms/get-key-rotation-status.html) in *AWS CLI Command Reference*.

**get-parameters-for-import**

The following code example shows how to use `get-parameters-for-import`.

**AWS CLI**

**To get the items required to import key material into a KMS key**

The following `get-parameters-for-import` example gets the public key and import token that you need to import key material into a KMS key. When you use the `import-key-material` command, be sure to use the import token and key material encrypted by the public key that were returned in the same `get-parameters-for-import` command. Also, the wrapping algorithm that you specify in this command must be one that you use to encrypt the key material with the public key.

To specify the KMS key, use the `key-id` parameter. This example uses an key ID, but you can use a key ID or key ARN in this command.

```bash
aws kms get-parameters-for-import \
--key-id 1234abcd-12ab-34cd-56ef-1234567890ab \
--wrapping-algorithm RSAES_OAEP_SHA_256 \
--wrapping-key-spec RSA_2048
```

Output:

```json
{
}
```
"KeyId": "arn:aws:kms:us-west-2:111122223333:key/1234abcd-12ab-34cd-56ef-1234567890ab",
"PublicKey": "<public key base64 encoded data>",
"ImportToken": "<import token base64 encoded data>",
"ParametersValidTo": 1593893322.32
}

For more information, see [Download the public key and import token](https://docs.aws.amazon.com/kms/latest/developerguide/get-public-key.html) in the AWS Key Management Service Developer Guide.


### get-public-key

The following code example shows how to use `get-public-key`.

**AWS CLI**

**Example 1: To download the public key of an asymmetric KMS key**

The following `get-public-key` example downloads the public key of an asymmetric KMS key.

In addition to returning the public key, the output includes information that you need to use the public key safely outside of AWS KMS, including the key usage and supported encryption algorithms.

```
aws kms get-public-key 
  --key-id 1234abcd-12ab-34cd-56ef-1234567890ab
```

Output:

```
{
   "KeyId": "arn:aws:kms:us-west-2:111122223333:key/1234abcd-12ab-34cd-56ef-1234567890ab",
   "PublicKey": "jANBgkqhkiG9w0BAQEFAAOCAg8AMIICCgKCAgEAl5epvg1/QtJhxSi2g9SDEVg8QV/...",
   "CustomerMasterKeySpec": "RSA_4096",
   "KeyUsage": "ENCRYPT_DECRYPT",
   "EncryptionAlgorithms": [
      "RSAES_OAEP_SHA_1",
      "RSAES_OAEP_SHA_256"
   ]
}
```
Example 2: To convert a public key to DER format (Linux and macOS)

The following get-public-key example downloads the public key of an asymmetric KMS key and saves it in a DER file.

When you use the get-public-key command in the AWS CLI, it returns a DER-encoded X.509 public key that is Base64-encoded. This example gets the value of the PublicKey property as text. It Base64-decodes the PublicKey and saves it in the public_key.der file. The output parameter returns the output as text, instead of JSON. The --query parameter gets only the PublicKey property, not the properties that you need to use the public key safely outside of AWS KMS.

Before running this command, replace the example key ID with a valid key ID from your AWS account.

```bash
aws kms get-public-key \
  --key-id 1234abcd-12ab-34cd-56ef-1234567890ab \
  --output text \
  --query PublicKey | base64 --decode > public_key.der
```

This command produces no output.

For more information about using asymmetric KMS keys in AWS KMS, see Using Symmetric and Asymmetric Keys in the AWS Key Management Service API Reference.

- For API details, see GetPublicKey in AWS CLI Command Reference.

import-key-material

The following code example shows how to use import-key-material.

AWS CLI

To import key material into a KMS key
The following `import-key-material` example uploads key material into a KMS key that was created with no key material. The key state of the KMS key must be `PendingImport`.

This command uses key material that you encrypted with the public key that the `get-parameters-for-import` command returned. It also uses the import token from the same `get-parameters-for-import` command.

The `expiration-model` parameter indicates that the key material automatically expires on the date and time specified by the `valid-to` parameter. When the key material expires, AWS KMS deletes the key material, the key state of the KMS key changes to `Pending import` and the KMS key becomes unusable. To restore the KMS key, you must reimport the same key material. To use different key material, you must create a new KMS key.

Before running this command, replace the example key ID with a valid key ID or key ARN from your AWS account.

```
aws kms import-key-material \
  --key-id 1234abcd-12ab-34cd-56ef-1234567890ab \
  --encrypted-key-material fileb://EncryptedKeyMaterial.bin \
  --import-token fileb://ImportToken.bin \
  --expiration-model KEY_MATERIAL_EXPIRES \
  --valid-to 2021-09-21T19:00:00Z
```

This command produces no output.

For more information about importing key material, see Importing Key Material in the AWS Key Management Service Developer Guide.

- For API details, see ImportKeyMaterial in AWS CLI Command Reference.

**list-resource-tags**

The following code example shows how to use `list-resource-tags`.

**AWS CLI**

To get the tags on a KMS key

The following `list-resource-tags` example gets the tags for a KMS key. To add or replace resource tags on KMS keys, use the `tag-resource` command. The output shows that this KMS key has two resource tags, each of which has a key and value.
To specify the KMS key, use the `key-id` parameter. This example uses a key ID value, but you can use a key ID or key ARN in this command.

```
aws kms list-resource-tags \
   --key-id 1234abcd-12ab-34cd-56ef-1234567890ab
```

Output:

```
{
   "Tags": [
   {
      "TagKey": "Dept",
      "TagValue": "IT"
   },
   {
      "TagKey": "Purpose",
      "TagValue": "Test"
   }
   ],
   "Truncated": false
}
```

For more information about using tags in AWS KMS, see [Tagging keys](https://docs.aws.amazon.com/kms/latest/developerguide/) in the *AWS Key Management Service Developer Guide*.

- For API details, see [ListResourceTags](https://docs.aws.amazon.com/cli/latest/reference/kms/list-resource-tags.html) in *AWS CLI Command Reference*.

### list-retirable-grants

The following code example shows how to use `list-retirable-grants`.

**AWS CLI**

To view the grants that a principal can retire

The following `list-retirable-grants` example displays all of the grants that the `ExampleAdmin` user can retire on the KMS keys in an AWS account and Region. You can use a command like this one to view the grants that any account principal can retire on KMS keys in the AWS account and Region.

The value of the required `retiring-principal` parameter must be the Amazon Resource Name (ARN) of an account, user, or role.
You cannot specify a service for the value of retiring-principal in this command, even though a service can be the retiring principal. To find the grants in which a particular service is the retiring principal, use the list-grants command.

The output shows that ExampleAdmin user has permission to retire grants on two different KMS keys in the account and region. In addition to the retiring principal, the account has permission to retire any grant in the account.

```bash
aws kms list-retirable-grants \
  --retiring-principal arn:aws:iam::111122223333:user/ExampleAdmin
```

Output:

```json
{
  "Grants": [
    {
      "KeyId": "arn:aws:kms:us-west-2:111122223333:key/1234abcd-12ab-34cd-56ef-1234567890ab",
      "GrantId": "156b69c63cb154aa21f59929ff19760717be8d9d82b99df53e18b94a15a5e88e",
      "Name": "",
      "CreationDate": 2021-01-14T20:17:36.419000+00:00,
      "GranteePrincipal": "arn:aws:iam::111122223333:user/ExampleUser",
      "RetiringPrincipal": "arn:aws:iam::111122223333:user/ExampleAdmin",
      "IssuingAccount": "arn:aws:iam::111122223333:root",
      "Operations": [
        "Encrypt"
      ],
      "Constraints": {
        "EncryptionContextSubset": {
          "Department": "IT"
        }
      }
    },
    {
      "KeyId": "arn:aws:kms:us-west-2:111122223333:key/0987dcba-09fe-87dc-65ba-ab0987654321",
      "GrantId": "8c94d1f12f5e69f440bae30eaec9570bb1fb7358824f9ddfa1aa5a0dab1a59b2",
      "Name": "",
      "CreationDate": "2021-02-02T19:49:49.638000+00:00",
      "GranteePrincipal": "arn:aws:iam::111122223333:role/ExampleRole",
```
The following code example shows how to use `sign`.

**AWS CLI**

**Example 1: To generate a digital signature for a message**

The following `sign` example generates a cryptographic signature for a short message. The output of the command includes a base-64 encoded `Signature` field that you can verify by using the `verify` command.

You must specify a message to sign and a signing algorithm that your asymmetric KMS key supports. To get the signing algorithms for your KMS key, use the `describe-key` command.

In AWS CLI 2.0, the value of the `message` parameter must be Base64-encoded. Or, you can save the message in a file and use the `fileb://` prefix, which tells the AWS CLI to read binary data from the file.

Before running this command, replace the example key ID with a valid key ID from your AWS account. The key ID must represent an asymmetric KMS key with a key usage of `SIGN_VERIFY`.

For more information, see [Grants in AWS KMS](https://docs.aws.amazon.com/key-management-service/latest/devguide/awskeymanagement-grants.html) in the *AWS Key Management Service Developer Guide*.

- For API details, see [ListRetirableGrants](https://docs.aws.amazon.com/cli/latest/reference/kms/list-retriable-grants.html) in *AWS CLI Command Reference*. 
msg=(echo 'Hello World' | base64)

aws kms sign \
   --key-id 1234abcd-12ab-34cd-56ef-1234567890ab \ 
   --message fileb://UnsignedMessage \ 
   --message-type RAW \ 
   --signing-algorithm RSASSA_PKCS1_V1_5_SHA_256

Output:

```json
{
   "KeyId": "arn:aws:kms:us-west-2:111122223333:key/1234abcd-12ab-34cd-56ef-1234567890ab",
   "Signature": "ABCDEFhpyVYyTxbafE74ccSvEJLJr3zuoV1Hfymz4qv/\nxmxNLAL75E1f81Hw0fKZ3bJ...",
   "SigningAlgorithm": "RSASSA_PKCS1_V1_5_SHA_256"
}
```

For more information about using asymmetric KMS keys in AWS KMS, see [Asymmetric keys in AWS KMS](https://docs.aws.amazon.com/kms/latest/developerguide/asymmetric-usage.html) in the [AWS Key Management Service Developer Guide](https://docs.aws.amazon.com/kms/latest/developerguide/).

**Example 2: To save a digital signature in a file (Linux and macOS)**

The following `sign` example generates a cryptographic signature for a short message stored in a local file. The command also gets the `Signature` property from the response, Base64-decodes it and saves it in the `ExampleSignature` file. You can use the signature file in a `verify` command that verifies the signature.

The `sign` command requires a Base64-encoded message and a signing algorithm that your asymmetric KMS key supports. To get the signing algorithms that your KMS key supports, use the `describe-key` command.

Before running this command, replace the example key ID with a valid key ID from your AWS account. The key ID must represent an asymmetric KMS key with a key usage of `SIGN_VERIFY`.

```bash
echo 'hello world' | base64 > EncodedMessage
aws kms sign \
   --key-id 1234abcd-12ab-34cd-56ef-1234567890ab \ 
   --message fileb://EncodedMessage \ 
   --message-type RAW \
```
--signing-algorithm RSASSA_PKCS1_V1_5_SHA_256 \
--output text \
--query Signature | base64 --decode > ExampleSignature

This command produces no output. This example extracts the Signature property of the output and saves it in a file.

For more information about using asymmetric KMS keys in AWS KMS, see Asymmetric keys in AWS KMS in the AWS Key Management Service Developer Guide.

- For API details, see Sign in AWS CLI Command Reference.

tag-resource

The following code example shows how to use tag-resource.

AWS CLI

To add a tag to a KMS key

The following tag-resource example adds "Purpose":"Test" and "Dept":"IT" tags to a customer managed KMS key. You can use tags like these to label KMS keys and create categories of KMS keys for permissions and auditing.

To specify the KMS key, use the key-id parameter. This example uses a key ID value, but you can use a key ID or key ARN in this command.

```
aws kms tag-resource \
   --key-id 1234abcd-12ab-34cd-56ef-1234567890ab \
   --tags TagKey='Purpose',TagValue='Test' TagKey='Dept',TagValue='IT'
```

This command produces no output. To view the tags on an AWS KMS KMS key, use the list-resource-tags command.

For more information about using tags in AWS KMS, see Tagging keys in the AWS Key Management Service Developer Guide.

- For API details, see TagResource in AWS CLI Command Reference.

untag-resource

The following code example shows how to use untag-resource.
AWS CLI

To delete a tag from a KMS key

The following untag-resource example deletes the tag with the "Purpose" key from a customer managed KMS key.

To specify the KMS key, use the key-id parameter. This example uses a key ID value, but you can use a key ID or key ARN in this command. Before running this command, replace the example key ID with a valid key ID from your AWS account.

```
aws kms untag-resource \\
   --key-id 1234abcd-12ab-34cd-56ef-1234567890ab \\
   --tag-key 'Purpose'
```

This command produces no output. To view the tags on an AWS KMS KMS key, use the list-resource-tags command.

For more information about using tags in AWS KMS, see Tagging keys in the AWS Key Management Service Developer Guide.

- For API details, see UntagResource in AWS CLI Command Reference.

update-custom-key-store

The following code example shows how to use update-custom-key-store.

AWS CLI

Example 1: To edit the friendly name of a custom key store

The following update-custom-key-store example changes the name of the custom key store. This example works for an AWS CloudHSM key store or an external key store.

Use the custom-key-store-id to identify the key store. Use the new-custom-key-store-name parameter to specify the new friendly name.

To update the friendly name of an AWS CloudHSM key store, you must first disconnect the key store, such as by using the disconnect-custom-key-store command. You can update the friendly name of an external key store while it is connected or disconnected. To find the connection state of your custom key store, use the describe-custom-key-store command.
aws kms update-custom-key-store \
  --custom-key-store-id cks-1234567890abcdef0 \
  --new-custom-key-store-name ExampleKeyStore

This command does not return any data. To verify that the command worked, use a describe-custom-key-stores command.

For more information about updating an AWS CloudHSM key store, see Editing AWS CloudHSM key store settings in the AWS Key Management Service Developer Guide.

For more information about updating an external key store, see Editing external key store properties in the AWS Key Management Service Developer Guide.

**Example 2: To edit the kmsuser password of an AWS CloudHSM key store**

The following update-custom-key-store example updates the value of the kmsuser password to the current password for the kmsuser in the CloudHSM cluster associated with the specified key store. This command doesn't change the kmsuser password it the cluster. It just tells AWS KMS the current password. If KMS doesn't have the current kmsuser password, it cannot connect to the AWS CloudHSM key store.

**NOTE:** Before updating an AWS CloudHSM key store, you must disconnect it. Use the disconnect-custom-key-store command. After the command completes, you can reconnect the AWS CloudHSM key store. Use the connect-custom-key-store command.

aws kms update-custom-key-store \
  --custom-key-store-id cks-1234567890abcdef0 \
  --key-store-password ExamplePassword

This command does not return any output. To verify that the change was effective, use a describe-custom-key-stores command.

For more information about updating an AWS CloudHSM key store, see Editing AWS CloudHSM key store settings in the AWS Key Management Service Developer Guide.

**Example 3: To edit the AWS CloudHSM cluster of an AWS CloudHSM key store**

The following example changes the AWS CloudHSM cluster that is associated with an AWS CloudHSM key store to a related cluster, such as a different backup of the same cluster.
**NOTE:** Before updating an AWS CloudHSM key store, you must disconnect it. Use the `disconnect-custom-key-store` command. After the command completes, you can reconnect the AWS CloudHSM key store. Use the `connect-custom-key-store` command.

```bash
aws kms update-custom-key-store \
  --custom-key-store-id cks-1234567890abcdef0 \
  --cloud-hsm-cluster-id cluster-1a23b4cdefg
```

This command does not return any output. To verify that the change was effective, use a `describe-custom-key-stores` command.

For more information about updating an AWS CloudHSM key store, see [Editing AWS CloudHSM key store settings](https://docs.aws.amazon.com/kms/latest/developerguide/editing-cloudhsm-properties.html) in the *AWS Key Management Service Developer Guide*.

**Example 4: To edit the proxy authentication credential of an external key store**

The following example updates the proxy authentication credential for your external key store. You must specify both the `raw-secret-access-key` and the `access-key-id`, even if you are changing only one of the values. You can use this feature to fix an invalid credential or to change the credential when the external key store proxy rotates it.

Establish the proxy authentication credential for AWS KMS on your external key store. Then use this command to provide the credential to AWS KMS. AWS KMS uses this credential to sign its requests to your external key store proxy.

You can update the proxy authentication credential while the external key store is connected or disconnected. To find the connection state of your custom key store, use the `describe-custom-key-store` command.

```bash
aws kms update-custom-key-store \
  --custom-key-store-id cks-1234567890abcdef0 \
  --xks-proxy-authentication-credential "AccessKeyId=ABCDE12345670EXAMPLE,RawSecretAccessKey=DXjSUawnel2fr6SKC7G25CNxTyWKE5PF9XX6H/u9pSo="
```

This command does not return any output. To verify that the change was effective, use a `describe-custom-key-stores` command.

For more information about updating an external key store, see [Editing external key store properties](https://docs.aws.amazon.com/kms/latest/developerguide/editing-cloudhsm-properties.html) in the *AWS Key Management Service Developer Guide*.
Example 5: To edit the proxy connectivity of an external key store

The following example changes the external key store proxy connectivity option from public endpoint connectivity to VPC endpoint service connectivity. In addition to changing the `xks-proxy-connectivity` value, you must change the `xks-proxy-uri-endpoint` value to reflect the private DNS name associated with the VPC endpoint service. You must also add an `xks-proxy-vpc-endpoint-service-name` value.

**NOTE:** Before updating the proxy connectivity of an external store, you must disconnect it. Use the `disconnect-custom-key-store` command. After the command completes, you can reconnect the external key store by using the `connect-custom-key-store` command.

```
aws kms update-custom-key-store \
   --custom-key-store-id cks-1234567890abcdef0 \
   --xks-proxy-connectivity VPC_ENDPOINT_SERVICE \
   --xks-proxy-uri-endpoint "https://myproxy-private.xks.example.com" \
   --xks-proxy-vpc-endpoint-service-name "com.amazonaws.vpce.us-east-1.vpce-svc-example"
```

This command does not return any output. To verify that the change was effective, use a `describe-custom-key-stores` command.

For more information about updating an external key store, see Editing external key store properties in the AWS Key Management Service Developer Guide.

- For API details, see UpdateCustomKeyStore in AWS CLI Command Reference.

update-key-description

The following code example shows how to use update-key-description.

AWS CLI

Example 1: To add or change a description to a customer managed KMS key

The following update-key-description example adds a description to a customer managed KMS key. You can use the same command to change an existing description.

The `--key-id` parameter identifies the KMS key in the command. This example uses a key ARN value, but you can use either the key ID or the key ARN of the KMS key. The `--description`
parameter specifies the new description. The value of this parameter replaces the current
description of the KMS key, if any.

```bash
aws kms update-key-description \
   --key-id arn:aws:kms:us-west-2:123456789012:key/1234abcd-12ab-34cd-56ef-1234567890ab \
   --description "IT Department test key"
```

This command produces no output. To view the description of a KMS key, use the describe-key command.

For more information, see `UpdateKeyDescription` in the *AWS Key Management Service API Reference*.

**Example 2: To delete the description of a customer managed KMS key**

The following `update-key-description` example deletes the description to a customer managed KMS key.

The `--key-id` parameter identifies the KMS key in the command. This example uses a key ID value, but you can use either the key ID or the key ARN of the KMS key. The `--description` parameter with an empty string value ("") deletes the existing description.

```bash
aws kms update-key-description \
   --key-id 0987dcba-09fe-87dc-65ba-ab0987654321 \
   --description ''
```

This command produces no output. To view the description of a KMS key, use the describe-key command.

For more information, see `UpdateKeyDescription` in the *AWS Key Management Service API Reference*.

- For API details, see `UpdateKeyDescription` in *AWS CLI Command Reference*.

### verify

The following code example shows how to use verify.

**AWS CLI**

To verify a digital signature
The following verify example verifies a cryptographic signature for a short, Base64-encoded message. The key ID, message, message type, and signing algorithm must be same ones that were used to sign the message. The signature that you specify cannot be base64-encoded. For help decoding the signature that the sign command returns, see the sign command examples.

The output of the command includes a Boolean SignatureValid field that indicates that the signature was verified. If the signature validation fails, the verify command fails, too.

Before running this command, replace the example key ID with a valid key ID from your AWS account.

```
aws kms verify \\
    --key-id 1234abcd-12ab-34cd-56ef-1234567890ab \\
    --message fileb://EncodedMessage \\
    --message-type RAW \\
    --signing-algorithm RSASSA_PKCS1_V1_5_SHA_256 \\
    --signature fileb://ExampleSignature
```

Output:

```
{
    "KeyId": "arn:aws:kms:us-west-2:111122223333:key/1234abcd-12ab-34cd-56ef-1234567890ab",
    "SignatureValid": true,
    "SigningAlgorithm": "RSASSA_PKCS1_V1_5_SHA_256"
}
```

For more information about using asymmetric KMS keys in AWS KMS, see Using asymmetric keys in the AWS Key Management Service Developer Guide.

- For API details, see Verify in AWS CLI Command Reference.

## Lake Formation examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Lake Formation.

**Actions** are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.
Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- **Actions**

**Actions**

*add-lf-tags-to-resource*

The following code example shows how to use `add-lf-tags-to-resource`.

**AWS CLI**

To attach one or more LF-tags to an existing resource

The following `add-lf-tags-to-resource` example attaches given LF-tag to the table resource.

```bash
aws lakeformation add-lf-tags-to-resource \
--cli-input-json file://input.json
```

Contents of `input.json`:

```json
{
    "CatalogId": "123456789111",
    "Resource": {
        "Table": {
            "CatalogId": "123456789111",
            "DatabaseName": "tpc",
            "Name": "dl_tpc_promotion"
        }
    },
    "LFTags": [
        {
            "CatalogId": "123456789111",
            "TagKey": "usergroup",
            "TagValues": [
                "analyst"
            ]
        }
    ]
}
```
Output:

```json
{
    "Failures": []
}
```

For more information, see Assigning LF-Tags to Data Catalog resources in the AWS Lake Formation Developer Guide.

- For API details, see AddLfTagsToResource in AWS CLI Command Reference.

**batch-grant-permissions**

The following code example shows how to use batch-grant-permissions.

**AWS CLI**

**To bulk grant permissions on resources to the principals**

The following batch-grant-permissions example bulk grants access on specified resources to the principals.

```bash
aws lakeformation batch-grant-permissions \
    --cli-input-json file://input.json
```

Contents of `input.json`:

```json
{
    "CatalogId": "123456789111",
    "Entries": [{
        "Id": "1",
        "Principal": {
            "DataLakePrincipalIdentifier": "arn:aws:iام::123456789111:user/lf-developer"
        },
        "Resource": {
            "Table": {
                "CatalogId": "123456789111",
                "DatabaseName": "tpc",
```
"Name": "dl_tpc_promotion"
}
},
"Permissions": [
  "ALL"
],
"PermissionsWithGrantOption": [
  "ALL"
]
},
{
  "Id": "2",
  "Principal": {
    "DataLakePrincipalIdentifier": "arn:aws:iam::123456789111:user/lf-developer"
  },
  "Resource": {
    "Table": {
      "CatalogId": "123456789111",
      "DatabaseName": "tpc",
      "Name": "dl_tpc_customer"
    }
  },
  "Permissions": [
    "ALL"
  ],
  "PermissionsWithGrantOption": [
    "ALL"
  ]
},
{
  "Id": "3",
  "Principal": {
    "DataLakePrincipalIdentifier": "arn:aws:iam::123456789111:user/lf-business-analyst"
  },
  "Resource": {
    "Table": {
      "CatalogId": "123456789111",
      "DatabaseName": "tpc",
      "Name": "dl_tpc_promotion"
    }
  },
  "Permissions": [

Actions and scenarios

"ALL",
  "PermissionsWithGrantOption": [
    "ALL"
  ],
},
{
  "Id": "4",
  "Principal": {
    "DataLakePrincipalIdentifier": "arn:aws:iam::123456789111:user/lf-developer"
  },
  "Resource": {
    "DataCellsFilter": {
      "TableCatalogId": "123456789111",
      "DatabaseName": "tpc",
      "TableName": "dl_tpc_item",
      "Name": "developer_item"
    }
  },
  "Permissions": [
    "SELECT"
  ],
  "PermissionsWithGrantOption": []
}
}

Output:

{
  "Failures": []
}

For more information, see [Granting and revoking permissions on Data Catalog resources](https://docs.aws.amazon.com/AmazonS3/latest/userguide/Glacier-Access-Control-Example.html) in the [AWS Glacier Developer Guide](https://docs.aws.amazon.com/glacier/latest/dev/index.html).

- For API details, see [BatchGrantPermissions](https://docs.aws.amazon.com/cli/latest/reference/glacier/batch-grant-permissions.html) in [AWS CLI Command Reference](https://docs.aws.amazon.com/cli/latest/reference/index.html).

**batch-revoke-permissions**

The following code example shows how to use batch-revoke-permissions.
AWS CLI

To bulk revoke permissions on resources from the principals

The following batch-revoke-permissions example bulk revokes access on specified resources from the principals.

```
aws lakeformation batch-revoke-permissions \
--cli-input-json file://input.json
```

Contents of `input.json`:

```json
{
   "CatalogId": "123456789111",
   "Entries": [{
      "Id": "1",
      "Principal": {
         "DataLakePrincipalIdentifier": "arn:aws:iam::123456789111:user/lf-developer"
      },
      "Resource": {
         "Table": {
            "CatalogId": "123456789111",
            "DatabaseName": "tpc",
            "Name": "dl_tpc_promotion"
         }
      },
      "Permissions": ["ALL"],
      "PermissionsWithGrantOption": ["ALL"
   },
   {
      "Id": "2",
      "Principal": {
         "DataLakePrincipalIdentifier": "arn:aws:iam::123456789111:user/lf-business-analyst"
      },
      "Resource": {
         "Table": {
            "CatalogId": "123456789111",
            "DatabaseName": "tpc",
            "Name": "dl_tpc_promotion"
         }
      },
      "Permissions": ["ALL"],
      "PermissionsWithGrantOption": ["ALL"
   }
}
```
Output:

```json
{
    "Failures": []
}
```

For more information, see [Granting and revoking permissions on Data Catalog resources](https://docs.aws.amazon.com/lakeformation/latest/dg/permissions.html) in the *AWS Lake Formation Developer Guide*.

- For API details, see [BatchRevokePermissions](https://docs.aws.amazon.com/cli/latest/reference/lakeformation/batch-revoke-permissions.html) in *AWS CLI Command Reference*.

**cancel-transaction**

The following code example shows how to use `cancel-transaction`.

**AWS CLI**

**To cancel a transaction**

The following `cancel-transaction` example cancels the transaction.

```bash
aws lakeformation cancel-transaction \
    --transaction-id='b014d972ca8347b89825e33c5774aec4'
```

This command produces no output.

For more information, see [Reading from and writing to the data lake within transactions](https://docs.aws.amazon.com/lakeformation/latest/dg/transactions.html) in the *AWS Lake Formation Developer Guide*. 
commit-transaction

The following code example shows how to use commit-transaction.

**AWS CLI**

**To commit transaction**

The following commit-transaction example commits the transaction.

```
aws lakeformation commit-transaction \
  --transaction-id='b014d972ca8347b89825e33c5774aec4'
```

Output:

```json
{
    "TransactionStatus": "committed"
}
```

For more information, see [Reading from and writing to the data lake within transactions](https://docs.aws.amazon.com/lakeformation/latest/dg/transactions.html) in the *AWS Lake Formation Developer Guide*.

create-data-cells-filter

The following code example shows how to use create-data-cells-filter.

**AWS CLI**

**Example 1: To create data cell filter**

The following create-data-cells-filter example creates a data cell filter to allow one to grant access to certain columns based on row condition.

```
aws lakeformation create-data-cells-filter \
  --cli-input-json file://input.json
```

Contents of *input.json*:
This command produces no output.

For more information, see [Data filtering and cell-level security in Lake Formation](https://aws.amazon.com/lakeformation/) in the [AWS Lake Formation Developer Guide](https://aws.amazon.com/lakeformation/).

**Example 2: To create column filter**

The following `create-data-cells-filter` example creates a data filter to allow one to grant access to certain columns.

```bash
code
aws lakeformation create-data-cells-filter \
    --cli-input-json file://input.json
```

**Contents of `input.json`:**

```json
{
    "TableData": {
        "ColumnNames": ["p_channel_details", "p_start_date_sk", "p_promo_name"],
        "DatabaseName": "tpc",
        "Name": "developer_promotion_allrows",
        "RowFilter": {
            "FilterExpression": "p_promo_name='ese'"
        },
        "TableCatalogId": "123456789111",
        "TableName": "dl_tpc_promotion"
    }
}
```

This command produces no output.
Example 3: To create data filter with exclude columns

The following `create-data-cells-filter` example creates a data filter to allow one to grant access all except the mentioned columns.

```bash
aws lakeformation create-data-cells-filter \
   --cli-input-json file://input.json
```

Contents of `input.json`:

```json
{
   "TableData": {
      "ColumnWildcard": {
         "ExcludedColumnNames": ["p_channel_details", "p_start_date_sk"]
      },
      "DatabaseName": "tpc",
      "Name": "developer_promotion_excludcolumn",
      "RowFilter": {
         "AllRowsWildcard": {}
      },
      "TableCatalogId": "123456789111",
      "TableName": "dl_tpc_promotion"
   }
}
```

This command produces no output.

For more information, see Data filtering and cell-level security in Lake Formation in the AWS Lake Formation Developer Guide.

- For API details, see [CreateDataCellsFilter](https://docs.aws.amazon.com/cli/latest/reference/lakeformation/create-data-cells-filter.html) in AWS CLI Command Reference.

create-lf-tag

The following code example shows how to use `create-lf-tag`.

AWS CLI

To create LF-Tag
The following create-lf-tag example creates an LF-Tag with the specified name and values.

```
aws lakeformation create-lf-tag \
  --catalog-id '123456789111' \
  --tag-key 'usergroup' \
  --tag-values ['"developer","analyst","campaign"]'
```

This command produces no output.

For more information, see Managing LF-Tags for metadata access control in the AWS Lake Formation Developer Guide.

- For API details, see CreateLfTag in AWS CLI Command Reference.

**delete-data-cells-filter**

The following code example shows how to use delete-data-cells-filter.

**AWS CLI**

**To delete data cell filter**

The following delete-data-cells-filter example deletes given data cell filter.

```
aws lakeformation delete-data-cells-filter \
  --cli-input-json file://input.json
```

Contents of input.json:

```
{
  "TableCatalogId": "123456789111",
  "DatabaseName": "tpc",
  "TableName": "dl_tpc_promotion",
  "Name": "developer_promotion"
}
```

This command produces no output.

For more information, see Data filtering and cell-level security in Lake Formation in the AWS Lake Formation Developer Guide.

- For API details, see DeleteDataCellsFilter in AWS CLI Command Reference.
**delete-lf-tag**

The following code example shows how to use `delete-lf-tag`.

**AWS CLI**

**To delete LF-Tag definition**

The following `delete-lf-tag` example deletes LF-Tag definition.

```bash
aws lakeformation delete-lf-tag
   --catalog-id '123456789111'
   --tag-key 'usergroup'
```

This command produces no output.

For more information, see Managing LF-Tags for metadata access control in the AWS Lake Formation Developer Guide.

- For API details, see DeleteLlTag in AWS CLI Command Reference.

**delete-objects-on-cancel**

The following code example shows how to use `delete-objects-on-cancel`.

**AWS CLI**

**To delete object when transaction is cancelled**

The following `delete-objects-on-cancel` example deletes the listed s3 object when the transaction is cancelled.

```bash
aws lakeformation delete-objects-on-cancel
   --cli-input-json file://input.json
```

Contents of `input.json`:

```json
{
   "CatalogId": "012345678901",
   "DatabaseName": "tpc",
   "TableName": "dl_tpc_household_demographics_gov",
}
```
This command produces no output.

For more information, see Reading from and writing to the data lake within transactions in the AWS Lake Formation Developer Guide.

- For API details, see DeleteObjectsOnCancel in AWS CLI Command Reference.

deregister-resource

The following code example shows how to use deregister-resource.

AWS CLI

To deregister data lake storage

The following deregister-resource example deregisters the resource as managed by the Lake Formation.

```
aws lakeformation deregister-resource \
   --cli-input-json file://input.json
```

Contents of input.json:

```
{
   "ResourceArn": "arn:aws:s3:::lf-emr-athena-result-123"
}
```

This command produces no output.

For more information, see Adding an Amazon S3 location to your data lake in the AWS Lake Formation Developer Guide.

- For API details, see DeregisterResource in AWS CLI Command Reference.
describe-transaction

The following code example shows how to use describe-transaction.

**AWS CLI**

**To retrieve a transaction details**

The following describe-transaction example returns the details of a single transaction.

```
aws lakeformation describe-transaction \
   --transaction-id='8cb4b1a7cc8d486fbaca9a64e7d9f5ce'
```

Output:

```
{
   "TransactionDescription": {
      "TransactionId": "12345972ca8347b89825e33c5774aec4",
      "TransactionStatus": "committed",
      "TransactionStartTime": "2022-08-10T14:29:04.046000+00:00",
      "TransactionEndTime": "2022-08-10T14:29:09.681000+00:00"
   }
}
```

For more information, see [Reading from and writing to the data lake within transactions](https://docs.aws.amazon.com/lakeformation/latest/dg/transactions.html) in the [AWS Lake Formation Developer Guide](https://docs.aws.amazon.com/lakeformation/latest/dg/).  


extend-transaction

The following code example shows how to use extend-transaction.

**AWS CLI**

**To extend a transaction**

The following extend-transaction example extends the transaction.

```
aws lakeformation extend-transaction \
   --transaction-id='8cb4b1a7cc8d486fbaca9a64e7d9f5ce'
```
This command produces no output.

For more information, see Reading from and writing to the data lake within transactions in the AWS Lake Formation Developer Guide.

• For API details, see ExtendTransaction in AWS CLI Command Reference.

get-data-lake-settings

The following code example shows how to use get-data-lake-settings.

AWS CLI

To retrieve AWS Lake Formation-managed data lake settings

The following get-data-lake-settings example retrieves the list of data lake administrators and other data lake settings.

```
aws lakeformation get-data-lake-settings \
  --cli-input-json file://input.json
```

Contents of input.json:

```
{
  "CatalogId": "123456789111"
}
```

Output:

```
{
  "DataLakeSettings": {
    "DataLakeAdmins": [{
      "DataLakePrincipalIdentifier": "arn:aws:iam::123456789111:user/lf-admin"
    }],
    "CreateDatabaseDefaultPermissions": [],
    "CreateTableDefaultPermissions": [
      {
        "Principal": {
          "DataLakePrincipalIdentifier": "IAM_ALLOWED_PRINCIPALS"
        },
        "Permissions": [
```
For more information, see [Changing the default security settings for your data lake](https://docs.aws.amazon.com/lakeformation/latest/dg/ deviations.html) in the [AWS Lake Formation Developer Guide](https://docs.aws.amazon.com/lakeformation/latest/dg/)


### get-effective-permissions-for-path

The following code example shows how to use `get-effective-permissions-for-path`.

**AWS CLI**

**To retrieve permissions on resources located at specific path**

The following example returns the Lake Formation permissions for a specified table or database resource located at a path in Amazon S3.

```
aws lakeformation get-effective-permissions-for-path \
   --cli-input-json file://input.json
```

**Contents of `input.json`:**

```json
{
    "CatalogId": "123456789111",
    "ResourceArn": "arn:aws:s3:::lf-data-lake-123456789111"
}
```
```json
{
    "Permissions": [{
        "Principal": {
            "DataLakePrincipalIdentifier": "arn:aws:iam::123456789111:user/lf-campaign-manager"
        },
        "Resource": {
            "Database": {
                "Name": "tpc"
            }
        },
        "Permissions": [
            "DESCRIBE"
        ],
        "PermissionsWithGrantOption": []
    },
    {"Principal": {
            "DataLakePrincipalIdentifier": "arn:aws:iam::123456789111:role/EMR-RuntimeRole"
        },
        "Resource": {
            "Database": {
                "Name": "tpc"
            }
        },
        "Permissions": [
            "ALL"
        ],
        "PermissionsWithGrantOption": []
    },
    {"Principal": {
            "DataLakePrincipalIdentifier": "arn:aws:iam::123456789111:saml-provider/oktaSAMLProvider:user/emr-developer"
        },
        "Resource": {
            "Database": {
                "Name": "tpc"
            }
        },
        "Permissions": [
```
"ALL",
   "DESCRIBE"
],
"PermissionsWithGrantOption": []
},
{
   "Principal": {
      "DataLakePrincipalIdentifier": "arn:aws:iam::123456789111:user/lf-admin"
   },
   "Resource": {
      "Database": {
         "Name": "tpc"
      }
   },
   "Permissions": [
      "ALL",
      "ALTER",
      "CREATE_TABLE",
      "DESCRIBE",
      "DROP"
   ],
   "PermissionsWithGrantOption": [
      "ALL",
      "ALTER",
      "CREATE_TABLE",
      "DESCRIBE",
      "DROP"
   ]
},
{
   "Principal": {
      "DataLakePrincipalIdentifier": "arn:aws:iam::123456789111:role/LF-GlueServiceRole"
   },
   "Resource": {
      "Database": {
         "Name": "tpc"
      }
   },
   "Permissions": [
      "CREATE_TABLE"
   ],
   "PermissionsWithGrantOption": []
}
For more information, see [Managing Lake Formation permissions](https://docs.aws.amazon.com/lakeformation/latest/userguide/permissions-manage.html) in the *AWS Lake Formation Developer Guide*.

- For API details, see [GetEffectivePermissionsForPath](https://docs.aws.amazon.com/cli/latest/reference/lakeformation/get-effective-permissions-for-path.html) in *AWS CLI Command Reference*.

### get-lf-tag

The following code example shows how to use `get-lf-tag`.

**AWS CLI**

**To retrieve LF-tag definition**

The following `get-lf-tag` example retrieves LF-tag definition.

```bash
aws lakeformation get-lf-tag \
   --catalog-id '123456789111' \
   --tag-key 'usergroup'
```

**Output:**

```json
{
   "CatalogId": "123456789111",
   "TagKey": "usergroup",
   "TagValues": [
      "analyst",
      "campaign",
      "developer"
   ]
}
```

For more information, see [Managing LF-Tags for metadata access control](https://docs.aws.amazon.com/lakeformation/latest/userguide/lf-tags.html) in the *AWS Lake Formation Developer Guide*.

- For API details, see [GetLfTag](https://docs.aws.amazon.com/cli/latest/reference/lakeformation/get-lf-tag.html) in *AWS CLI Command Reference*.
get-query-state

The following code example shows how to use get-query-state.

**AWS CLI**

**To retrieve state of a submitted query**

The following `get-query-state` example returns the state of a query previously submitted.

```bash
aws lakeformation get-query-state \
    --query-id='1234273f-4a62-4cda-8d98-69615ee8be9b'
```

Output:

```json
{
    "State": "FINISHED"
}
```

For more information, see [Transactional data operations](https://docs.aws.amazon.com/lakeformation/latest/dg/transactions.html) in the *AWS Lake Formation Developer Guide*.

- For API details, see [GetQueryState](https://docs.aws.amazon.com/cli/latest/reference/lakeformation/get-query-state.html) in *AWS CLI Command Reference*.

get-query-statistics

The following code example shows how to use get-query-statistics.

**AWS CLI**

**To retrieve query statistics**

The following `get-query-statistics` example retrieves statistics on the planning and execution of a query.

```bash
aws lakeformation get-query-statistics \
    --query-id='1234273f-4a62-4cda-8d98-69615ee8be9b'
```

Output:

```json
{
}
```
"ExecutionStatistics": {
    "AverageExecutionTimeMillis": 0,
    "DataScannedBytes": 0,
    "WorkUnitsExecutedCount": 0
},
"PlanningStatistics": {
    "EstimatedDataToScanBytes": 43235,
    "PlanningTimeMillis": 2377,
    "QueueTimeMillis": 440,
    "WorkUnitsGeneratedCount": 1
},
"QuerySubmissionTime": "2022-08-11T02:14:38.641870+00:00"
}

For more information, see Transactional data operations in the AWS Lake Formation Developer Guide.

- For API details, see GetQueryStatistics in AWS CLI Command Reference.

get-resource-lf-tags

The following code example shows how to use get-resource-lf-tags.

AWS CLI

To list LF-tags

The following list-lf-tags example returns list of LF-tags that the requester has permission to view.

aws lakeformation list-lf-tags \
   --cli-input-json file://input.json

Contents of input.json:

{
    "CatalogId": "123456789111",
    "ResourceShareType": "ALL",
    "MaxResults": 2
}

Output:
For more information, see Managing LF-Tags for metadata access control in the AWS Lake Formation Developer Guide.

- For API details, see GetResourceLfTags in AWS CLI Command Reference.

get-table-objects

The following code example shows how to use get-table-objects.

AWS CLI

To list objects of governed table

The following get-table-objects example returns the set of Amazon S3 objects that make up the specified governed table.

```bash
aws lakeformation get-table-objects \
   --cli-input-json file://input.json
```

Contents of input.json:
For more information, see [Reading from and writing to the data lake within transactions](https://docs.aws.amazon.com/lakeformation/latest/dg/transactions.html) in the [AWS Lake Formation Developer Guide](https://docs.aws.amazon.com/lakeformation/latest/dg/).

- For API details, see [GetTableObjects](https://docs.aws.amazon.com/cli/latest/reference/lakeformation/get-table-objects.html) in *AWS CLI Command Reference*.

/get-work-unit-results

The following code example shows how to use `/get-work-unit-results`.

**AWS CLI**

**To retrieve work units of given query**

The following `/get-work-unit-results` example returns the work units resulting from the query.

```
aws lakeformation get-work-units \
    --query-id='1234273f-4a62-4cda-8d98-69615ee8be9b' \
    --work-unit-id '0'
```
get-work-units

The following code example shows how to use get-work-units.

**AWS CLI**

To retrieve work units

The following get-work-units example retrieves the work units generated by the StartQueryPlanning operation.

```
aws lakeformation get-work-units \
   --query-id='1234273f-4a62-4cda-8d98-69615ee8be9b'
```

Output:

```json
{
   "WorkUnitRanges": [{
      "WorkUnitIdMax": 0,
      "WorkUnitIdMin": 0,
      "WorkUnitToken": "1234eMAk4kLO4umqEL4Z5WuxL04AXwABABVhd3MtY3J5cHRvLXB1YmpYy1rZXkAREEwYm9QbkhINmFYTWhbmMxZWZhZHR0cDoxMA==",
      "BlobContent": "" +f88jzGrYq22gE6jkQlpOB +Oet2eqNUmFudAAAafjB8BkgkqhkiG9w0BBwagbzBtAgEAMGgGCSqGSb3QEHATAeBglghkgBZQMEAS4wEQQMCEWRdawwAAAEAAAAAABEAEAEACX3/w5h75QAPomfKH+cYEUY1ycUmBl +VSojiotdUSk7vcjYXUboYm3dvqRqX2s4gRMOm +Ij8R0/8jYmHkpvyAFNVRPyyETyIKg7k5Z9+5I1c2d3446Jw/moWGGxjH8AE9h27ytmoixoZDOei/F2zoXz6w1GDfGuo/2WxckYOhTyNaw6TM +7dzTM7yr4INVLUM0LX0xnFjIAhLhooWJek6vjQZUAZzB1AjBH8okRtY8R7AY2W1s/
```
For more information, see Transactional data operations in the AWS Lake Formation Developer Guide.

- For API details, see GetWorkUnits in AWS CLI Command Reference.

grant-permissions

The following code example shows how to use grant-permissions.

AWS CLI

Example 1: To grant permissions to the principal on resources using LF-Tags

The following grant-permissions example grants ALL permissions to the principal on database resource that matches the LF-Tag policy.

```
aws lakeformation grant-permissions \
    --cli-input-json file://input.json
```

Contents of input.json:

```
{
    "CatalogId": "123456789111",
    "Principal": {
        "DataLakePrincipalIdentifier": "arn:aws:iam::123456789111:user/lf-admin"
    },
    "Resource": {
        "LFTagPolicy": {
            "CatalogId": "123456789111",
            "ResourceType": "DATABASE",
            "Expression": [
                {
                    "TagKey": "usergroup",
                    "TagValues": ["analyst", "developer"]
                }
            ]
        }
    }
}
```
This command produces no output.

For more information, see Granting and revoking permissions on Data Catalog resources in the AWS Lake Formation Developer Guide.

Example 2: To grant column level permissions to the principal

The following grant-permissions example grants permission to select specific column to the principal.

```bash
aws lakeformation grant-permissions \
   --cli-input-json file://input.json
```

Contents of input.json:

```json
{
   "CatalogId": "123456789111",
   "Principal": {
      "DataLakePrincipalIdentifier": "arn:aws:iam::123456789111:user/lf-developer"
   },
   "Resource": {
      "TableWithColumns": {
         "CatalogId": "123456789111",
         "ColumnNames": ["p_end_date_sk"],
         "DatabaseName": "tpc",
         "Name": "dl_tpc_promotion"
      }
   },
   "Permissions": ["SELECT"
```
This command produces no output.

For more information, see Granting and revoking permissions on Data Catalog resources in the AWS Lake Formation Developer Guide.

**Example 3: To grant table permissions to the principal**

The following grant-permissions example grants select permission on all tables of given database to the principal.

```bash
aws lakeformation grant-permissions \\
--cli-input-json file://input.json
```

Contents of `input.json`:

```json
{
    "CatalogId": "123456789111",
    "Principal": {
        "DataLakePrincipalIdentifier": "arn:aws:iam::123456789111:user/lf-developer"
    },
    "Resource": {
        "Table": {
            "CatalogId": "123456789111",
            "DatabaseName": "tpc",
            "TableWildcard": {}
        }
    },
    "Permissions": [
        "SELECT"
    ],
    "PermissionsWithGrantOption": []
}
```

This command produces no output.

For more information, see Granting and revoking permissions on Data Catalog resources in the AWS Lake Formation Developer Guide.
Example 4: To grant permissions on LF-Tags to the principal

The following `grant-permissions` example grants associate permission on LF-Tags to the principal.

```bash
aws lakeformation grant-permissions \
   --cli-input-json file://input.json
```

Contents of `input.json`:

```json
{
    "CatalogId": "123456789111",
    "Principal": {
        "DataLakePrincipalIdentifier": "arn:aws:iam::123456789111:user/lf-developer"
    },
    "Resource": {
        "LFTag": {
            "CatalogId": "123456789111",
            "TagKey": "category",
            "TagValues": [
                "private",
                "public"
            ]
        }
    },
    "Permissions": [
        "ASSOCIATE"
    ],
    "PermissionsWithGrantOption": []
}
```

This command produces no output.

For more information, see [Granting and revoking permissions on Data Catalog resources](https://docs.aws.amazon.com/AmazonLakeFormation/latest/DeveloperGuide/permissions.html) in the [AWS Lake Formation Developer Guide](https://docs.aws.amazon.com/AmazonLakeFormation/latest/DeveloperGuide/permissions.html).

Example 5: To grant permissions on data locations to the principal

The following `grant-permissions` example grants permission on data location to the principal.

```bash
aws lakeformation grant-permissions \
```
Contents of input.json:

```
{
   "CatalogId": "123456789111",
   "Principal": {
      "DataLakePrincipalIdentifier": "arn:aws:iam::123456789111:user/lf-developer"
   },
   "Resource": {
      "DataLocation": {
         "CatalogId": "123456789111",
         "ResourceArn": "arn:aws:s3:::lf-data-lake-123456789111"
      }
   },
   "Permissions": [
      "DATA_LOCATION_ACCESS"
   ],
   "PermissionsWithGrantOption": []
}
```

This command produces no output.

For more information, see [Granting and revoking permissions on Data Catalog resources](https://docs.aws.amazon.com/awslakeformation/latest/dg/2-buyer-grant-permissions.html) in the *AWS Lake Formation Developer Guide*.

- For API details, see [GrantPermissions](https://docs.aws.amazon.com/cli/latest/reference/lakeformation/grant-permissions.html) in *AWS CLI Command Reference*.

---

**list-data-cells-filter**

The following code example shows how to use `list-data-cells-filter`.

**AWS CLI**

**To list data cell filters**

The following `list-data-cells-filter` example list data cell filter for given table.

```bash
aws lakeformation list-data-cells-filter \
   --cli-input-json file://input.json
```

Contents of input.json:
```
{
    "MaxResults": 2,
    "Table": {
        "CatalogId": "123456789111",
        "DatabaseName": "tpc",
        "Name": "dl_tpc_promotion"
    }
}
```

Output:

```
{
    "DataCellsFilters": [{
        "TableCatalogId": "123456789111",
        "DatabaseName": "tpc",
        "TableName": "dl_tpc_promotion",
        "Name": "developer_promotion",
        "RowFilter": {
            "FilterExpression": "p_promo_name='ese'"
        },
        "ColumnNames": ["p_channel_details", "p_start_date_sk", "p_purpose", "p_promo_id", "p_promo_name", "p_end_date_sk", "p_discount_active"]
    },
    {
        "TableCatalogId": "123456789111",
        "DatabaseName": "tpc",
        "TableName": "dl_tpc_promotion",
        "Name": "developer_promotion_allrows",
        "RowFilter": {
            "FilterExpression": "TRUE",
            "AllRowsWildcard": {}
        },
        "ColumnNames": ["p_channel_details", "p_start_date_sk", "p_promo_name"]
    }
}
```
For more information, see Data filtering and cell-level security in Lake Formation in the AWS Lake Formation Developer Guide.

- For API details, see ListDataCellsFilter in AWS CLI Command Reference.

**list-permissions**

The following code example shows how to use list-permissions.

**AWS CLI**

**Example 1: To retrieve list of principal permissions on the resource**

The following list-permissions example returns a list of principal permissions on the database resources.

```bash
aws lakeformation list-permissions 
    --cli-input-json file://input.json
```

**Contents of input.json:**

```json
{
    "CatalogId": "123456789111",
    "ResourceType": "DATABASE",
    "MaxResults": 2
}
```

**Output:**

```json
{
    "PrincipalResourcePermissions": [
        {
            "Principal": {
                "DataLakePrincipalIdentifier": "arn:aws:iam::123456789111:user/lf-campaign-manager"
            }
        }
    ]
}
```
For more information, see Managing Lake Formation permissions in the AWS Lake Formation Developer Guide.

**Example 2: To retrieve list of principal permissions on the table with data filters**

The following list-permissions example list the permissions on the table with related data filters granted to the principal.

```bash
aws lakeformation list-permissions \
  --cli-input-json file://input.json
```

**Contents of input.json:**

```json
{
  "CatalogId": "123456789111",
  "Resource": {
    "Table": {
      "CatalogId": "123456789111",
      "DatabaseName": "tpc",
      "Name": "dl_tpc_customer"
    }
  },
  "IncludeRelated": "TRUE",
  "MaxResults": 10
}
```
Output:

```json
{
   "PrincipalResourcePermissions": [{
      "Principal": {
         "DataLakePrincipalIdentifier": "arn:aws:iam::123456789111:role/Admin"
      },
      "Resource": {
         "Table": {
            "CatalogId": "123456789111",
            "DatabaseName": "customer",
            "Name": "customer_invoice"
         }
      },
      "Permissions": [
         "ALL",
         "ALTER",
         "DELETE",
         "DESCRIBE",
         "DROP",
         "INSERT"
      ],
      "PermissionsWithGrantOption": [
         "ALL",
         "ALTER",
         "DELETE",
         "DESCRIBE",
         "DROP",
         "INSERT"
      ]
   },
   {"Principal": {
      "DataLakePrincipalIdentifier": "arn:aws:iam::123456789111:role/Admin"
   },
   "Resource": {
      "TableWithColumns": {
         "CatalogId": "123456789111",
         "DatabaseName": "customer",
         "Name": "customer_invoice",
         "ColumnWildcard": {}"
      }
   }
}]
```
For more information, see [Managing Lake Formation permissions](https://docs.aws.amazon.com/lakeformation/latest/dg/permissions.html) in the *AWS Lake Formation Developer Guide*.

**Example 3: To retrieve list of principal permissions on the LF-Tags**

The following `list-permissions` example list the permissions on the LF-Tags granted to the principal.

```bash
aws lakeformation list-permissions \
--cli-input-json file://input.json
```
Contents of `input.json`:

```json
{
    "CatalogId": "123456789111",
    "Resource": {
        "LFTag": {
            "CatalogId": "123456789111",
            "TagKey": "category",
            "TagValues": [
                "private"
            ]
        },
        "MaxResults": 10
    }
}
```

Output:

```json
{
    "PrincipalResourcePermissions": [
        {
            "Principal": {
                "DataLakePrincipalIdentifier": "arn:aws:iам::123456789111:user/lf-admin"
            },
            "Resource": {
                "LFTag": {
                    "CatalogId": "123456789111",
                    "TagKey": "category",
                    "TagValues": [
                        "*
                    ]
                }
            },
            "Permissions": [
                "DESCRIBE"
            ],
            "PermissionsWithGrantOption": [
                "DESCRIBE"
            ]
        },
        {
            "Principal": {
```
For more information, see Managing Lake Formation permissions in the AWS Lake Formation Developer Guide.

- For API details, see ListPermissions in AWS CLI Command Reference.

**list-resources**

The following code example shows how to use list-resources.

**AWS CLI**

To lists the resources managed by the Lake Formation

The following list-resources example lists the resources matching the condition that is managed by the Lake Formation.

```
aws lakeformation list-resources \
  --cli-input-json file://input.json
```

Contents of input.json:
```json
{
    "FilterConditionList": [{
        "Field": "ROLE_ARN",
        "ComparisonOperator": "CONTAINS",
        "StringValueList": [
            "123456789111"
        ]
    }],
    "MaxResults": 10
}
```

Output:

```json
{
    "ResourceInfoList": [
        {
            "ResourceArn": "arn:aws:s3:::lf-data-lake-123456789111",
            "RoleArn": "arn:aws:iam::123456789111:role/LF-GlueServiceRole",
            "LastModified": "2022-07-21T02:12:46.669000+00:00"
        },
        {
            "ResourceArn": "arn:aws:s3:::lf-emr-test-123456789111",
            "RoleArn": "arn:aws:iam::123456789111:role/EMRLFS3Role",
            "LastModified": "2022-07-29T16:22:03.211000+00:00"
        }
    ]
}
```

For more information, see [Managing Lake Formation permissions](https://docs.aws.amazon.com/advancedworkloads/latest/dg/lake-formation-permissions.html) in the *AWS Lake Formation Developer Guide*.

- For API details, see [ListResources](https://docs.aws.amazon.com/cli/latest/reference/lakeformation/list-resources.html) in *AWS CLI Command Reference*.

**list-transactions**

The following code example shows how to use `list-transactions`.

**AWS CLI**

To list all transactions details

The following `list-transactions` example returns metadata about transactions and their status.
aws lakeformation list-transactions \
   --cli-input-json file://input.json

Contents of input.json:

```json
{
    "CatalogId": "123456789111",
    "StatusFilter": "ALL",
    "MaxResults": 3
}
```

Output:

```json
{
    "Transactions": [
        {
            "TransactionId": "1234569f08804cb790d950d4d0fe485e",
            "TransactionStatus": "committed",
            "TransactionStartTime": "2022-08-10T14:32:29.220000+00:00",
            "TransactionEndTime": "2022-08-10T14:32:33.751000+00:00"
        },
        {
            "TransactionId": "12345972ca8347b89825e33c5774aec4",
            "TransactionStatus": "committed",
            "TransactionStartTime": "2022-08-10T14:29:04.046000+00:00",
            "TransactionEndTime": "2022-08-10T14:29:09.681000+00:00"
        },
        {
            "TransactionId": "12345daf6cb047dbba8ad9b0414613b2",
            "TransactionStatus": "committed",
            "TransactionStartTime": "2022-08-10T13:56:51.261000+00:00",
            "TransactionEndTime": "2022-08-10T13:56:51.547000+00:00"
        }
    ],
    "NextToken": "77X1ebypsI7os+X21hHsZLGNCDK3nNGpwRdFpic5OHgcX1/QMoniUAKcpR3kj3ts3PvDMA=="
}
```

For more information, see [Reading from and writing to the data lake within transactions](https://docs.aws.amazon.com/lakeformation/latest/dg/transactions.html) in the [AWS Lake Formation Developer Guide](https://docs.aws.amazon.com/lakeformation/latest/dg/).

put-data-lake-settings

The following code example shows how to use put-data-lake-settings.

AWS CLI

To set AWS Lake Formation-managed data lake settings

The following put-data-lake-settings example sets the list of data lake administrators and other data lake settings.

```bash
aws lakeformation put-data-lake-settings
  --cli-input-json file://input.json
```

Contents of `input.json`:

```json
{
  "DataLakeSettings": {
    "DataLakeAdmins": [
      {
        "DataLakePrincipalIdentifier": "arn:aws:iam::123456789111:user/lf-admin"
      }
    ],
    "CreateDatabaseDefaultPermissions": [],
    "CreateTableDefaultPermissions": [],
    "TrustedResourceOwners": [],
    "AllowExternalDataFiltering": true,
    "ExternalDataFilteringAllowList": [
      {
        "DataLakePrincipalIdentifier": "123456789111"
      }
    ],
    "AuthorizedSessionTagValueList": ["Amazon EMR"]
  }
}
```

This command produces no output.

For more information, see Changing the default security settings for your data lake in the AWS Lake Formation Developer Guide.

- For API details, see PutDataLakeSettings in AWS CLI Command Reference.
**register-resource**

The following code example shows how to use register-resource.

**AWS CLI**

**Example 1: To register data lake storage using Service Linked Role**

The following register-resource example registers the resource as managed by the Lake Formation using Service linked role.

```bash
aws lakeformation register-resource \
   --cli-input-json file://input.json
```

Contents of `input.json`:

```json
{
   "ResourceArn": "arn:aws:s3:::lf-emr-athena-result-123",
   "UseServiceLinkedRole": true
}
```

This command produces no output.

For more information, see [Adding an Amazon S3 location to your data lake](#) in the *AWS Lake Formation Developer Guide*.

**Example 2: To register data lake storage using custom role**

The following register-resource example registers the resource as managed by the Lake Formation using custom role.

```bash
aws lakeformation register-resource \
   --cli-input-json file://input.json
```

Contents of `input.json`:

```json
{
   "ResourceArn": "arn:aws:s3:::lf-emr-athena-result-123",
   "UseServiceLinkedRole": false,
   "RoleArn": "arn:aws:iam::123456789111:role/LF-GLueServiceRole"
}
```
This command produces no output.

For more information, see Adding an Amazon S3 location to your data lake in the AWS Lake Formation Developer Guide.

- For API details, see RegisterResource in AWS CLI Command Reference.

**remove-lf-tags-from-resource**

The following code example shows how to use remove-lf-tags-from-resource.

**AWS CLI**

**To remove LF-Tag from a resource**

The following remove-lf-tags-from-resource example removes the LF-Tag association with the table resource.

```
aws lakeformation remove-lf-tags-from-resource \ 
--cli-input-json file://input.json
```

Contents of `input.json`:

```json
{
    "CatalogId": "123456789111",
    "Resource": {
        "Table": {
            "CatalogId": "123456789111",
            "DatabaseName": "tpc",
            "Name": "dl_tpc_promotion"
        }
    },
    "LFTags": [
        {
            "CatalogId": "123456789111",
            "TagKey": "usergroup",
            "TagValues": [
                "developer"
            ]
        }
    ]
}
```

Output:

**Actions and scenarios**
For more information, see Assigning LF-Tags to Data Catalog resources in the AWS Lake Formation Developer Guide.

- For API details, see RemoveLfTagsFromResource in AWS CLI Command Reference.

**revoke-permissions**

The following code example shows how to use revoke-permissions.

**AWS CLI**

To revoke permissions on resources from the principal

The following revoke-permissions example revoke principal access to specific table of a given database.

```bash
aws lakeformation revoke-permissions \
    --cli-input-json file://input.json
```

Contents of `input.json`:

```json
{
    "CatalogId": "123456789111",
    "Principal": {
        "DataLakePrincipalIdentifier": "arn:aws:iam::123456789111:user/lf-developer"
    },
    "Resource": {
        "Table": {
            "CatalogId": "123456789111",
            "DatabaseName": "tpc",
            "Name": "dl_tpc_promotion"
        }
    },
    "Permissions": [
        "ALL"
    ],
    "PermissionsWithGrantOption": []
}
```
This command produces no output.

For more information, see Granting and revoking permissions on Data Catalog resources in the AWS Lake Formation Developer Guide.

- For API details, see RevokePermissions in AWS CLI Command Reference.

**search-databases-by-lf-tags**

The following code example shows how to use search-databases-by-lf-tags.

**AWS CLI**

**To search on database resources by LFTags**

The following search-databases-by-lf-tags example search on database resources matching LFTag expression.

```bash
aws lakeformation search-databases-by-lf-tags \
    --cli-input-json file://input.json
```

**Contents of input.json:**

```json
{
    "MaxResults": 1,
    "CatalogId": "123456789111",
    "Expression": [
        {
            "TagKey": "usergroup",
            "TagValues": [
                "developer"
            ]
        }
    ]
}
```

**Output:**

```json
{
    "DatabaseList": [
        {
            "Database": {
                "CatalogId": "123456789111",
                "Name": "tpc"
            }
        }
    ]
}
```
For more information, see Viewing the resources that a LF-Tag is assigned to in the AWS Lake Formation Developer Guide.

- For API details, see SearchDatabasesByLfTags in AWS CLI Command Reference.

search-tables-by-lf-tags

The following code example shows how to use search-tables-by-lf-tags.

AWS CLI

To search on table resources by LFTags

The following search-tables-by-lf-tags example search on table resources matching LFTag expression.

```bash
aws lakeformation search-tables-by-lf-tags \
  --cli-input-json file://input.json
```

Contents of input.json:

```json
{
  "MaxResults": 2,
  "CatalogId": "123456789111",
  "Expression": [
    {
      "TagKey": "usergroup",
      "TagValues": [
        "developer"
      ]
    }
  ]
}
```
Output:

```json
{
    "NextToken": "c2VhcmNoQWxsVGFncc0LuVGFiVGVzIjpmYWxzZX0=",
    "TableList": [
        {
            "CatalogId": "123456789111",
            "DatabaseName": "tpc",
            "Name": "dl_tpc_item"
        },
        {
            "CatalogId": "123456789111",
            "TagKey": "usergroup",
            "TagValues": ["developer"
        ]
    ],
    "LFTagOnDatabase": [
        {
            "CatalogId": "123456789111",
            "TagKey": "usergroup",
            "TagValues": ["developer"
        ]
    ],
    "LFTagsOnTable": [
        {
            "CatalogId": "123456789111",
            "TagKey": "usergroup",
            "TagValues": ["developer"
        ]
    ],
    "LFTagsOnColumns": [
        {
            "Name": "i_item_desc",
            "LFTags": [
                {
                    "CatalogId": "123456789111",
                    "TagKey": "usergroup",
                    "TagValues": ["developer"
                ]
            ],
            "Name": "i_container",
            "LFTags": [
                {
                    "CatalogId": "123456789111",
                    "TagKey": "usergroup",
                    "TagValues": ["developer"
                ]
            ]
        }
    ]
}
```
{
    "Name": "i_wholesale_cost",
    "LFTags": [
        {
            "CatalogId": "123456789111",
            "TagKey": "usergroup",
            "TagValues": [
                "developer"
            ]
        }
    ],
    "Name": "i_manufact_id",
    "LFTags": [
        {
            "CatalogId": "123456789111",
            "TagKey": "usergroup",
            "TagValues": [
                "developer"
            ]
        }
    ],
    "Name": "i_brand_id",
    "LFTags": [
        {
            "CatalogId": "123456789111",
            "TagKey": "usergroup",
            "TagValues": [
                "developer"
            ]
        }
    ],
    "Name": "i_formulation",
    "LFTags": [
        {
            "CatalogId": "123456789111",
            "TagKey": "usergroup",
            "TagValues": [
                "developer"
            ]
        }
    ],
    "Name": "i_current_price",
    "LFTags": [
        {
            "CatalogId": "123456789111",
            "TagKey": "usergroup",
            "TagValues": [
                "developer"
            ]
        }
    ]
}
"TagKey": "usergroup",
"TagValues": [
 "developer"
]
]]
},
{
 "Name": "i_size",
 "LFTags": [
 {
 "CatalogId": "123456789111",
 "TagKey": "usergroup",
 "TagValues": [
 "developer"
 ]
 }
 ],
{
 "Name": "i_rec_start_date",
 "LFTags": [
 {
 "CatalogId": "123456789111",
 "TagKey": "usergroup",
 "TagValues": [
 "developer"
 ]
 }
 ],
{
 "Name": "i_manufact",
 "LFTags": [
 {
 "CatalogId": "123456789111",
 "TagKey": "usergroup",
 "TagValues": [
 "developer"
 ]
 }
 ],
{
 "Name": "i_item_sk",
 "LFTags": [
 {
 "CatalogId": "123456789111",
 "TagKey": "usergroup",
 "TagValues": [
 "developer"
 ]
 }
 ]


}}
},
{
  "Name": "i_manager_id",
  "LFTags": [
    {
      "CatalogId": "123456789111",
      "TagKey": "usergroup",
      "TagValues": [
        "developer"
      ]
    }
  ]
},
{
  "Name": "i_item_id",
  "LFTags": [
    {
      "CatalogId": "123456789111",
      "TagKey": "usergroup",
      "TagValues": [
        "developer"
      ]
    }
  ]
},
{
  "Name": "i_class_id",
  "LFTags": [
    {
      "CatalogId": "123456789111",
      "TagKey": "usergroup",
      "TagValues": [
        "developer"
      ]
    }
  ]
},
{
  "Name": "i_class",
  "LFTags": [
    {
      "CatalogId": "123456789111",
      "TagKey": "usergroup",
      "TagValues": [
        "developer"
      ]
    }
  ]
},
{
  "Name": "i_category",

"LFTags": [{
    "CatalogId": "123456789111",
    "TagKey": "usergroup",
    "TagValues": [
        "developer"
    ]
},
"Name": "i_category_id",
"LFTags": [{
    "CatalogId": "123456789111",
    "TagKey": "usergroup",
    "TagValues": [
        "developer"
    ]
}],
"Name": "i_brand",
"LFTags": [{
    "CatalogId": "123456789111",
    "TagKey": "usergroup",
    "TagValues": [
        "developer"
    ]
}],
"Name": "i_units",
"LFTags": [{
    "CatalogId": "123456789111",
    "TagKey": "usergroup",
    "TagValues": [
        "developer"
    ]
}],
"Name": "i_rec_end_date",
"LFTags": [{
    "CatalogId": "123456789111",
    "TagKey": "usergroup",
    "TagValues": [
        "developer"
    ]
}]}
For more information, see Viewing the resources that a LF-Tag is assigned to in the AWS Lake Formation Developer Guide.

- For API details, see SearchTablesByLfTags in AWS CLI Command Reference.

**start-query-planning**

The following code example shows how to use start-query-planning.

**AWS CLI**

**To process query statement**

The following start-query-planning example submits a request to process a query statement.
aws lakeformation start-query-planning \
--cli-input-json file://input.json

Contents of input.json:

{
   "QueryPlanningContext": {
      "CatalogId": "012345678901",
      "DatabaseName": "tpc"
   },
   "QueryString": "select * from dl_tpc_household_demographics_gov where hd_income_band_sk=9"
}

Output:

{
   "QueryId": "772a273f-4a62-4cda-8d98-69615ee8be9b"
}

For more information, see Reading from and writing to the data lake within transactions in the AWS Lake Formation Developer Guide.

- For API details, see StartQueryPlanning in AWS CLI Command Reference.

**start-transaction**

The following code example shows how to use start-transaction.

**AWS CLI**

To start new transaction

The following start-transaction example starts a new transaction and returns its transaction ID.

aws lakeformation start-transaction \
   --transaction-type = 'READ_AND_WRITE'

Output:
For more information, see Reading from and writing to the data lake within transactions in the AWS Lake Formation Developer Guide.

- For API details, see StartTransaction in AWS CLI Command Reference.

**update-lf-tag**

The following code example shows how to use update-lf-tag.

**AWS CLI**

**To update LF-Tag definition**

The following update-lf-tag example updates LF-Tag definition.

```bash
aws lakeformation update-lf-tag \
    --catalog-id '123456789111' \
    --tag-key 'usergroup' \
    --tag-values-to-add '["admin"]'
```

This command produces no output.

For more information, see Managing LF-Tags for metadata access control in the AWS Lake Formation Developer Guide.

- For API details, see UpdateLfTag in AWS CLI Command Reference.

**update-table-objects**

The following code example shows how to use update-table-objects.

**AWS CLI**

**To modify objects of governed table**

The following update-table-objects example adds provided S3 objects to the specified governed table.
aws lakeformation update-table-objects \
   --cli-input-json file://input.json

Contents of input.json:

```json
{
   "CatalogId": "012345678901",
   "DatabaseName": "tpc",
   "TableName": "dl_tpc_household_demographics_gov",
   "TransactionId": "12347a9f75424b9b915f6ff201d2a190",
   "WriteOperations": [
      {
         "AddObject": {
            "Uri": "s3://lf-data-lake-012345678901/target/
               dl_tpc_household_demographics_gov/run-unnamed-1-part-block-0-r-00000-snappy-
               ff26b17504414fe88b302cd795eabd00.parquet",
            "ETag": "1234ab1fc50a316b149b4e1f21a73800",
            "Size": 42200
         }
      }
   ]
}
```

This command produces no output.

For more information, see Reading from and writing to the data lake within transactions in the AWS Lake Formation Developer Guide.

- For API details, see UpdateTableObjects in AWS CLI Command Reference.

Lambda examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Lambda.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.
Actions

Create a function

The following code example shows how to create a Lambda function.

AWS CLI

To create a Lambda function

The following create-function example creates a Lambda function named my-function.

```
aws lambda create-function \\
   --function-name my-function \\
   --runtime nodejs18.x \\
   --zip-file fileb://my-function.zip \\
   --handler my-function.handler \\
   --role arn:aws:iam::123456789012:role/service-role/MyTestFunction-role-tges6bf4
```

Contents of my-function.zip:

This file is a deployment package that contains your function code and any dependencies.

Output:

```
{
   "TracingConfig": {
      "Mode": "PassThrough"
   },
   "CodeSha256": "PFn4S+er27qk+UuZSTKEQfNKG/XNn7QJs90mJgq6oH8=",
   "FunctionName": "my-function",
   "CodeSize": 308,
   "RevisionId": "873282ed-4cd3-4dc8-a069-d0c647e470c6",
   "MemorySize": 128,
   "Version": "$LATEST",
   "Role": "arn:aws:iam::123456789012:role/service-role/MyTestFunction-role-zgur6bf4",
```

Actions and scenarios
For more information, see [AWS Lambda Function Configuration](https://docs.aws.amazon.com/lambda/latest/dg/configuration.html) in the [AWS Lambda Developer Guide](https://docs.aws.amazon.com/lambda/latest/dg/).

- For API details, see [CreateFunction](https://docs.aws.amazon.com/cli/latest/reference/lambda/create-function.html) in [AWS CLI Command Reference](https://docs.aws.amazon.com/cli/latest/reference/lambda.html).

### Delete a function

The following code example shows how to delete a Lambda function.

**AWS CLI**

**Example 1: To delete a Lambda function by function name**

The following `delete-function` example deletes the Lambda function named `my-function` by specifying the function's name.

```bash
aws lambda delete-function \
  --function-name my-function
```

This command produces no output.

**Example 2: To delete a Lambda function by function ARN**

The following `delete-function` example deletes the Lambda function named `my-function` by specifying the function's ARN.

```bash
aws lambda delete-function \
```

This command produces no output.

**Example 3: To delete a Lambda function by partial function ARN**

The following `delete-function` example deletes the Lambda function named `my-function` by specifying the function's partial ARN.
aws lambda delete-function \
   --function-name 123456789012:function:my-function

This command produces no output.

For more information, see AWS Lambda Function Configuration in the AWS Lambda Developer Guide.

- For API details, see DeleteFunction in AWS CLI Command Reference.

Get a function

The following code example shows how to get a Lambda function.

AWS CLI

To retrieve information about a function

The following get-function example displays information about the my-function function.

aws lambda get-function \
   --function-name my-function

Output:

{
   "Concurrency": {
      "ReservedConcurrentExecutions": 100
   },
   "Code": {
      "RepositoryType": "S3",
      "Location": "https://awslambda-us-west-2-tasks.s3.us-west-2.amazonaws.com/
      snapshots/123456789012/my-function..."
   },
   "Configuration": {
      "TracingConfig": {
         "Mode": "PassThrough"
      },
      "Version": "$LATEST",
      "CodeSha256": "5tT2qgzYUHoqwR616pZ2dpkn/0J1FrzJmlKidWaaCgk=",
      "FunctionName": "my-function",
      "VpcConfig": {
         "SubnetIds": []
      }
   }
}
The following code example shows how to invoke a Lambda function.

**AWS CLI**

**Example 1: To invoke a Lambda function synchronously**

The following invoke example invokes the my-function function synchronously. The cli-binary-format option is required if you're using AWS CLI version 2. For more information, see [AWS CLI supported global command line options](https://docs.aws.amazon.com/cli/latest/userguide/cli-aws-supported-commands.html) in the *AWS Command Line Interface User Guide*.

```bash
aws lambda invoke \
  --function-name my-function \
  --cli-binary-format raw-in-base64-out \
  --payload '{ "name": "Bob" }' \
  response.json
```

Output:
For more information, see **Synchronous Invocation** in the *AWS Lambda Developer Guide*.

### Example 2: To invoke a Lambda function asynchronously

The following `invoke` example invokes the `my-function` function asynchronously. The `cli-binary-format` option is required if you're using AWS CLI version 2. For more information, see [AWS CLI supported global command line options](https://docs.aws.amazon.com/cli/latest/uG/index.html) in the *AWS Command Line Interface User Guide*.

```bash
aws lambda invoke \ 
    --function-name my-function \ 
    --invocation-type Event \ 
    --cli-binary-format raw-in-base64-out \ 
    --payload '{ "name": "Bob" }' \ 
    response.json
```

**Output:**

```json
{
    "StatusCode": 202
}
```

For more information, see [Asynchronous Invocation](https://docs.aws.amazon.com/lambda/latest/dg/invoking-asynchronous.html) in the *AWS Lambda Developer Guide*.

- For API details, see [Invoke](https://docs.aws.amazon.com/cli/latest/reference/lambda/invoke.html) in *AWS CLI Command Reference*.

### List functions

The following code example shows how to list Lambda functions.

**AWS CLI**

**To retrieve a list of Lambda functions**

The following `list-functions` example displays a list of all of the functions for the current user.
aws lambda list-functions

Output:

```json
{
  "Functions": [
    {
      "TracingConfig": {
        "Mode": "PassThrough"
      },
      "Version": "$LATEST",
      "CodeSha256": "dBG9m8SGdm1Ejw/JYX1hhvCrAv5TvxVsbL/RMz0fT/I=",
      "FunctionName": "helloworld",
      "MemorySize": 128,
      "RevisionId": "1718e831-badf-4253-9518-d0644d210af7b",
      "CodeSize": 294,
      "Handler": "helloworld.handler",
      "Role": "arn:aws:iam::123456789012:role/service-role/MyTestFunction-role-zgur6bf4",
      "Timeout": 3,
      "LastModified": "2023-09-23T18:32:33.857+0000",
      "Runtime": "nodejs18.x",
      "Description": ""
    },
    {
      "TracingConfig": {
        "Mode": "PassThrough"
      },
      "Version": "$LATEST",
      "CodeSha256": "sU0cJ2/hOZevwV/1TxCuQqK3gDZP3i8gUoqUVRmY6E=",
      "FunctionName": "my-function",
      "VpcConfig": {
        "SubnetIds": [],
        "VpcId": "",
        "SecurityGroupIds": []
      },
      "MemorySize": 256,
      "RevisionId": "93017fc9-59cb-41dc-901b-4845ce4bf668",
      "CodeSize": 266,
    }
  ]
}
```
"Handler": "index.handler",
"Role": "arn:aws:iam::123456789012:role/service-role/helloWorldPython-role-uy319qyq",
"Timeout": 3,
"LastModified": "2023-10-01T16:47:28.490+0000",
"Runtime": "nodejs18.x",
"Description": ""
],
{
"Layers": [
{
"CodeSize": 41784542,
},
{
"CodeSize": 4121,
}
],
"TracingConfig": {
"Mode": "PassThrough"
},
"Version": "$LATEST",
"CodeSha256": "ZQukCqxtkqFgyF2cU41Avj99TKQ/hNhPtDtrcc08mI=",
"FunctionName": "my-python-function",
"VpcConfig": {
"SubnetIds": [],
"VpcId": "",
"SecurityGroupIds": []
},
"MemorySize": 128,
"RevisionId": "8b04eabc-acf7-4ea8-919a-e874c213707d",
"CodeSize": 299,
"Handler": "lambda_function.lambda_handler",
"Role": "arn:aws:iam::123456789012:role/service-role/my-python-function-role-z5g7dr6n",
"Timeout": 3,
"LastModified": "2023-10-01T19:40:41.643+0000",
"Runtime": "python3.11",
"Description": ""
Update function code

The following code example shows how to update Lambda function code.

AWS CLI

To update the code of a Lambda function

The following update-function-code example replaces the code of the unpublished ($LATEST) version of the my-function function with the contents of the specified zip file.

```bash
aws lambda update-function-code \
  --function-name  my-function \
  --zip-file fileb://my-function.zip
```

Output:

```json
{
  "FunctionName": "my-function",
  "LastModified": "2019-09-26T20:28:40.438+0000",
  "RevisionId": "e52502d4-9320-4688-9cd6-152a6ab7490d",
  "MemorySize": 256,
  "Version": "$LATEST",
  "Role": "arn:aws:iam::123456789012:role/service-role/my-function-role-uy3l9qyq",
  "Timeout": 3,
  "Runtime": "nodejs10.x",
  "TracingConfig": {
    "Mode": "PassThrough"
  },
  "CodeSha256": "5tT2qgzYUHaqwR716pZ2dpkn/0J1FrzJmlKldWoaCgk=",
  "Description": "",
  "VpcConfig": {
```
Update function configuration

The following code example shows how to update Lambda function configuration.

AWS CLI

To modify the configuration of a function

The following update-function-configuration example modifies the memory size to be 256 MB for the unpublished ($LATEST) version of the my-function function.

```
aws lambda update-function-configuration \
    --function-name  my-function \
    --memory-size 256
```

Output:

```
{
    "FunctionName": "my-function",
    "LastModified": "2019-09-26T20:28:40.438+0000",
    "RevisionId": "e52502d4-9320-4688-9cd6-152a6ab7490d",
    "MemorySize": 256,
    "Version": "$LATEST",
    "Role": "arn:aws:iam::123456789012:role/service-role/my-function-role-uy3l9qyq",
    "Timeout": 3,
    "Runtime": "nodejs10.x",
    "TracingConfig": {
        "Mode": "PassThrough"
    }
}
```
The following code example shows how to use `add-layer-version-permission`.

### AWS CLI

**To add permissions to a layer version**

The following `add-layer-version-permission` example grants permission for the specified account to use version 1 of the layer `my-layer`.

```bash
aws lambda add-layer-version-permission \
   --layer-name my-layer \
   --statement-id xaccount \
   --action lambda:GetLayerVersion \
   --principal 123456789012 \
   --version-number 1
```

**Output:**

```
{
   "RevisionId": "35d87451-f796-4a3f-a618-95a3671b0a0c",
   "Statement":
```

For more information, see [AWS Lambda Function Configuration](https://docs.aws.amazon.com/lambda/latest/dg/configuration.html) in the [AWS Lambda Developer Guide](https://docs.aws.amazon.com/lambda/latest/dg/).

For more information, see [AWS Lambda Layers](https://docs.aws.amazon.com/lambda/latest/dg/lambda-layers-intro.html) in the [AWS Lambda Developer Guide](https://docs.aws.amazon.com/lambda/latest/dg/lambda-dev-guide.html).


**add-permission**

The following code example shows how to use `add-permission`.

**AWS CLI**

**To add permissions to an existing Lambda function**

The following add-permission example grants the Amazon SNS service permission to invoke a function named `my-function`.

```bash
aws lambda add-permission \
   --function-name my-function \
   --action lambda:InvokeFunction \
   --statement-id sns \
   --principal sns.amazonaws.com
```

**Output:**

```json
{
   "Statement":
   {
      "Sid":"sns",
      "Effect":"Allow",
      "Principal":{
         "Service":"sns.amazonaws.com"
      }
   }
}
```
For more information, see [Using Resource-based Policies for AWS Lambda](https://docs.aws.amazon.com/lambda/latest/dg/access-control-resource-based-policy.html) in the AWS Lambda Developer Guide.

- For API details, see [AddPermission](https://docs.aws.amazon.com/cli/latest/reference/lambda/add-permission.html) in AWS CLI Command Reference.

### create-alias

The following code example shows how to use create-alias.

**AWS CLI**

**To create an alias for a Lambda function**

The following create-alias example creates an alias named LIVE that points to version 1 of the my-function Lambda function.

```bash
aws lambda create-alias \
  --function-name my-function \
  --description "alias for live version of function" \
  --function-version 1 \
  --name LIVE
```

**Output:**

```json
{
  "FunctionVersion": "1",
  "Name": "LIVE",
  "RevisionId": "873282ed-4cd3-4dc8-a069-d0c647e470c6",
  "Description": "alias for live version of function"
}
```

For more information, see [Configuring AWS Lambda Function Aliases](https://docs.aws.amazon.com/lambda/latest/dg/configuration-aliases.html) in the AWS Lambda Developer Guide.

- For API details, see [CreateAlias](https://docs.aws.amazon.com/cli/latest/reference/lambda/create-alias.html) in AWS CLI Command Reference.
create-event-source-mapping

The following code example shows how to use `create-event-source-mapping`.

AWS CLI

To create a mapping between an event source and an AWS Lambda function

The following `create-event-source-mapping` example creates a mapping between an SQS queue and the `my-function` Lambda function.

```
aws lambda create-event-source-mapping \
  --function-name my-function \
  --batch-size 5 \
```

Output:

```
{
    "UUID": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
    "StateTransitionReason": "USER_INITIATED",
    "LastModified": 1569284520.333,
    "BatchSize": 5,
    "State": "Creating",
    "EventSourceArn": "arn:aws:sqs:us-west-2:123456789012:mySQSqueue"
}
```

For more information, see [AWS Lambda Event Source Mapping](https://docs.aws.amazon.com/lambda/latest/dg/) in the [AWS Lambda Developer Guide](https://docs.aws.amazon.com/lambda/latest/dg/).

- For API details, see [CreateEventSourceMapping](https://docs.aws.amazon.com/cli/latest/reference/lambda/create-event-source-mapping.html) in [AWS CLI Command Reference](https://docs.aws.amazon.com/cli/latest/reference/lambda/).

delete-alias

The following code example shows how to use `delete-alias`.

AWS CLI

To delete an alias of a Lambda function

The following `delete-alias` example deletes the alias named `LIVE` from the `my-function` Lambda function.
aws lambda delete-alias \
   --function-name my-function \
   --name LIVE

This command produces no output.

For more information, see Configuring AWS Lambda Function Aliases in the AWS Lambda Developer Guide.

- For API details, see DeleteAlias in AWS CLI Command Reference.

delete-event-source-mapping

The following code example shows how to use delete-event-source-mapping.

AWS CLI

To delete the mapping between an event source and an AWS Lambda function

The following delete-event-source-mapping example deletes the mapping between an SQS queue and the my-function Lambda function.

aws lambda delete-event-source-mapping \
   --uuid a1b2c3d4-5678-90ab-cdef-11111EXAMPLE

Output:

{
   "UUID": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
   "StateTransitionReason": "USER_INITIATED",
   "LastModified": 1569285870.271,
   "BatchSize": 5,
   "State": "Deleting",
   "EventSourceArn": "arn:aws:sqs:us-west-2:123456789012:mySQSqueue"
}

For more information, see AWS Lambda Event Source Mapping in the AWS Lambda Developer Guide.

- For API details, see DeleteEventSourceMapping in AWS CLI Command Reference.
**delete-function-concurrency**

The following code example shows how to use `delete-function-concurrency`.

**AWS CLI**

To remove the reserved concurrent execution limit from a function

The following `delete-function-concurrency` example deletes the reserved concurrent execution limit from the `my-function` function.

```
aws lambda delete-function-concurrency \
    --function-name my-function
```

This command produces no output.

For more information, see [Reserving Concurrency for a Lambda Function](https://docs.aws.amazon.com/lambda/latest/dg/reserve-concurrency.html) in the *AWS Lambda Developer Guide*.

- For API details, see [DeleteFunctionConcurrency](https://docs.aws.amazon.com/cli/latest/reference/lambda/delete-function-concurrency.html) in *AWS CLI Command Reference*.

**delete-function-event-invoke-config**

The following code example shows how to use `delete-function-event-invoke-config`.

**AWS CLI**

To delete an asynchronous invocation configuration

The following `delete-function-event-invoke-config` example deletes the asynchronous invocation configuration for the `GREEN` alias of the specified function.

```
aws lambda delete-function-event-invoke-config --function-name my-function:GREEN
```

- For API details, see [DeleteFunctionEventInvokeConfig](https://docs.aws.amazon.com/cli/latest/reference/lambda/delete-function-event-invoke-config.html) in *AWS CLI Command Reference*.

**delete-layer-version**

The following code example shows how to use `delete-layer-version`.

**AWS CLI**

To delete a version of a Lambda layer
The following delete-layer-version example deletes version 2 of the layer named `my-layer`.

```bash
aws lambda delete-layer-version
   --layer-name my-layer
   --version-number 2
```

This command produces no output.

For more information, see [AWS Lambda Layers](https://docs.aws.amazon.com/lambda/latest/dg/layer-lambda.html) in the *AWS Lambda Developer Guide*.

- For API details, see [DeleteLayerVersion](https://docs.aws.amazon.com/cli/latest/reference/lambda/delete-layer-version.html) in *AWS CLI Command Reference*.

**delete-provisioned-concurrency-config**

The following code example shows how to use `delete-provisioned-concurrency-config`.

**AWS CLI**

**To delete a provisioned concurrency configuration**

The following `delete-provisioned-concurrency-config` example deletes the provisioned concurrency configuration for the `GREEN` alias of the specified function.

```bash
aws lambda delete-provisioned-concurrency-config
   --function-name my-function
   --qualifier GREEN
```

- For API details, see [DeleteProvisionedConcurrencyConfig](https://docs.aws.amazon.com/cli/latest/reference/lambda/delete-provisioned-concurrency-config.html) in *AWS CLI Command Reference*.

**get-account-settings**

The following code example shows how to use `get-account-settings`.

**AWS CLI**

**To retrieve details about your account in an AWS Region**

The following `get-account-settings` example displays the Lambda limits and usage information for your account.

```bash
aws lambda get-account-settings
```
Output:

```json
{
    "AccountLimit": {
        "CodeSizeUnzipped": 262144000,
        "UnreservedConcurrentExecutions": 1000,
        "ConcurrentExecutions": 1000,
        "CodeSizeZipped": 52428800,
        "TotalCodeSize": 8053063680
    },
    "AccountUsage": {
        "FunctionCount": 4,
        "TotalCodeSize": 9426
    }
}
```

For more information, see [AWS Lambda Limits](https://docs.aws.amazon.com/lambda/latest/dg/concurrency-limits.html) in the *AWS Lambda Developer Guide*.

- For API details, see [GetAccountSettings](https://docs.aws.amazon.com/cli/latest/reference/lambda/get-account-settings.html) in *AWS CLI Command Reference*.

### get-alias

The following code example shows how to use `get-alias`.

**AWS CLI**

**To retrieve details about a function alias**

The following `get-alias` example displays details for the alias named `LIVE` on the `my-function` Lambda function.

```bash
aws lambda get-alias \
    --function-name my-function \
    --name LIVE
```

Output:

```json
{
    "FunctionVersion": "3",
    "Name": "LIVE",
    "RevisionId": "594f41fb-b85f-4c20-95c7-6ca5f2a92c93",
```
"Description": "alias for live version of function"
}

For more information, see Configuring AWS Lambda Function Aliases in the AWS Lambda Developer Guide.

- For API details, see GetAlias in AWS CLI Command Reference.

get-event-source-mapping

The following code example shows how to use get-event-source-mapping.

AWS CLI

To retrieve details about an event source mapping

The following get-event-source-mapping example displays the details for the mapping between an SQS queue and the my-function Lambda function.

```bash
aws lambda get-event-source-mapping \
--uuid "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE"
```

Output:

```json
{
    "UUID": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
    "StateTransitionReason": "USER_INITIATED",
    "LastModified": 1569284520.333,
    "BatchSize": 5,
    "State": "Enabled",
    "EventSourceArn": "arn:aws:sqs:us-west-2:123456789012:mySQSqueue"
}
```

For more information, see AWS Lambda Event Source Mapping in the AWS Lambda Developer Guide.

- For API details, see GetEventSourceMapping in AWS CLI Command Reference.

get-function-concurrency

The following code example shows how to use get-function-concurrency.
AWS CLI

**To view the reserved concurrency setting for a function**

The following `get-function-concurrency` example retrieves the reserved concurrency setting for the specified function.

```bash
aws lambda get-function-concurrency \
    --function-name my-function
```

Output:

```json
{
    "ReservedConcurrentExecutions": 250
}
```

- For API details, see [GetFunctionConcurrency](https://docs.aws.amazon.com/cli/latest/reference/lambda/get-function-concurrency.html) in *AWS CLI Command Reference*.

**get-function-configuration**

The following code example shows how to use `get-function-configuration`.

AWS CLI

**To retrieve the version-specific settings of a Lambda function**

The following `get-function-configuration` example displays the settings for version 2 of the `my-function` function.

```bash
aws lambda get-function-configuration \
    --function-name  my-function:2
```

Output:

```json
{
    "FunctionName": "my-function",
    "LastModified": "2019-09-26T20:28:40.438+0000",
    "RevisionId": "e52502d4-9320-4688-9cd6-152a6ab7490d",
    "MemorySize": 256,
    "Version": "2",
    "Role": "arn:aws:iam::123456789012:role/service-role/my-function-role-uy319qyq",
```

Actions and scenarios
For more information, see [AWS Lambda Function Configuration](aws-lambda-function-configuration) in the [AWS Lambda Developer Guide](aws-lambda-developer-guide).

- For API details, see [GetFunctionConfiguration](aws-cli-get-function-configuration) in [AWS CLI Command Reference](aws-cli-command-reference).

### get-function-event-invoke-config

The following code example shows how to use `get-function-event-invoke-config`.

**AWS CLI**

**To view an asynchronous invocation configuration**

The following `get-function-event-invoke-config` example retrieves the asynchronous invocation configuration for the BLUE alias of the specified function.

```bash
aws lambda get-function-event-invoke-config \  --function-name my-function:BLUE
```

Output:

```json
{
  "LastModified": 1577824396.653,
...
```
"MaximumRetryAttempts": 0,
  "MaximumEventAgeInSeconds": 3600,
  "DestinationConfig": {
    "OnSuccess": {},
    "OnFailure": {
      "Destination": "arn:aws:sqs:us-east-2:123456789012:failed-invocations"
    }
  }
}

• For API details, see GetFunctionEventInvokeConfig in AWS CLI Command Reference.

**get-layer-version**

The following code example shows how to use get-layer-version.

**AWS CLI**

To retrieve information about a Lambda layer version

The following get-layer-version example displays information for version 1 of the layer named my-layer.

```bash
aws lambda get-layer-version \
  --layer-name my-layer \
  --version-number 1
```

Output:

```
{
  "Content": {
    "Location": "https://awslambda-us-east-2-layers.s3.us-east-2.amazonaws.com/snapshots/123456789012/my-layer-4aa2fbb-ff77-4b0a-ad92-5b78a716a96a?versionId=27iWyA73cCAYqyH...",
    "CodeSha256": "tv9jJ0+rPbXUXuRKi7CwHzKtLDK3B3cCZ/ouXo=",
    "CodeSize": 169
  },
  "Description": "My Python layer",
  "CreatedDate": "2018-11-14T23:03:52.894+0000",
  "Version": 1,
```
For more information, see [AWS Lambda Layers](https://docs.aws.amazon.com/lambda/latest/dg/) in the *AWS Lambda Developer Guide*.


### get-layer-version-by-arn

The following code example shows how to use get-layer-version-by-arn.

#### AWS CLI

**To retrieve information about a Lambda layer version**

The following `get-layer-version-by-arn` example displays information about the layer version with the specified Amazon Resource Name (ARN).

```bash
aws lambda get-layer-version-by-arn \
```

**Output:**

```json
{
    "Description": "AWS Lambda SciPy layer for Python 3.11 (scipy-1.1.0, numpy-1.15.4) https://github.com/scipy/scipy/releases/tag/v1.1.0 https://github.com/numpy/numpy/releases/tag/v1.15.4",
    "CreatedDate": "2023-10-12T10:09:38.398+0000",
    "Content": {
        "CodeSize": 41784542,
        "CodeSha256": "GGmv8ocUw4cly0T8HL0Vx/f5V4RmSCGNjDIs1Y4VskM=",
        "Location": "https://awslambda-us-west-2-layers.s3.us-west-2.amazonaws.com/snapshots/123456789012/..."
    }
}
```
For more information, see [AWS Lambda Layers](https://docs.aws.amazon.com/lambda/latest/dg/layer-library.html) in the AWS Lambda Developer Guide. 


### get-layer-version-policy

The following code example shows how to use `get-layer-version-policy`.

**AWS CLI**

#### To retrieve the permissions policy for a Lambda layer version

The following `get-layer-version-policy` example displays policy information about version 1 for the layer named `my-layer`.

```bash
aws lambda get-layer-version-policy \
--layer-name my-layer \
--version-number 1
```

**Output:**

```json
{
    "Policy": {
        "Version": "2012-10-17",
        "Id": "default",
        "Statement": [            
            {                
                "Sid": "xaccount",
                "Effect": "Allow",
                "Principal": {"AWS": "arn:aws:iam::123456789012:root"},
                "Action": "lambda:GetLayerVersion",
            }            
        ]
    }
}
```
For more information, see [AWS Lambda Layers](https://docs.aws.amazon.com/lambda/latest/dg/using-layers.html) in the *AWS Lambda Developer Guide*.


**get-policy**

The following code example shows how to use `get-policy`.

**AWS CLI**

**To retrieve the resource-based IAM policy for a function, version, or alias**

The following `get-policy` example displays policy information about the `my-function` Lambda function.

```bash
aws lambda get-policy \
  --function-name my-function
```

**Output:**

```json
{
    "Policy": {
        "Version": "2012-10-17",
        "Id": "default",
        "Statement": [
            {
                "Sid": "iot-events",
                "Effect": "Allow",
                "Principal": {"Service": "iotevents.amazonaws.com"},
                "Action": "lambda:InvokeFunction",
            }
        ],
        "RevisionId": "93017fc9-59cb-41dc-901b-48456789012:93017fc9-59cb-41dc-901b-48456789012"
    }
}
```
For more information, see Using Resource-based Policies for AWS Lambda in the AWS Lambda Developer Guide.

- For API details, see GetPolicy in AWS CLI Command Reference.

get-provisioned-concurrency-config

The following code example shows how to use get-provisioned-concurrency-config.

AWS CLI

To view a provisioned concurrency configuration

The following get-provisioned-concurrency-config example displays details for the provisioned concurrency configuration for the BLUE alias of the specified function.

```
aws lambda get-provisioned-concurrency-config \
   --function-name my-function \
   --qualifier BLUE
```

Output:

```
{
   "RequestedProvisionedConcurrentExecutions": 100,
   "AvailableProvisionedConcurrentExecutions": 100,
   "AllocatedProvisionedConcurrentExecutions": 100,
   "Status": "READY",
   "LastModified": "2019-12-31T20:28:49+0000"
}
```

- For API details, see GetProvisionedConcurrencyConfig in AWS CLI Command Reference.

list-aliases

The following code example shows how to use list-aliases.

AWS CLI

To retrieve the list of aliases for a Lambda function

The following list-aliases example displays a list of the aliases for the my-function Lambda function.
aws lambda list-aliases \
   --function-name my-function

Output:

```json
{
   "Aliases": [
   {
       "RevisionId": "a410117f-ab16-494e-8035-7e204bb7933b",
       "FunctionVersion": "2",
       "Name": "BETA",
       "Description": "alias for beta version of function"
   },
   {
       "RevisionId": "21d40116-f8b1-40ba-9360-3ea284da1bb5",
       "FunctionVersion": "1",
       "Name": "LIVE",
       "Description": "alias for live version of function"
   }
   ]
}
```

For more information, see Configuring AWS Lambda Function Aliases in the AWS Lambda Developer Guide.

- For API details, see ListAliases in AWS CLI Command Reference.

**list-event-source-mappings**

The following code example shows how to use list-event-source-mappings.

**AWS CLI**

To list the event source mappings for a function

The following list-event-source-mappings example displays a list of the event source mappings for the my-function Lambda function.
aws lambda list-event-source-mappings \
   --function-name my-function

Output:

{
   "EventSourceMappings": [
      {
         "UUID": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
         "StateTransitionReason": "USER_INITIATED",
         "LastModified": 1569284520.333,
         "BatchSize": 5,
         "State": "Enabled",
         "EventSourceArn": "arn:aws:sqs:us-west-2:123456789012:mySQSqueue"
      }
   ]
}

For more information, see AWS Lambda Event Source Mapping in the AWS Lambda Developer Guide.

- For API details, see ListEventSourceMappings in AWS CLI Command Reference.

**list-function-event-invoke-configs**

The following code example shows how to use list-function-event-invoke-configs.

**AWS CLI**

To view a list of asynchronous invocation configurations

The following list-function-event-invoke-configs example lists the asynchronous invocation configurations for the specified function.

aws lambda list-function-event-invoke-configs \
   --function-name my-function

Output:
```json
{
    "FunctionEventInvokeConfigs": [
        {
            "LastModified": 1577824406.719,
            "MaximumRetryAttempts": 2,
            "MaximumEventAgeInSeconds": 1800
        },
        {
            "LastModified": 1577824396.653,
            "MaximumRetryAttempts": 0,
            "MaximumEventAgeInSeconds": 3600
        }
    ]
}
```

- For API details, see [ListFunctionEventInvokeConfigs](#) in *AWS CLI Command Reference*.

**list-layer-versions**

The following code example shows how to use `list-layer-versions`.

**AWS CLI**

**To list the versions of an AWS Lambda layer**

The following list-layers-versions example displays information about the versions for the layer named `my-layer`.

```
aws lambda list-layer-versions \
    --layer-name my-layer
```

Output:

```json
{
    "Layers": [
        {
```
For more information, see [AWS Lambda Layers](https://docs.aws.amazon.com/lambda/latest/dg/lambda-layers.html) in the *AWS Lambda Developer Guide*.

- For API details, see [ListLayerVersions](https://docs.aws.amazon.com/cli/latest/reference/lambda/list-layer-versions.html) in *AWS CLI Command Reference*.

### list-layers

The following code example shows how to use `list-layers`.

**AWS CLI**

**To list the layers that are compatible with your function’s runtime**

The following `list-layers` example displays information about layers that are compatible with the Python 3.11 runtime.

```
aws lambda list-layers \
  --compatible-runtime python3.11
```

**Output:**

```json
{
  "Layers": [ 
    {
      "LayerName": "my-layer",
      "LatestMatchingVersion": {
        "Version": 2,
        "Description": "My layer",
        "CreatedDate": "2023-11-15T00:37:46.592+0000",
```
For more information, see [AWS Lambda Layers](https://docs.aws.amazon.com/lambda/latest/dg/layer.html) in the *AWS Lambda Developer Guide*.

- For API details, see [ListLayers](https://docs.aws.amazon.com/cli/latest/reference/lambda/list-layers.html) in *AWS CLI Command Reference*.

### list-provisioned-concurrency-configs

The following code example shows how to use `list-provisioned-concurrency-configs`.

**AWS CLI**

To get a list of provisioned concurrency configurations

The following `list-provisioned-concurrency-configs` example lists the provisioned concurrency configurations for the specified function.

```bash
aws lambda list-provisioned-concurrency-configs \
  --function-name my-function
```

**Output:**

```json
{
  "ProvisionedConcurrencyConfigs": [
    {
      "RequestedProvisionedConcurrentExecutions": 100,
      "AvailableProvisionedConcurrentExecutions": 100,
      "AllocatedProvisionedConcurrentExecutions": 100,
      "Status": "READY",
      "LastModified": "2019-12-31T20:29:00+0000"
    },
    {
```
For API details, see `ListProvisionedConcurrencyConfigs` in *AWS CLI Command Reference*.

### list-tags

The following code example shows how to use `list-tags`.

**AWS CLI**

**To retrieve the list of tags for a Lambda function**

The following `list-tags` example displays the tags attached to the `my-function` Lambda function.

```
aws lambda list-tags \
```

**Output:**

```
{
    "Tags": {
        "Category": "Web Tools",
        "Department": "Sales"
    }
}
```

For more information, see `Tagging Lambda Functions` in the *AWS Lambda Developer Guide*.

For API details, see `ListTags` in *AWS CLI Command Reference*.

### list-versions-by-function

The following code example shows how to use `list-versions-by-function`.

```
AWS CLI

To retrieve a list of versions of a function

The following list-versions-by-function example displays the list of versions for the my-function Lambda function.

```bash
aws lambda list-versions-by-function \
   --function-name my-function
```

Output:

```json
{
   "Versions": [
      {
         "TracingConfig": {
            "Mode": "PassThrough"
         },
         "Version": "$LATEST",
         "CodeSha256": "sU0cJ2/hOZevwV/1TxCuQqK3gDZP3i8gUoqUUVmY6E=",
         "FunctionName": "my-function",
         "VpcConfig": {
            "SubnetIds": [],
            "VpcId": "",
            "SecurityGroupIds": []
         },
         "MemorySize": 256,
         "RevisionId": "93017fc9-59cb-41dc-901b-4845ce4bf668",
         "CodeSize": 266,
         "Handler": "index.handler",
         "Role": "arn:aws:iam::123456789012:role/service-role/helloWorldPython-role-uy319qyq",
         "Timeout": 3,
         "LastModified": "2019-10-01T16:47:28.490+0000",
         "Runtime": "nodejs10.x",
         "Description": ""
      },
      {
         "TracingConfig": {
            "Mode": "PassThrough"
         },
      }
   ]
}
```
"Version": "1",
"CodeSha256": "StT2ggzYUHoqwr616pZ2dpkn/0J1FrzJm1KidWaaCgk=",
"FunctionName": "my-function",
"VpcConfig": {
    "SubnetIds": [],
    "VpcId": ",
    "SecurityGroupIds": []
},
"MemorySize": 256,
"RevisionId": "949c8914-012e-4795-998c-e467121951b1",
"CodeSize": 304,
"FunctionArn": "arn:aws:lambda:us-west-2:123456789012:function:my-
function:1",
"Handler": "index.handler",
"Role": "arn:aws:iam::123456789012:role/service-role/helloWorldPython-
role-uy3l9qyq",
"Timeout": 3,
"LastModified": "2019-09-26T20:28:40.438+0000",
"Runtime": "nodejs10.x",
"Description": "new version"
},
{
    "TracingConfig": {
        "Mode": "PassThrough"
    },
    "Version": "2",
    "CodeSha256": "sU0cJ2/hOZevwV/lTxCuQqK3gDZP3i8gUoqUVRmY6E=",
    "FunctionName": "my-function",
    "VpcConfig": {
        "SubnetIds": [],
        "VpcId": ",
        "SecurityGroupIds": []
    },
    "MemorySize": 256,
    "RevisionId": "cd669f21-0f3d-4e1c-9566-948837f2e2ea",
    "CodeSize": 266,
    "FunctionArn": "arn:aws:lambda:us-west-2:123456789012:function:my-
function:2",
    "Handler": "index.handler",
    "Role": "arn:aws:iam::123456789012:role/service-role/helloWorldPython-
role-uy3l9qyq",
    "Timeout": 3,
    "LastModified": "2019-10-01T16:47:28.490+0000",
    "Runtime": "nodejs10.x",
}
The following code example shows how to use `publish-layer-version`.

**AWS CLI**

To create a Lambda layer version

The following `publish-layer-version` example creates a new Python library layer version. The command retrieves the layer content a file named `layer.zip` in the specified S3 bucket.

```bash
aws lambda publish-layer-version \
  --layer-name my-layer \
  --description "My Python layer" \
  --license-info "MIT" \
  --content S3Bucket=lambda-layers-us-west-2-123456789012,S3Key=layer.zip \
  --compatible-runtimes python3.10 python3.11
```

Output:

```
{
  "Content": {
    "Location": "https://awslambda-us-west-2-layers.s3.us-west-2.amazonaws.com/
    snapshots/123456789012/my-layer-4aaa2fbb-ff77-4b0a-ad92-5b78a716a96a?
    versionId=27iWyA73cCAyqyH...",
    "CodeSha256": "tv9jJ0+rPbXUUXuRKi7CwHzKtLDkDRJLB3cC3Z/ouXo=",
    "CodeSize": 169
  },
  "Description": "My Python layer",
  "CreatedDate": "2023-11-14T23:03:52.894+0000",
}
```

For more information, see Configuring AWS Lambda Function Aliases in the AWS Lambda Developer Guide.

- For API details, see ListVersionsByFunction in AWS CLI Command Reference.
For more information, see [AWS Lambda Layers](https://docs.aws.amazon.com/lambda/latest/dg/layer-index.html) in the *AWS Lambda Developer Guide*.


**publish-version**

The following code example shows how to use `publish-version`.

**AWS CLI**

**To publish a new version of a function**

The following `publish-version` example publishes a new version of the *my-function* Lambda function.

```bash
aws lambda publish-version \
  --function-name my-function
```

**Output:**

```json
{
    "TracingConfig": {
        "Mode": "PassThrough"
    },
    "CodeSha256": "dBG9m8SGdmI6jw/JYX1hhvCrAv5TvxXsbL/RFz0fT/I=",
    "FunctionName": "my-function",
    "CodeSize": 294,
    "RevisionId": "f31d3d39-cc63-4520-97d4-43cd44c94c20",
    "MemorySize": 128,
    "Version": "2",
    "Role": "arn:aws:iam::123456789012:role/service-role/MyTestFunction-role-zgur6bf4",
    "Timeout": 3,
}
For more information, see Configuring AWS Lambda Function Aliases in the AWS Lambda Developer Guide.

- For API details, see PublishVersion in AWS CLI Command Reference.

**put-function-concurrency**

The following code example shows how to use put-function-concurrency.

**AWS CLI**

To configure a reserved concurrency limit for a function

The following put-function-concurrency example configures 100 reserved concurrent executions for the my-function function.

```bash
aws lambda put-function-concurrency \
   --function-name my-function \
   --reserved-concurrent-executions 100
```

Output:

```json
{
   "ReservedConcurrentExecutions": 100
}
```

For more information, see Reserving Concurrency for a Lambda Function in the AWS Lambda Developer Guide.

- For API details, see PutFunctionConcurrency in AWS CLI Command Reference.

**put-function-event-invoke-config**

The following code example shows how to use put-function-event-invoke-config.
AWS CLI

To configure error handling for asynchronous invocation

The following `put-function-event-invocation-config` example sets a maximum event age of one hour and disables retries for the specified function.

```
aws lambda put-function-event-invocation-config
   --function-name my-function
   --maximum-event-age-in-seconds 3600
   --maximum-retry-attempts 0
```

Output:

```
{
   "LastModified": 1573686021.479,
   "MaximumRetryAttempts": 0,
   "MaximumEventAgeInSeconds": 3600,
   "DestinationConfig": {
       "OnSuccess": {},
       "OnFailure": {}
   }
}
```


**put-provisioned-concurrency-config**

The following code example shows how to use `put-provisioned-concurrency-config`.

AWS CLI

To allocate provisioned concurrency

The following `put-provisioned-concurrency-config` example allocates 100 provisioned concurrency for the BLUE alias of the specified function.

```
aws lambda put-provisioned-concurrency-config
   --function-name my-function
   --qualifier BLUE
```
Output:

```json
{
   "Requested ProvisionedConcurrentExecutions": 100,
   "Allocated ProvisionedConcurrentExecutions": 0,
   "Status": "IN_PROGRESS",
   "LastModified": "2019-11-21T19:32:12+0000"
}
```

- For API details, see [PutProvisionedConcurrencyConfig](https://docs.aws.amazon.com/cli/latest/reference/lambda/put-provisioned-concurrency-config.html) in *AWS CLI Command Reference*.

**remove-layer-version-permission**

The following code example shows how to use `remove-layer-version-permission`.

**AWS CLI**

**To delete layer-version permissions**

The following `remove-layer-version-permission` example deletes permission for an account to configure a layer version.

```
aws lambda remove-layer-version-permission \
   --layer-name my-layer \
   --statement-id xaccount \
   --version-number 1
```

This command produces no output.

For more information, see [AWS Lambda Layers](https://docs.aws.amazon.com/lambda/latest/dg/about-lambda-functions.html#layers) in the *AWS Lambda Developer Guide*.

- For API details, see [RemoveLayerVersionPermission](https://docs.aws.amazon.com/cli/latest/reference/lambda/remove-layer-version-permission.html) in *AWS CLI Command Reference*.

**remove-permission**

The following code example shows how to use `remove-permission`.

**AWS CLI**

**To remove permissions from an existing Lambda function**
The following `remove-permission` example removes permission to invoke a function named `my-function`.

```bash
aws lambda remove-permission 
   --function-name my-function 
   --statement-id sns
```

This command produces no output.

For more information, see [Using Resource-based Policies for AWS Lambda](https://docs.aws.amazon.com/lambda/latest/dg/resource-based-policies.html) in the *AWS Lambda Developer Guide*.

- For API details, see [RemovePermission](https://docs.aws.amazon.com/cli/latest/reference/lambda/remove-permission.html) in *AWS CLI Command Reference*.

### tag-resource

The following code example shows how to use `tag-resource`.

**AWS CLI**

**To add tags to an existing Lambda function**

The following `tag-resource` example adds a tag with the key name `DEPARTMENT` and a value of `Department A` to the specified Lambda function.

```bash
aws lambda tag-resource 
   --tags "DEPARTMENT=Department A"
```

This command produces no output.

For more information, see [Tagging Lambda Functions](https://docs.aws.amazon.com/lambda/latest/dg/tagging-lambda-functions.html) in the *AWS Lambda Developer Guide*.

- For API details, see [TagResource](https://docs.aws.amazon.com/cli/latest/reference/lambda/tag-resource.html) in *AWS CLI Command Reference*.

### untag-resource

The following code example shows how to use `untag-resource`.

**AWS CLI**

**To remove tags from an existing Lambda function**
The following `untag-resource` example removes the tag with the key name `DEPARTMENT` tag from the `my-function` Lambda function.

```bash
aws lambda untag-resource \
  --resource arn:aws:lambda:us-west-2:123456789012:function:my-function \
  --tag-keys DEPARTMENT
```

This command produces no output.

For more information, see [Tagging Lambda Functions](https://docs.aws.amazon.com/lambda/latest/dg/tagging.html) in the *AWS Lambda Developer Guide*.

- For API details, see [UntagResource](https://docs.aws.amazon.com/cli/latest/reference/lambda/untag-resource.html) in *AWS CLI Command Reference*.

### update-alias

The following code example shows how to use `update-alias`.

**AWS CLI**

**To update a function alias**

The following `update-alias` example updates the alias named `LIVE` to point to version 3 of the `my-function` Lambda function.

```bash
aws lambda update-alias \
  --function-name my-function \
  --function-version 3 \
  --name LIVE
```

**Output:**

```json
{
  "FunctionVersion": "3",
  "Name": "LIVE",
  "RevisionId": "594f41fb-b85f-4c20-95c7-6ca5f2a92c93",
  "Description": "alias for live version of function"
}
```

For more information, see [Configuring AWS Lambda Function Aliases](https://docs.aws.amazon.com/lambda/latest/dg/lambda-aliases.html) in the *AWS Lambda Developer Guide*.

- For API details, see [UpdateAlias](https://docs.aws.amazon.com/cli/latest/reference/lambda/update-alias.html) in *AWS CLI Command Reference*.
**update-event-source-mapping**

The following code example shows how to use `update-event-source-mapping`.

**AWS CLI**

To update the mapping between an event source and an AWS Lambda function

The following `update-event-source-mapping` example updates the batch size to 8 in the specified mapping.

```bash
aws lambda update-event-source-mapping \
   --uuid  "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE" \
   --batch-size 8
```

Output:

```json
{
   "UUID": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE",
   "StateTransitionReason": "USER_INITIATED",
   "LastModified": 1569284520.333,
   "BatchSize": 8,
   "State": "Updating",
   "EventSourceArn": "arn:aws:sqs:us-west-2:123456789012:mySQSqueue"
}
```

For more information, see [AWS Lambda Event Source Mapping](https://docs.aws.amazon.com/lambda/latest/dg/source-config.html) in the *AWS Lambda Developer Guide*.

- For API details, see [UpdateEventSourceMapping](https://docs.aws.amazon.com/cli/latest/reference/lambda/update-event-source-mapping.html) in *AWS CLI Command Reference*.

**update-function-event-invoke-config**

The following code example shows how to use `update-function-event-invoke-config`.

**AWS CLI**

To update an asynchronous invocation configuration

The following `update-function-event-invoke-config` example adds an on-failure destination to the existing asynchronous invocation configuration for the specified function.
aws lambda update-function-event-invocation-config
  --function-name my-function

Output:

```
{
  "LastModified": 1573687896.493,
  "FunctionArn": "arn:aws:lambda:us-east-2:123456789012:function:my-function:
$LATEST",
  "MaximumRetryAttempts": 0,
  "MaximumEventAgeInSeconds": 3600,
  "DestinationConfig": {
    "OnSuccess": {},
    "OnFailure": {
      "Destination": "arn:aws:sqs:us-east-2:123456789012:destination"
    }
  }
}
```

- For API details, see [UpdateFunctionEventInvokeConfig](#) in [AWS CLI Command Reference](#).

License Manager examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with License Manager.

**Actions** are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

**Scenarios** are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**
- Actions
Actions

create-license-configuration

The following code example shows how to use create-license-configuration.

AWS CLI

Example 1: To create a license configuration

The following create-license-configuration example creates a license configuration with a hard limit of 10 cores.

```
aws license-manager create-license-configuration --name my-license-configuration \
    --license-counting-type Core \
    --license-count 10 \
    --license-count-hard-limit
```

Output:

```
{
    "LicenseConfigurationArn": "arn:aws:license-manager:us-west-2:123456789012:license-configuration:lic-6eb6586f508a786a2ba41EXAMPLE1111"
}
```

Example 2: To create a license configuration

The following create-license-configuration example creates a license configuration with a soft limit of 100 vCPUs. It uses a rule to enable vCPU optimization.

```
aws license-manager create-license-configuration --name my-license-configuration \
    --license-counting-type vCPU \
    --license-count 100 \
    --license-rules "#honorVcpuOptimization=true"
```

Output:

```
{
    "LicenseConfigurationArn": "arn:aws:license-manager:us-west-2:123456789012:license-configuration:lic-6eb6586f508a786a2ba41EXAMPLE2222"
}
```
For API details, see CreateLicenseConfiguration in AWS CLI Command Reference.

delete-license-configuration

The following code example shows how to use delete-license-configuration.

AWS CLI

To delete a license configuration

The following delete-license-configuration example deletes the specified license configuration.

```
aws license-manager delete-license-configuration \ 
```

This command produces no output.

For API details, see DeleteLicenseConfiguration in AWS CLI Command Reference.

get-license-configuration

The following code example shows how to use get-license-configuration.

AWS CLI

To get license configuration information

The following get-license-configuration example displays details for the specified license configuration.

```
aws license-manager get-license-configuration \ 
```

Output:

```
{
    "LicenseConfigurationId": "lic-38b658717b87478aaa7c00883EXAMPLE",
```
"Name": "my-license-configuration",
"LicenseCountingType": "vCPU",
"LicenseRules": [],
"LicenseCountHardLimit": false,
"ConsumedLicenses": 0,
"Status": "AVAILABLE",
"OwnerAccountId": "123456789012",
"ConsumedLicenseSummaryList": [
  {
    "ResourceType": "EC2_INSTANCE",
    "ConsumedLicenses": 0
  },
  {
    "ResourceType": "EC2_HOST",
    "ConsumedLicenses": 0
  },
  {
    "ResourceType": "SYSTEMS_MANAGER_MANAGED_INSTANCE",
    "ConsumedLicenses": 0
  }
],
"ManagedResourceSummaryList": [
  {
    "ResourceType": "EC2_INSTANCE",
    "AssociationCount": 0
  },
  {
    "ResourceType": "EC2_HOST",
    "AssociationCount": 0
  },
  {
    "ResourceType": "EC2_AMI",
    "AssociationCount": 2
  },
  {
    "ResourceType": "SYSTEMS_MANAGER_MANAGED_INSTANCE",
    "AssociationCount": 0
  }
]

- For API details, see [GetLicenseConfiguration](#) in AWS CLI Command Reference.
get-service-settings

The following code example shows how to use get-service-settings.

AWS CLI

To get the License Manager settings

The following get-service-settings example displays the service settings for License Manager in the current Region.

```bash
aws license-manager get-service-settings
```

The following shows example output if cross-account resource discovery is disabled.

```json
{
    "OrganizationConfiguration": {
        "EnableIntegration": false
    },
    "EnableCrossAccountsDiscovery": false
}
```

The following shows example output if cross-account resource discovery is enabled.

```json
{
    "S3BucketArn": "arn:aws:s3:::aws-license-manager-service-c22d6279-35c4-47c4-4bb",
    "OrganizationConfiguration": {
        "EnableIntegration": true
    },
    "EnableCrossAccountsDiscovery": true
}
```

- For API details, see GetServiceSettings in AWS CLI Command Reference.

list-associations-for-license-configuration

The following code example shows how to use list-associations-for-license-configuration.

AWS CLI

To get associations for a license configuration
The following list-associations-for-license-configuration example displays detailed information for the associations of the specified license configuration.

```
aws license-manager list-associations-for-license-configuration \
```

Output:

```
{
   "LicenseConfigurationAssociations": [
   {
      "ResourceArn": "arn:aws:ec2:us-west-2::image/ami-1234567890abcdef0",
      "ResourceType": "EC2_AMI",
      "ResourceOwnerId": "123456789012",
      "AssociationTime": 1568825118.617
   },
   {
      "ResourceArn": "arn:aws:ec2:us-west-2::image/ami-0abcdef1234567890",
      "ResourceType": "EC2_AMI",
      "ResourceOwnerId": "123456789012",
      "AssociationTime": 1568825118.946
   }
   ]
}
```

- For API details, see [ListAssociationsForLicenseConfiguration](https://docs.aws.amazon.com/AWSEC2/latest/APIReference/awsec2-2010-11-list-associations-for-license-configuration.html) in *AWS CLI Command Reference*.

### list-license-configurations

The following code example shows how to use list-license-configurations.

**AWS CLI**

**Example 1: To list all of your license configurations**

The following list-license-configurations example lists all your license configurations.

```
aws license-manager list-license-configurations
```

Output:
{
    "LicenseConfigurations": [
        {
            "LicenseConfigurationId": "lic-6eb6586f508a786a2ba4f56c1EXAMPLE",
            "LicenseConfigurationArn": "arn:aws:license-manager:us-west-2:123456789012:license-configuration:lic-6eb6586f508a786a2ba4f56c1EXAMPLE",
            "Name": "my-license-configuration",
            "LicenseCountingType": "Core",
            "LicenseRules": [],
            "LicenseCount": 10,
            "LicenseCountHardLimit": true,
            "ConsumedLicenses": 0,
            "Status": "AVAILABLE",
            "OwnerAccountId": "123456789012",
            "ConsumedLicenseSummaryList": [
                {
                    "ResourceType": "EC2_INSTANCE",
                    "ConsumedLicenses": 0
                },
                {
                    "ResourceType": "EC2_HOST",
                    "ConsumedLicenses": 0
                },
                {
                    "ResourceType": "SYSTEMS_MANAGER_MANAGED_INSTANCE",
                    "ConsumedLicenses": 0
                }
            ],
            "ManagedResourceSummaryList": [
                {
                    "ResourceType": "EC2_INSTANCE",
                    "AssociationCount": 0
                },
                {
                    "ResourceType": "EC2_HOST",
                    "AssociationCount": 0
                },
                {
                    "ResourceType": "EC2_AMI",
                    "AssociationCount": 0
                },
                {
                    "ResourceType": "SYSTEMS_MANAGER_MANAGED_INSTANCE",
                    "AssociationCount": 0
                }
            ]
        }
    ]
}
Example 2: To list a specific license configuration

The following `list-license-configurations` example lists only the specified license configuration.

```bash
aws license-manager list-license-configurations \
```

- For API details, see `ListLicenseConfigurations` in *AWS CLI Command Reference*.

`list-license-specifications-for-resource`

The following code example shows how to use `list-license-specifications-for-resource`.

**AWS CLI**

To list the license configurations for a resource

The following `list-license-specifications-for-resource` example lists the license configurations associated with the specified Amazon Machine Image (AMI).

```bash
aws license-manager list-license-specifications-for-resource \
   --resource-arn arn:aws:ec2:us-west-2::image/ami-1234567890abcdef0
```

Output:

```json
{
   "LicenseConfigurationArn": "arn:aws:license-manager:us-west-2:123456789012:license-configuration:lic-38b658717b87478aaa7c00883EXAMPLE"
}
```
list-resource-inventory

The following code example shows how to use list-resource-inventory.

AWS CLI

To list resources in the resource inventory

The following list-resource-inventory example lists the resources managed using Systems Manager inventory.

```
aws license-manager list-resource-inventory
```

Output:

```
{
  "ResourceInventoryList": [
    {
      "Platform": "Red Hat Enterprise Linux Server",
      "ResourceType": "EC2Instance",
      "PlatformVersion": "7.4",
      "ResourceArn": "arn:aws:ec2:us-west-2:1234567890129:instance/i-05d3cdfb05bd36376",
      "ResourceId": "i-05d3cdfb05bd36376",
      "ResourceOwningAccountId": "1234567890129"
    },
    {
      "Platform": "Amazon Linux",
      "ResourceType": "EC2Instance",
      "PlatformVersion": "2",
      "ResourceId": "i-0b1d036cfd4594808",
      "ResourceOwningAccountId": "1234567890129"
    },
    {
      "Platform": "Microsoft Windows Server 2019 Datacenter",
      "ResourceType": "EC2Instance",
      "ResourceArn": "arn:aws:ec2:us-west-2:1234567890129:instance/i-0c1d036cfd4594808",
      "ResourceId": "i-0c1d036cfd4594808",
      "ResourceOwningAccountId": "1234567890129"
    }
  ]
}
```

• For API details, see ListLicenseSpecificationsForResource in AWS CLI Command Reference.
For API details, see **ListResourceInventory** in *AWS CLI Command Reference*.

**list-tags-for-resource**

The following code example shows how to use list-tags-for-resource.

**AWS CLI**

**To list the tags for a license configuration**

The following list-tags-for-resource example lists the tags for the specified license configuration.

```
aws license-manager list-tags-for-resource \
```

Output:

```
{
    "Tags": [
        {
            "Key": "project",
            "Value": "lima"
        }
    ]
}
```

For API details, see **ListTagsForResource** in *AWS CLI Command Reference*.

**list-usage-for-license-configuration**

The following code example shows how to use list-usage-for-license-configuration.
AWS CLI

**To list the licenses in use for a license configuration**

The following `list-usage-for-license-configuration` example lists information about the resources using licenses for the specified license configuration. For example, if the license type is vCPU, any instances consume one license per vCPU.

```bash
aws license-manager list-usage-for-license-configuration \
```

Output:

```json
{
   "LicenseConfigurationUsageList": [
      {
         "ResourceType": "EC2_INSTANCE",
         "ResourceStatus": "running",
         "ResourceOwnerId": "123456789012",
         "AssociationTime": 1570892850.519,
         "ConsumedLicenses": 2
      }
   ]
}
```

- For API details, see [ListUsageForLicenseConfiguration](https://docs.aws.amazon.com/cli/latest/reference/license-manager/list-usage-for-license-configuration.html) in *AWS CLI Command Reference*.

**tag-resource**

The following code example shows how to use `tag-resource`.

AWS CLI

**To add a tag a license configuration**

The following `tag-resource` example adds the specified tag (key name and value) to the specified license configuration.
This command produces no output.

- For API details, see `TagResource` in *AWS CLI Command Reference*.

untag-resource

The following code example shows how to use `untag-resource`.

**AWS CLI**

**To remove tags from a license configuration**

The following `untag-resource` example removes the specified tag (key name and resource) from the specified license configuration.

```
aws license-manager untag-resource \
  --tag-keys project \
```

This command produces no output.

- For API details, see `UntagResource` in *AWS CLI Command Reference*.

update-license-configuration

The following code example shows how to use `update-license-configuration`.

**AWS CLI**

**To update a license configuration**

The following `update-license-configuration` example updates the specified license configuration to remove the hard limit.

```
aws license-manager update-license-configuration \
```
This command produces no output.

The following update-license-configuration example updates the specified license configuration to change its status to DISABLED.

```
aws license-manager update-license-configuration \
    --license-configuration-status DISABLED \
    --license-configuration-arn arn:aws:license-manager:us-west-2:880185128111:license-configuration:lic-6eb6586f508a786a2ba4f56c1EXAMPLE
```

This command produces no output.

- For API details, see [UpdateLicenseConfiguration](awscli://update-license-configuration) in [AWS CLI Command Reference](awscli://command-reference).

### update-license-specifications-for-resource

The following code example shows how to use `update-license-specifications-for-resource`.

**AWS CLI**

**To update the license configurations for a resource**

The following `update-license-specifications-for-resource` example replaces the license configuration associated with the specified Amazon Machine Image (AMI) by removing one license configuration and adding another.

```
aws license-manager update-license-specifications-for-resource \
    --resource-arn arn:aws:ec2:us-west-2::image/ami-1234567890abcdef0 \
    --remove-license-specifications LicenseConfigurationArn=arn:aws:license-manager:us-west-2:123456789012:license-configuration:lic-38b658717b87478aaa7c00883EXAMPLE \
```

This command produces no output.
update-service-settings

The following code example shows how to use update-service-settings.

AWS CLI

To update the License Manager settings

The following update-service-settings example enables cross-account resource discovery for License Manager in the current AWS Region. The Amazon S3 bucket is the Resource Data Sync required for Systems Manager inventory.

```bash
aws license-manager update-service-settings \
   --organization-configuration EnableIntegration=true \
   --enable-cross-accounts-discovery \
   --s3-bucket-arn arn:aws:s3:::aws-license-manager-service-abcd1234EXAMPLE
```

This command produces no output.

- For API details, see UpdateServiceSettings in AWS CLI Command Reference.

Lightsail examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Lightsail.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics
- Actions
Actions

allocate-static-ip

The following code example shows how to use allocate-static-ip.

AWS CLI

To create a static IP

The following allocate-static-ip example creates the specified static IP, which can be attached to an instance.

```
aws lightsail allocate-static-ip \
   --static-ip-name StaticIp-1
```

Output:

```
{
   "operations": [
   {
      "id": "b5d06d13-2f19-4683-889f-dEXAMPLEed79",
      "resourceName": "StaticIp-1",
      "resourceType": "StaticIp",
      "createdAt": 1571071325.076,
      "location": {
         "availabilityZone": "all",
         "regionName": "us-west-2"
      },
      "isTerminal": true,
      "operationType": "AllocateStaticIp",
      "status": "Succeeded",
      "statusChangedAt": 1571071325.274
   }
   ]
}
```

- For API details, see AllocateStaticIp in AWS CLI Command Reference.

attach-disk

The following code example shows how to use attach-disk.
AWS CLI

To attach a block storage disk to an instance

The following `attach-disk` example attaches disk Disk-1 to instance WordPress_Multisite-1 with the disk path of /dev/xvdf

```
aws lightsail attach-disk \
   --disk-name Disk-1 \
   --disk-path /dev/xvdf \
   --instance-name WordPress_Multisite-1
```

Output:

```
{
   "operations": [
      {
         "id": "10a08267-19ce-43be-b913-6EXAMPLE7e80",
         "resourceName": "Disk-1",
         "resourceType": "Disk",
         "createdAt": 1571071465.472,
         "location": {
            "availabilityZone": "us-west-2a",
            "regionName": "us-west-2"
         },
         "isTerminal": false,
         "operationDetails": "WordPress_Multisite-1",
         "operationType": "AttachDisk",
         "status": "Started",
         "statusChangedAt": 1571071465.472
      },
      {
         "id": "2912c477-5295-4539-88c9-bEXAMPLEd1f0",
         "resourceName": "WordPress_Multisite-1",
         "resourceType": "Instance",
         "createdAt": 1571071465.474,
         "location": {
            "availabilityZone": "us-west-2a",
            "regionName": "us-west-2"
         },
         "isTerminal": false,
         "operationDetails": "Disk-1",
         "operationType": "AttachDisk",
```

Actions and scenarios
• For API details, see AttachDisk in AWS CLI Command Reference.

attach-instances-to-load-balancer

The following code example shows how to use attach-instances-to-load-balancer.

AWS CLI

To attach instances to a load balancer

The following attach-instances-to-load-balancer example attaches instances MEAN-1, MEAN-2, and MEAN-3 to the load balancer LoadBalancer-1.

```bash
aws lightsail attach-instances-to-load-balancer \
   --instance-names "{"MEAN-1","MEAN-2","MEAN-3"}" \
   --load-balancer-name LoadBalancer-1
```

Output:

```json
{
   "operations": [
      {
         "id": "8055d19d-abb2-40b9-b527-1EXAMPLE3c7b",
         "resourceName": "LoadBalancer-1",
         "resourceType": "LoadBalancer",
         "createdAt": 1571071699.892,
         "location": {
            "availabilityZone": "all",
            "regionName": "us-west-2"
         },
         "isTerminal": false,
         "operationDetails": "MEAN-2",
         "operationType": "AttachInstancesToLoadBalancer",
         "status": "Started",
         "statusChangedAt": 1571071699.892
      }
   ]
}
```
{
  "id": "c35048eb-8538-456a-a118-0EXAMPLEfb73",
  "resourceName": "MEAN-2",
  "resourceType": "Instance",
  "createdAt": 1571071699.887,
  "location": {
    "availabilityZone": "all",
    "regionName": "us-west-2"
  },
  "isTerminal": false,
  "operationDetails": "LoadBalancer-1",
  "operationType": "AttachInstancesToLoadBalancer",
  "status": "Started",
  "statusChangedAt": 1571071699.887
},
{
  "id": "910d09e0-adc5-4372-bc2e-0EXAMPLEd891",
  "resourceName": "LoadBalancer-1",
  "resourceType": "LoadBalancer",
  "createdAt": 1571071699.882,
  "location": {
    "availabilityZone": "all",
    "regionName": "us-west-2"
  },
  "isTerminal": false,
  "operationDetails": "MEAN-3",
  "operationType": "AttachInstancesToLoadBalancer",
  "status": "Started",
  "statusChangedAt": 1571071699.882
},
{
  "id": "178b18ac-43e8-478c-9bed-1EXAMPLE4755",
  "resourceName": "MEAN-3",
  "resourceType": "Instance",
  "createdAt": 1571071699.901,
  "location": {
    "availabilityZone": "all",
    "regionName": "us-west-2"
  },
  "isTerminal": false,
  "operationDetails": "LoadBalancer-1",
  "operationType": "AttachInstancesToLoadBalancer",
  "status": "Started",
  "statusChangedAt": 1571071699.901
}
The following code example shows how to use `attach-load-balancer-tls-certificate`.

**AWS CLI**

To attach a TLS certificate to a load balancer
The following `attach-load-balancer-tls-certificate` example attaches the load balancer TLS certificate `Certificate2` to the load balancer `LoadBalancer-1`.

```
aws lightsail attach-load-balancer-tls-certificate \
   --certificate-name Certificate2 \
   --load-balancer-name LoadBalancer-1
```

**Output:**

```
{
   "operations": [
      {
         "id": "cf1ad6e3-3cbb-4b8a-a7f2-3EXAMPLEa118",
         "resourceName": "LoadBalancer-1",
         "resourceType": "LoadBalancer",
         "createdAt": 1571072255.416,
         "location": {
            "availabilityZone": "all",
            "regionName": "us-west-2"
         },
         "isTerminal": true,
         "operationDetails": "Certificate2",
         "operationType": "AttachLoadBalancerTlsCertificate",
         "status": "Succeeded",
         "statusChangedAt": 1571072255.416
      },
      {
         "id": "dae1bcfb-d531-4c06-b4ea-bEXAMPLEc04e",
         "resourceName": "Certificate2",
         "resourceType": "LoadBalancerTlsCertificate",
         "createdAt": 1571072255.416,
         "location": {
            "availabilityZone": "all",
            "regionName": "us-west-2"
         },
         "isTerminal": true,
         "operationDetails": "LoadBalancer-1",
         "operationType": "AttachLoadBalancerTlsCertificate",
         "status": "Succeeded",
         "statusChangedAt": 1571072255.416
      }
   ]
}
```
attach-static-ip

The following code example shows how to use attach-static-ip.

AWS CLI

To attach a static IP to an instance

The following attach-static-ip example attaches static IP StaticIp-1 to instance MEAN-1.

```
aws lightsail attach-static-ip \
  --static-ip-name StaticIp-1 \
  --instance-name MEAN-1
```

Output:

```json
{
  "operations": [
    {
      "id": "45e6fa13-4808-4b8d-9292-bEXAMPLE20b2",
      "resourceName": "StaticIp-1",
      "resourceType": "StaticIp",
      "createdAt": 1571072569.375,
      "location": {
        "availabilityZone": "all",
        "regionName": "us-west-2"
      },
      "isTerminal": true,
      "operationDetails": "MEAN-1",
      "operationType": "AttachStaticIp",
      "status": "Succeeded",
      "statusChangedAt": 1571072569.375
    },
    {
      "id": "9ee09a17-863c-4e51-8a6d-3EXAMPLE5475",
      "resourceName": "MEAN-1",
      "resourceType": "Instance",
      "createdAt": 1571072569.375,
      "location": {
        "availabilityZone": "all",
        "regionName": "us-west-2"
      },
      "isTerminal": true,
      "operationDetails": "MEAN-1",
      "operationType": "AttachStaticIp",
      "status": "Succeeded",
      "statusChangedAt": 1571072569.375
    }
  ]
}
```

**close-instance-public-ports**

The following code example shows how to use `close-instance-public-ports`.

**AWS CLI**

**To close firewall ports for an instance**

The following `close-instance-public-ports` example closes TCP port 22 on instance MEAN-2.

```
aws lightsail close-instance-public-ports \
  --instance-name MEAN-2 \ 
  --port-info fromPort=22,protocol=TCP,toPort=22
```

**Output:**

```
{
   "operation": {
      "id": "4f328636-1c96-4649-ae6d-1EXAMPLEf446",
      "resourceName": "MEAN-2",
      "resourceType": "Instance",
      "createdAt": 1571072569.376,
      "location": {
         "availabilityZone": "us-west-2a",
         "regionName": "us-west-2"
      },
      "isTerminal": true,
      "operationDetails": "StaticIp-1",
      "operationType": "AttachStaticIp",
      "status": "Succeeded",
      "statusChangedAt": 1571072569.376
   }
}
```
copy-snapshot

The following code example shows how to use copy-snapshot.

**AWS CLI**

**Example 1: To copy a snapshot within the same AWS Region**

The following copy-snapshot example copies instance snapshot MEAN-1-1571075291 as instance snapshot MEAN-1-Copy within the same AWS Region us-west-2.

```bash
aws lightsail copy-snapshot \
  --source-snapshot-name MEAN-1-1571075291 \
  --target-snapshot-name MEAN-1-Copy \
  --source-region us-west-2
```

Output:

```json
{
  "operations": [
    {
      "id": "ced16fc1-f401-4556-8d82-1EXAMPLEb982",
      "resourceName": "MEAN-1-Copy",
      "resourceType": "InstanceSnapshot",
      "createdAt": 1571075581.498,
      "location": {
        "availabilityZone": "all",
        "regionName": "us-west-2"
      },
      "isTerminal": false,
      "status": "Succeeded",
      "statusChangedAt": 1571072845.737
    }
  ]
}
```

- For API details, see [CloseInstancePublicPorts](#) in *AWS CLI Command Reference*. 

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For more information, see Copying snapshots from one AWS Region to another in Amazon Lightsail in the Lightsail Dev Guide.

**Example 2: To copy a snapshot from one AWS Region to another**

The following copy-snapshot example copies instance snapshot MEAN-1-1571075291 as instance snapshot MEAN-1-1571075291-Copy from AWS Region us-west-2 to us-east-1.

```
aws lightsail copy-snapshot \
  --source-snapshot-name MEAN-1-1571075291 \
  --target-snapshot-name MEAN-1-1571075291-Copy \
  --source-region us-west-2 \
  --region us-east-1
```

Output:

```
{
  "operations": [
    {
      "id": "91116b79-119c-4451-b44a-dEXAMPLEd97b",
      "resourceName": "MEAN-1-1571075291-Copy",
      "resourceType": "InstanceSnapshot",
      "createdAt": 1571075695.069,
      "location": {
        "availabilityZone": "all",
        "regionName": "us-east-1"
      },
      "isTerminal": false,
      "operationDetails": "us-west-2:MEAN-1-1571075291",
      "operationType": "CopySnapshot",
      "status": "Started",
      "statusChangedAt": 1571075695.069
    }
  ]
}
For more information, see Copying snapshots from one AWS Region to another in Amazon Lightsail in the Lightsail Dev Guide.

**Example 3: To copy an automatic snapshot within the same AWS Region**


```
aws lightsail copy-snapshot \
   --source-resource-name WordPress-1 \
   --restore-date 2019-10-14 \
   --target-snapshot-name WordPress-1-10142019 \
   --source-region us-west-2
```

**Output:**

```
{
   "operations": [
      {
         "id": "be3e6754-cd1d-48e6-ad9f-2EXAMPLE1805",
         "resourceName": "WordPress-1-10142019",
         "resourceType": "InstanceSnapshot",
         "createdAt": 1571082412.311,
         "location": {
            "availabilityZone": "all",
            "regionName": "us-west-2"
         },
         "isTerminal": false,
         "operationDetails": "us-west-2:WordPress-1",
         "operationType": "CopySnapshot",
         "status": "Started",
         "statusChangedAt": 1571082412.311
      }
   ]
}
```

For more information, see Keeping automatic snapshots of instances or disks in Amazon Lightsail in the Lightsail Dev Guide.

**Example 4: To copy an automatic snapshot from one AWS Region to another**
The following copy-snapshot example copies automatic snapshot 2019-10-14 of instance WordPress-1 as a manual snapshot WordPress-1-10142019 from the AWS Region us-west-2 to us-east-1.

```
aws lightsail copy-snapshot \
  --source-resource-name WordPress-1 \
  --restore-date 2019-10-14 \
  --target-snapshot-name WordPress-1-10142019 \
  --source-region us-west-2 \
  --region us-east-1
```

Output:

```
{
  "operations": [
    {
      "id": "dffa128b-0b07-476e-b390-bEXAMPLE3775",
      "resourceName": "WordPress-1-10142019",
      "resourceType": "InstanceSnapshot",
      "createdAt": 1571082493.422,
      "location": {
        "availabilityZone": "all",
        "regionName": "us-east-1"
      },
      "isTerminal": false,
      "operationDetails": "us-west-2:WordPress-1",
      "operationType": "CopySnapshot",
      "status": "Started",
      "statusChangedAt": 1571082493.422
    }
  ]
}
```

For more information, see [Keeping automatic snapshots of instances or disks in Amazon Lightsail](https://lightsail.aws.amazon.com/measurements) in the [Lightsail Dev Guide](https).

- For API details, see [CopySnapshot](https://docs.aws.amazon.com/cli/latest/reference/lightsail/copy-snapshot.html) in [AWS CLI Command Reference](https).

**create-disk**

The following code example shows how to use create-disk.
AWS CLI

To create a block storage disk

The following create-disk example creates a block storage disk Disk-1 in the specified AWS Region and Availability Zone, with 32 GB of storage space.

```
aws lightsail create-disk 
   --disk-name Disk-1 
   --availability-zone us-west-2a 
   --size-in-gb 32
```

Output:

```
{
   "operations": [
      {
         "id": "1c85e2ec-86ba-4697-b936-77f4d3dc013a",
         "resourceName": "Disk-1",
         "resourceType": "Disk",
         "createdAt": 1569449220.36,
         "location": {
            "availabilityZone": "us-west-2a",
            "regionName": "us-west-2"
         },
         "isTerminal": false,
         "operationType": "CreateDisk",
         "status": "Started",
         "statusChangedAt": 1569449220.588
      }
   ]
}
```

- For API details, see CreateDisk in AWS CLI Command Reference.

create-disk-from-snapshot

The following code example shows how to use create-disk-from-snapshot.

AWS CLI

To create a disk from a disk snapshot
The following create-disk-from-snapshot example creates a block storage disk named Disk-2 from the specified block storage disk snapshot. The disk is created in the specified AWS Region and Availability Zone, with 32 GB of storage space.

```bash
aws lightsail create-disk-from-snapshot
   --disk-name Disk-2
   --disk-snapshot-name Disk-1-1566839161
   --availability-zone us-west-2a
   --size-in-gb 32
```

Output:

```json
{
   "operations": [
      {
         "id": "d42b605d-5ef1-4b4a-8791-7a3e8b66b5e7",
         "resourceName": "Disk-2",
         "resourceType": "Disk",
         "createdAt": 1569624941.471,
         "location": {
            "availabilityZone": "us-west-2a",
            "regionName": "us-west-2"
         },
         "isTerminal": false,
         "operationType": "CreateDiskFromSnapshot",
         "status": "Started",
         "statusChangedAt": 1569624941.791
      }
   ]
}
```

For more information, see [Creating a block storage disk from a snapshot in Amazon Lightsail](https://lightsail.aws.amazon.com/ls/doc/creating-disk-from-snapshot) in the Lightsail Developer Guide.

- For API details, see [CreateDiskFromSnapshot](https://docs.aws.amazon.com/cli/latest/reference/lightsail/create-disk-from-snapshot.html) in AWS CLI Command Reference.

create-disk-snapshot

The following code example shows how to use create-disk-snapshot.
Example 1: To create a snapshot of a disk

The following create-disk-snapshot example creates a snapshot named DiskSnapshot-1 of the specified block storage disk.

```
aws lightsail create-disk-snapshot \
   --disk-name Disk-1 \
   --disk-snapshot-name DiskSnapshot-1
```

Output:

```
{
   "operations": [
   {
      "id": "fa74c6d2-03a3-4f42-a7c7-792f124d534b",
      "resourceName": "DiskSnapshot-1",
      "resourceType": "DiskSnapshot",
      "createdAt": 1569625129.739,
      "location": {
         "availabilityZone": "all",
         "regionName": "us-west-2"
      },
      "isTerminal": false,
      "operationDetails": "Disk-1",
      "operationType": "CreateDiskSnapshot",
      "status": "Started",
      "statusChangedAt": 1569625129.739
   },
   {
      "id": "920a25df-185c-4528-87cd-7b85f5488c06",
      "resourceName": "Disk-1",
      "resourceType": "Disk",
      "createdAt": 1569625129.739,
      "location": {
         "availabilityZone": "us-west-2a",
         "regionName": "us-west-2"
      },
      "isTerminal": false,
      "operationDetails": "DiskSnapshot-1",
      "operationType": "CreateDiskSnapshot",
      "status": "Started",
      "statusChangedAt": 1569625129.739
   }
   ]
}
```
Example 2: To create a snapshot of an instance's system disk

The following `create-disk-snapshot` example creates a snapshot of the specified instance's system disk.

```bash
aws lightsail create-disk-snapshot \
    --instance-name WordPress-1 \
    --disk-snapshot-name SystemDiskSnapshot-1
```

Output:

```
{
    "operations": [
        {
            "id": "f508cf1c-6597-42a6-a4c3-4aebd75af0d9",
            "resourceName": "SystemDiskSnapshot-1",
            "resourceType": "DiskSnapshot",
            "createdAt": 1569625294.685,
            "location": {
                "availabilityZone": "all",
                "regionName": "us-west-2"
            },
            "isTerminal": false,
            "operationDetails": "WordPress-1",
            "operationType": "CreateDiskSnapshot",
            "status": "Started",
            "statusChangedAt": 1569625294.685
        },
        {
            "id": "0bb9f712-da3b-4d99-b508-3bf871d989e5",
            "resourceName": "WordPress-1",
            "resourceType": "Instance",
            "createdAt": 1569625294.685,
            "location": {
                "availabilityZone": "us-west-2a",
                "regionName": "us-west-2"
            }
        }
    ]
}
```
For more information, see [Snapshots in Amazon Lightsail](https://lightsail.aws.amazon.com/Documentation/snapshots) and [Creating a snapshot of an instance root volume in Amazon Lightsail](https://lightsail.aws.amazon.com/Documentation/creating-snapshots) in the Lightsail Developer Guide.

- For API details, see [CreateDiskSnapshot](https://docs.aws.amazon.com/cli/latest/reference/lightsail/create-disk-snapshot.html) in AWS CLI Command Reference.

**create-domain**

The following code example shows how to use `create-domain`.

**AWS CLI**

To create a domain (DNS zone)

The following `create-domain` example creates a DNS zone for the specified domain.

**Note:** Lightsail's domain-related API operations are available in only the us-east-1 Region. If your CLI profile is configured to use a different Region, you must include the `--region us-east-1` parameter or the command fails.

```
aws lightsail create-domain
--region us-east-1
--domain-name example.com
```

**Output:**

```
{
  "operation": {
    "id": "64e522c8-9ae1-4c05-9b65-3f237324dc34",
    "resourceName": "example.com",
    "resourceType": "Domain",
    "createdAt": 1569864291.92,
    "location": {
      ...
```
For more information, see [DNS in Amazon Lightsail](https://docs.aws.amazon.com/lightsail/latest/userguide/dns-overview.html) and [Creating a DNS zone to manage your domain's DNS records in Amazon Lightsail](https://docs.aws.amazon.com/lightsail/latest/userguide/dns-overview.html) in the *Lightsail Developer Guide*.

- For API details, see [CreateDomain](https://docs.aws.amazon.com/cli/latest/reference/lightsail/create-domain.html) in *AWS CLI Command Reference*.

**create-domain-entry**

The following code example shows how to use `create-domain-entry`.

**AWS CLI**

To create a domain entry (DNS record)

The following `create-domain-entry` example creates a DNS record (A) for the apex of the specified domain that points to an instance's IP address.

**Note:** Lightsail's domain-related API operations are available in only the `us-east-1` Region. If your CLI profile is configured to use a different Region, you must include the `--region us-east-1` parameter or the command fails.

```
aws lightsail create-domain-entry \
  --region us-east-1 \
  --domain-name example.com \
  --domain-entry name.example.com,type=A,target=192.0.2.0
```

Output:

```
{
    "operation": {
        "id": "5be4494d-56f4-41fc-8730-693dcd0ef9e2",
        "resourceName": "example.com",
        "isTerminal": true,
        "operationType": "CreateDomain",
        "status": "Succeeded",
        "statusChangedAt": 1569864292.109
    }
}
```
For more information, see [DNS in Amazon Lightsail](https://lightsail.aws.amazon.com/ lightsail/docs/dns-integration.html) and [Creating a DNS zone to manage your domain's DNS records in Amazon Lightsail](https://lightsail.aws.amazon.com/ lightsail/docs/dns-zones.html) in the *Lightsail Developer Guide*.

- For API details, see [CreateDomainEntry](https://docs.aws.amazon.com/cli/latest/reference/lightsail/create-domain-entry.html) in *AWS CLI Command Reference*.

### create-instance-snapshot

The following code example shows how to use `create-instance-snapshot`.

**AWS CLI**

**To create a snapshot of an instance**

The following `create-instance-snapshot` example creates a snapshot from the specified instance.

```bash
aws lightsail create-instance-snapshot
   --instance-name WordPress-1
   --instance-snapshot-name WordPress-Snapshot-1
```

**Output:**

```json
{
   "operations": [
      {
         "id": "4c3db559-9dd0-41e7-89c0-2cb88c19786f",
         "resourceName": "WordPress-Snapshot-1",
         "resourceType": "InstanceSnapshot",
         "createdAt": 1569866438.48
      }
   ]
}
```
For API details, see [CreateInstanceSnapshot](https://awscli.amazonaws.com/v2/documentation/api/latest/reference/lightsail/create-instances.html) in *AWS CLI Command Reference*.

### create-instances

The following code example shows how to use `create-instances`.

**AWS CLI**

**Example 1: To create a single instance**

The following `create-instances` example creates an instance in the specified AWS Region and Availability Zone, using the WordPress blueprint, and the $3.50 USD bundle.

```bash
aws lightsail create-instances \
  --instance-names Instance-1
```
--availability-zone us-west-2a \ 
--blueprint-id wordpress_5_1_1_2 \ 
--bundle-id nano_2_0

Output:

```
{
  "operations": [
    {
      "id": "9a77158f-7be3-4d6d-8054-cf5ae2b720cc",
      "resourceName": "Instance-1",
      "resourceType": "Instance",
      "createdAt": 1569447986.061,
      "location": {
        "availabilityZone": "us-west-2a",
        "regionName": "us-west-2"
      },
      "isTerminal": false,
      "operationType": "CreateInstance",
      "status": "Started",
      "statusChangedAt": 1569447986.061
    }
  ]
}
```

Example 2: To create multiple instances at one time

The following `create-instances` example creates three instances in the specified AWS Region and Availability Zone, using the WordPress blueprint, and the $3.50 USD bundle.

```
aws lightsail create-instances \
  --instance-names {"Instance1","Instance2","Instance3"} \
  --availability-zone us-west-2a \
  --blueprint-id wordpress_5_1_1_2 \
  --bundle-id nano_2_0
```

Output:

```
{
  "operations": [
    {
      "id": "5492f015-9d2e-48c6-8eea-b516840e6903",
      "resourceName": "Instance-1",
      "resourceType": "Instance",
      "createdAt": 1569447986.061,
      "location": {
        "availabilityZone": "us-west-2a",
        "regionName": "us-west-2"
      },
      "isTerminal": false,
      "operationType": "CreateInstance",
      "status": "Started",
      "statusChangedAt": 1569447986.061
    }
  ]
}
```
"resourceName": "Instance1",
"resourceType": "Instance",
"createdAt": 1569448780.054,
"location": {
    "availabilityZone": "us-west-2a",
    "regionName": "us-west-2"
},
"isTerminal": false,
"operationType": "CreateInstance",
"status": "Started",
"statusChangedAt": 1569448780.054
},
{
    "id": "c58b5f46-2676-44c8-b95c-3ad375898515",
    "resourceName": "Instance2",
    "resourceType": "Instance",
    "createdAt": 1569448780.054,
    "location": {
        "availabilityZone": "us-west-2a",
        "regionName": "us-west-2"
    },
    "isTerminal": false,
    "operationType": "CreateInstance",
    "status": "Started",
    "statusChangedAt": 1569448780.054
},
{
    "id": "a5ad8006-9bee-4499-9eb7-75e42e6f5882",
    "resourceName": "Instance3",
    "resourceType": "Instance",
    "createdAt": 1569448780.054,
    "location": {
        "availabilityZone": "us-west-2a",
        "regionName": "us-west-2"
    },
    "isTerminal": false,
    "operationType": "CreateInstance",
    "status": "Started",
    "statusChangedAt": 1569448780.054
}

• For API details, see CreateInstances in AWS CLI Command Reference.
create-instances-from-snapshot

The following code example shows how to use create-instances-from-snapshot.

AWS CLI

To create an instance from a snapshot

The following create-instances-from-snapshot example creates an instance from the specified instance snapshot, in the specified AWS Region and Availability Zone, using the $10 USD bundle.

Note: The bundle that you specify must be equal to or greater in specifications than the bundle of the original source instance used to create the snapshot.

```
aws lightsail create-instances-from-snapshot \\
    --instance-snapshot-name WordPress-1-1569866208 \\
    --instance-names WordPress-2 \\
    --availability-zone us-west-2a \\
    --bundle-id medium_2_0
```

Output:

```
{
    "operations": [
    {
        "id": "003f8271-b711-464d-b9b8-7f3806cb496e",
        "resourceName": "WordPress-2",
        "resourceType": "Instance",
        "createdAt": 1569865914.908,
        "location": {
            "availabilityZone": "us-west-2a",
            "regionName": "us-west-2"
        },
        "isTerminal": false,
        "operationType": "CreateInstancesFromSnapshot",
        "status": "Started",
        "statusChangedAt": 1569865914.908
    }
    ]
}
```

• For API details, see [CreateInstancesFromSnapshot](#) in [AWS CLI Command Reference](#).
create-key-pair

The following code example shows how to use create-key-pair.

**AWS CLI**

**To create a key pair**

The following create-key-pair example creates a key pair that you can use to authenticate and connect to an instance.

```
aws lightsail create-key-pair \
  --key-pair-name MyPersonalKeyPair
```

The output provides the private key base64 value that you can use to authenticate to instances that use the created key pair. **Note:** Copy and paste the private key base64 value to a safe location because you cannot retrieve it later.

```
{
  "keyPair": {
    "name": "MyPersonalKeyPair",
    "supportCode": "621291663362/MyPersonalKeyPair",
    "createdAt": 1569866556.567,
    "location": {
      "availabilityZone": "all",
      "regionName": "us-west-2"
    },
    "resourceType": "KeyPair"
  },
  "publicKeyBase64": "ssh-rsa ssh-rsa
AAAAB3NzaC1yc2EAAAADAQABAAABAQCV0xUEwx96amPERH7KibVT1tTF190mNk6o7m5YVHk9x10dMbrDrbFvhtXvw4j
+BHUgedGUXno6uF7agqxZN01kPLJBIVTJoW65SSB0J0tE
+y8O4UyVsjrbUqCaMXDhmfxPwuLMPwuxhwcKh7e8hoToFkix0E6Ql
+KqFf/MIAw6DCjEqvvdIO7SIeEZJFsOfYDDk3tG0Re1SMUMmm3JOJdn4y/
A7Nwb3IxL4pPfVE4rgFRKU8n1jp9kwrnLVMVB0WuGxk6nH6M2f1"
  },
  "privateKeyBase64": "-----BEGIN RSA PRIVATE KEY-----
EXAMPLETCCAFICCQDO6m7orwWo0x0jANBkgqhhkiG9w0BOAUFADCBiDELMAkGA1UEBhMC
\nVVMxCzAJB0NVBAgTAldBMRAwDgYDVQQHEwdTZWF0dGx1MQ8wDQYDVR0KEwZBbWF6
\nb24xFDASBgNVBAsTC0lBTSBDb25zb2xlMRIwEAYDVQQDEwlUZXN0Q2lsEXAMPLEd
\nBgkqhkiG9w0BCQEWEDG5vb251QGFtYXpvb15jB0hcmNTETwNDI1MjA0NTIxWhcN
\nMTIwNDI0MjA0NTIxWjCBiDELMAkGA1UEBhMCVVMxCzAJB0NVBAgTAldBMRAwDgYD
```

Actions and scenarios
For API details, see CreateKeyPair in AWS CLI Command Reference.

create-load-balancer

The following code example shows how to use create-load-balancer.

AWS CLI

To create a load balancer

The following create-load-balancer example creates a load balancer with a TLS certificate. The TLS certificate applies to the specified domains, and routes traffic to instances on port 80.

.aws lightsail create-load-balancer \
    --certificate-alternative-names www.example.com test.example.com \
    --certificate-domain-name example.com \
    --certificate-name Certificate-1 \
    --instance-port 80 \

--load-balancer-name LoadBalancer-1

Output:

```json
{
   "operations": [
   {
      "id": "cc7b920a-83d8-4762-a74e-9174fe1540be",
      "resourceName": "LoadBalancer-1",
      "resourceType": "LoadBalancer",
      "createdAt": 1569867169.406,
      "location": {
        "availabilityZone": "all",
        "regionName": "us-west-2"
      },
      "isTerminal": false,
      "operationType": "CreateLoadBalancer",
      "status": "Started",
      "statusChangedAt": 1569867169.406
   },
   {
      "id": "658ed43b-f729-42f3-a8e4-3f8024d3c98d",
      "resourceName": "LoadBalancer-1",
      "resourceType": "LoadBalancerTlsCertificate",
      "createdAt": 1569867170.193,
      "location": {
        "availabilityZone": "all",
        "regionName": "us-west-2"
      },
      "isTerminal": true,
      "operationDetails": "LoadBalancer-1",
      "operationType": "CreateLoadBalancerTlsCertificate",
      "status": "Succeeded",
      "statusChangedAt": 1569867170.54
   },
   {
      "id": "4757a342-5181-4870-b1e0-227eebc35ab5",
      "resourceName": "LoadBalancer-1",
      "resourceType": "LoadBalancer",
      "createdAt": 1569867170.193,
      "location": {
        "availabilityZone": "all",
        "regionName": "us-west-2"
      }
   }
]}
```
For more information, see Lightsail load balancers in the Lightsail Developer Guide.

- For API details, see CreateLoadBalancer in AWS CLI Command Reference.

create-load-balancer-tls-certificate

The following code example shows how to use create-load-balancer-tls-certificate.

AWS CLI

To create a TLS certificate for a load balancer

The following create-load-balancer-tls-certificate example creates a TLS certificate that is attached to the specified load balancer. The certificate created applies to the specified domains. Note: Only two certificates can be created for a load balancer.

```
aws lightsail create-load-balancer-tls-certificate \
   --certificate-alternative-names abc.example.com \ 
   --certificate-domain-name example.com \ 
   --certificate-name MySecondCertificate \ 
   --load-balancer-name MyFirstLoadBalancer
```

Output:

```
{
   "operations": [

   {
      "id": "be663aed-cb46-41e2-9b23-e2f747245bd4",
      "resourceName": "MySecondCertificate",
      "resourceType": "LoadBalancerTlsCertificate",
      "createdAt": 1569867364.971,
      "location": {
         "availabilityZone": "all",
```
The following code example shows how to use `create-relational-database`.

**AWS CLI**

To create a managed database

The following `create-relational-database` example creates a managed database in the specified AWS Region and Availability Zone, using the MySQL 5.6 database engine (mysql_5_6), and the $15 USD standard database bundle (micro_1_0). The managed database is pre-populated a master user name, and is not publicly accessible.

```bash
aws lightsail create-relational-database
```

- For API details, see [CreateLoadBalancerTlsCertificate](https://docs.aws.amazon.com/cli/latest/reference/lightsail/create-loadbalancer-tls-certificate.html) in *AWS CLI Command Reference*. 

**create-relational-database**

The following code example shows how to use `create-relational-database`.
```bash
--relational-database-name Database-1 \
--availability-zone us-west-2a \
--relational-database-blueprint-id mysql_5_6 \
--relational-database-bundle-id micro_1_0 \
--master-database-name dbmaster \
--master-username user \
--no-publicly-accessible
```

Output:

```json
{
  "operations": [
    {
      "id": "b52bedee-73ed-4798-8d2a-9c12df89adcd",
      "resourceName": "Database-1",
      "resourceType": "RelationalDatabase",
      "createdAt": 1569450017.244,
      "location": {
        "availabilityZone": "us-west-2a",
        "regionName": "us-west-2"
      },
      "isTerminal": false,
      "operationType": "CreateRelationalDatabase",
      "status": "Started",
      "statusChangedAt": 1569450018.637
    }
  ]
}
```

- For API details, see [CreateRelationalDatabase](#) in *AWS CLI Command Reference*.

**create-relational-database-from-snapshot**

The following code example shows how to use `create-relational-database-from-snapshot`.

**AWS CLI**

**To create a managed database from a snapshot**

The following `create-relational-database-from-snapshot` example creates a managed database from the specified snapshot in the specified AWS Region and Availability Zone, using
the $15 USD standard database bundle. **Note:** The bundle that you specify must be equal to or greater in specifications than the bundle of the original source database used to create the snapshot.

```bash
aws lightsail create-relational-database-from-snapshot 
   --relational-database-snapshot-name Database-Oregon-1-1566839359 
   --relational-database-name Database-1 
   --availability-zone us-west-2a 
   --relational-database-bundle-id micro_1_0 
   --no-publicly-accessible
```

**Output:**

```json
{
   "operations": [
      {
         "id": "ad6d9193-9d5c-4ea1-97ae-8fe6de600b4c",
         "resourceName": "Database-1",
         "resourceType": "RelationalDatabase",
         "createdAt": 1569867916.938,
         "location": {
            "availabilityZone": "us-west-2a",
            "regionName": "us-west-2"
         },
         "isTerminal": false,
         "operationType": "CreateRelationalDatabaseFromSnapshot",
         "status": "Started",
         "statusChangedAt": 1569867918.643
      }
   ]
}
```

- For API details, see [CreateRelationalDatabaseFromSnapshot](https://awscli.amazonaws.com/v2/documentation/api/latest/reference/lightsail/create-relational-database-from-snapshot.html) in *AWS CLI Command Reference*.

**create-relational-database-snapshot**

The following code example shows how to use `create-relational-database-snapshot`.

**AWS CLI**

To create a snapshot of a managed database
The following `create-relational-database-snapshot` example creates a snapshot of the specified managed database.

```bash
aws lightsail create-relational-database-snapshot \
   --relational-database-name Database1 \
   --relational-database-snapshot-name RelationalDatabaseSnapshot1
```

Output:

```json
{
   "operations": [
      {
         "id": "853667fb-ea91-4c02-8d20-8fc5fd43b9eb",
         "resourceName": "RelationalDatabaseSnapshot1",
         "resourceType": "RelationalDatabaseSnapshot",
         "createdAt": 1569868074.645,
         "location": {
            "availabilityZone": "all",
            "regionName": "us-west-2"
         },
         "isTerminal": false,
         "operationDetails": "Database1",
         "operationType": "CreateRelationalDatabaseSnapshot",
         "status": "Started",
         "statusChangedAt": 1569868074.645
      },
      {
         "id": "fbafa521-3cac-4be8-9773-1c143780b239",
         "resourceName": "Database1",
         "resourceType": "RelationalDatabase",
         "createdAt": 1569868074.645,
         "location": {
            "availabilityZone": "us-west-2a",
            "regionName": "us-west-2"
         },
         "isTerminal": false,
         "operationDetails": "RelationalDatabaseSnapshot1",
         "operationType": "CreateRelationalDatabaseSnapshot",
         "status": "Started",
         "statusChangedAt": 1569868074.645
      }
   ]
}
```
delete-auto-snapshot

The following code example shows how to use delete-auto-snapshot.

AWS CLI

To delete an automatic snapshot

The following delete-auto-snapshot example deletes the automatic snapshot 2019-10-10 of instance WordPress-1.

```bash
aws lightsail delete-auto-snapshot \
  --resource-name WordPress-1 \
  --date 2019-10-10
```

Output:

```
{
   "operations": [
      {
        "id": "31c36e09-3d52-46d5-b6d8-7EXAMPLE534a",
        "resourceName": "WordPress-1",
        "resourceType": "Instance",
        "createdAt": 1571088141.501,
        "location": {
          "availabilityZone": "us-west-2",
          "regionName": "us-west-2"
        },
        "isTerminal": true,
        "operationDetails": "DeleteAutoSnapshot-2019-10-10",
        "operationType": "DeleteAutoSnapshot",
        "status": "Succeeded"
      }
   ]
}
```

For more information, see Deleting automatic snapshots of instances or disks in Amazon Lightsail in the Lightsail Dev Guide.
delete-disk

The following code example shows how to use delete-disk.

AWS CLI

To delete a block storage disk

The following delete-disk example deletes the specified block storage disk.

```bash
aws lightsail delete-disk \
  --disk-name Disk-1
```

Output:

```json
{
  "operations": [
    {
      "id": "6378c70f-4d75-4f7a-ab66-730fca0bb2fc",
      "resourceName": "Disk-1",
      "resourceType": "Disk",
      "createdAt": 1569872887.864,
      "location": {
        "availabilityZone": "us-west-2a",
        "regionName": "us-west-2"
      },
      "isTerminal": true,
      "operationType": "DeleteDisk",
      "status": "Succeeded",
      "statusChangedAt": 1569872887.864
    }
  ]
}
```

• For API details, see DeleteDisk in AWS CLI Command Reference.

delete-disk-snapshot

The following code example shows how to use delete-disk-snapshot.
AWS CLI

To delete a snapshot of a block storage disk

The following delete-disk-snapshot example deletes the specified snapshot of a block storage disk

```
aws lightsail delete-disk-snapshot \
  --disk-snapshot-name DiskSnapshot-1
```

Output:

```
{
  "operations": [
    {
      "id": "d1e5766d-b81e-4595-ad5d-02afbccfd5d",
      "resourceName": "DiskSnapshot-1",
      "resourceType": "DiskSnapshot",
      "createdAt": 1569873552.79,
      "location": {
        "availabilityZone": "all",
        "regionName": "us-west-2"
      },
      "isTerminal": true,
      "operationType": "DeleteDiskSnapshot",
      "status": "Succeeded",
      "statusChangedAt": 1569873552.79
    }
  ]
}
```

- For API details, see [DeleteDiskSnapshot](#) in [AWS CLI Command Reference](#).

delete-domain

The following code example shows how to use delete-domain.

AWS CLI

To delete a domain (DNS zone)
The following delete-domain example deletes the specified domain and all of the entries in the domain (DNS records).

**Note:** Lightsail’s domain-related API operations are available in only the us-east-1 Region. If your CLI profile is configured to use a different Region, you must include the `--region us-east-1` parameter or the command fails.

```bash/aws lightsail delete-domain \
    --region us-east-1 \
    --domain-name example.com
```

Output:

```json
{
    "operation": {
        "id": "fcef5265-5af1-4a46-a3d7-90b5e18b9b32",
        "resourceName": "example.com",
        "resourceType": "Domain",
        "createdAt": 1569873788.13,
        "location": {
            "availabilityZone": "all",
            "regionName": "global"
        },
        "isTerminal": true,
        "operationType": "DeleteDomain",
        "status": "Succeeded",
        "statusChangedAt": 1569873788.13
    }
}
```

- For API details, see [DeleteDomain](#) in *AWS CLI Command Reference*.

### delete-domain-entry

The following code example shows how to use delete-domain-entry.

**AWS CLI**

**To delete a domain entry (DNS record)**

The following delete-domain-entry example deletes the specified domain entry from an existing domain.
**Note:** Lightsail's domain-related API operations are available in only the us-east-1 Region. If your CLI profile is configured to use a different Region, you must include the `--region us-east-1` parameter or the command fails.

```bash
aws lightsail delete-domain-entry \
    --region us-east-1 \
    --domain-name example.com \
    --domain-entry name=123.example.com,target=192.0.2.0,type=A
```

**Output:**

```
{
    "operation": {
        "id": "06eacd01-d785-420e-8daa-823150c7dca1",
        "resourceName": "example.com",
        "resourceType": "Domain",
        "createdAt": 1569874157.005,
        "location": {
            "availabilityZone": "all",
            "regionName": "global"
        },
        "isTerminal": true,
        "operationType": "DeleteDomainEntry",
        "status": "Succeeded",
        "statusChangedAt": 1569874157.005
    }
}
```

- For API details, see [DeleteDomainEntry](https://docs.aws.amazon.com/cli/latest/reference/lightsail/delete-domain-entry.html) in *AWS CLI Command Reference*.

**delete-instance**

The following code example shows how to use delete-instance.

**AWS CLI**

**To delete an instance**

The following delete-instance example deletes the specified instance.

```bash
aws lightsail delete-instance \
```
Output:

```json
{
   "operations": [
      {
         "id": "d77345a3-8f80-4d2e-b47d-aaa622718df2",
         "resourceName": "Disk-1",
         "resourceType": "Disk",
         "createdAt": 1569874357.469,
         "location": {
            "availabilityZone": "us-west-2a",
            "regionName": "us-west-2",
         },
         "isTerminal": false,
         "operationDetails": "WordPress-1",
         "operationType": "DetachDisk",
         "status": "Started",
         "statusChangedAt": 1569874357.469
      },
      {
         "id": "708fa606-2bfd-4e48-a2c1-0b856585b5b1",
         "resourceName": "WordPress-1",
         "resourceType": "Instance",
         "createdAt": 1569874357.465,
         "location": {
            "availabilityZone": "us-west-2a",
            "regionName": "us-west-2",
         },
         "isTerminal": false,
         "operationDetails": "Disk-1",
         "operationType": "DetachDisk",
         "status": "Started",
         "statusChangedAt": 1569874357.465
      },
      {
         "id": "3187e823-8acb-405d-b098-fad5ceb17bec",
         "resourceName": "WordPress-1",
         "resourceType": "Instance",
         "createdAt": 1569874357.829,
         "location": {
            "availabilityZone": "us-west-2a",
         }
      }
   ]
}
```
For API details, see `DeleteInstance` in *AWS CLI Command Reference*.

delete-instance-snapshot

The following code example shows how to use `delete-instance-snapshot`.

**AWS CLI**

```
aws lightsail delete-instance-snapshot \\
  --instance-snapshot-name WordPress-1-Snapshot-1
```

Output:

```
{
    "operations": [
        {
            "id": "14dad182-976a-46c6-bfd4-9480482bf0ea",
            "resourceName": "WordPress-1-Snapshot-1",
            "resourceType": "InstanceSnapshot",
            "createdAt": 1569874524.562,
            "location": {
                "availabilityZone": "all",
                "regionName": "us-west-2"
            },
            "isTerminal": true,
            "operationType": "DeleteInstanceSnapshot"
        }
    ]
}
```
For API details, see **DeleteInstanceSnapshot** in *AWS CLI Command Reference*.

### delete-key-pair

The following code example shows how to use `delete-key-pair`.

**AWS CLI**

**To delete a key pair**

The following `delete-key-pair` example deletes the specified key pair.

```
aws lightsail delete-key-pair \
   --key-pair-name MyPersonalKeyPair
```

**Output:**

```
{
   "operation": {
      "id": "81621463-df38-4810-b866-6e801a15abfb",
      "resourceName": "MyPersonalKeyPair",
      "resourceType": "KeyPair",
      "createdAt": 1569874626.466,
      "location": {
         "availabilityZone": "all",
         "regionName": "us-west-2"
      },
      "isTerminal": true,
      "operationType": "DeleteKeyPair",
      "status": "Succeeded",
      "statusChangedAt": 1569874626.685
   }
}
```

For API details, see **DeleteKeyPair** in *AWS CLI Command Reference*. 

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**Actions and scenarios**

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delete-known-host-keys

The following code example shows how to use delete-known-host-keys.

AWS CLI

To delete known host keys from an instance

The following delete-known-host-keys example deletes the known host key from the specified instance.

```bash
aws lightsail delete-known-host-keys 
   --instance-name Instance-1
```

Output:

```
{"operations": [ 
  {
    "id": "c61afe9c-45a4-41e6-a97e-d21364da3f5",
    "resourceName": "Instance-1",
    "resourceType": "Instance",
    "createdAt": 1569874760.201,
    "location": {
      "availabilityZone": "us-west-2a",
      "regionName": "us-west-2"
    },
    "isTerminal": true,
    "operationType": "DeleteKnownHostKeys",
    "status": "Succeeded",
    "statusChangedAt": 1569874760.201
  }
  ]
}
```

For more information, see Troubleshooting connection issues with the Amazon Lightsail browser-based SSH or RDP client in the Lightsail Dev Guide.

- For API details, see DeleteKnownHostKeys in AWS CLI Command Reference.

delete-load-balancer

The following code example shows how to use delete-load-balancer.
**AWS CLI**

**To delete a load balancer**

The following `delete-load-balancer` example deletes the specified load balancer and any associated TLS certificates.

```
aws lightsail delete-load-balancer \\
     --load-balancer-name MyFirstLoadBalancer
```

**Output:**

```json
{
   "operations": [
     {
       "id": "a8c968c7-72a3-4680-a714-af8f03eea535",
       "resourceName": "MyFirstLoadBalancer",
       "resourceType": "LoadBalancer",
       "createdAt": 1569875092.125,
       "location": {
         "availabilityZone": "all",
         "regionName": "us-west-2"
       },
       "isTerminal": true,
       "operationType": "DeleteLoadBalancer",
       "status": "Succeeded",
       "statusChangedAt": 1569875092.125
     },
     {
       "id": "f91a29fc-8ce3-4e69-a227-ea70ca890bf5",
       "resourceName": "MySecondCertificate",
       "resourceType": "LoadBalancerTlsCertificate",
       "createdAt": 1569875091.938,
       "location": {
         "availabilityZone": "all",
         "regionName": "us-west-2"
       },
       "isTerminal": false,
       "operationType": "DeleteLoadBalancerTlsCertificate",
       "status": "Started",
       "statusChangedAt": 1569875091.938
     }
   ]
}
```
For more information, see title in the guide.

- For API details, see DeleteLoadBalancer in AWS CLI Command Reference.

disable-load-balancer-tls-certificate

The following code example shows how to use disable-load-balancer-tls-certificate.

AWS CLI

To disable a TLS certificate for a load balancer

The following disable-load-balancer-tls-certificate example deletes the specific TLS certificate from the specified load balancer.

```bash
aws lightsail delete-load-balancer-tls-certificate \
  --load-balancer-name MyFirstLoadBalancer \
  --certificate-name MyFirstCertificate
```

Output:

```json
{
  "operations": [
    {
      "id": "50bec274-e45e-4caa-8a69-b763ef636583",
      "resourceName": "MyFirstCertificate",
      "resourceType": "LoadBalancerTlsCertificate",
      "createdAt": 1569875091.94,
      "location": {
        "availabilityZone": "all",
        "regionName": "us-west-2"
      },
      "isTerminal": false,
      "operationType": "DeleteLoadBalancerTlsCertificate",
      "status": "Started",
      "statusChangedAt": 1569875091.94
    }
  ]
}
```
delete-relational-database

The following code example shows how to use delete-relational-database.

AWS CLI

To delete a managed database

The following delete-relational-database example deletes the specified managed database.

```
aws lightsail delete-relational-database \
  --relational-database-name Database-1
```
Output:

```json
{
    "operations": [
        {
            "id": "3b0c41c1-053d-46f0-92a3-14f76141dc86",
            "resourceName": "Database-1",
            "resourceType": "RelationalDatabase",
            "createdAt": 1569875210.999,
            "location": {
                "availabilityZone": "us-west-2a",
                "regionName": "us-west-2"
            },
            "isTerminal": false,
            "operationType": "DeleteRelationalDatabase",
            "status": "Started",
            "statusChangedAt": 1569875210.999
        },
        {
            "id": "01ddeae8-a87a-4a4b-a1f3-092c71bf9180",
            "resourceName": "Database-1",
            "resourceType": "RelationalDatabase",
            "createdAt": 1569875211.029,
            "location": {
                "availabilityZone": "us-west-2a",
                "regionName": "us-west-2"
            },
            "isTerminal": false,
            "operationDetails": "Database-1-FinalSnapshot-1569875210793",
            "operationType": "CreateRelationalDatabaseSnapshot",
            "status": "Started",
            "statusChangedAt": 1569875211.029
        },
        {
            "id": "74d73681-30e8-4532-974e-1f23cd3f9f73",
            "resourceName": "Database-1-FinalSnapshot-1569875210793",
            "resourceType": "RelationalDatabaseSnapshot",
            "createdAt": 1569875211.029,
            "location": {
                "availabilityZone": "all",
                "regionName": "us-west-2"
            },
            "isTerminal": false,
            "operationDetails": "Database-1",
            "operationType": "CreateRelationalDatabaseSnapshot",
            "status": "Started",
            "statusChangedAt": 1569875211.029
        }
    ]
}
```
For API details, see [DeleteRelationalDatabase](https://docs.aws.amazon.com/cli/latest/reference/lightsail/delete-relational-database-snapshot) in *AWS CLI Command Reference*.

### delete-relational-database-snapshot

The following code example shows how to use `delete-relational-database-snapshot`.

**AWS CLI**

**To delete a snapshot of a managed database**

The following `delete-relational-database-snapshot` example deletes the specified snapshot of a managed database.

```
aws lightsail delete-relational-database-snapshot \
  --relational-database-snapshot-name Database-Oregon-1-1566839359
```

**Output:**

```json
{
  "operations": [
    {
      "id": "b99acae8-735b-4823-922f-30af580e3729",
      "resourceName": "Database-Oregon-1-1566839359",
      "resourceType": "RelationalDatabaseSnapshot",
      "createdAt": 1569875293.58,
      "location": {
        "availabilityZone": "all",
        "regionName": "us-west-2"
      },
      "isTerminal": true,
      "operationType": "DeleteRelationalDatabaseSnapshot",
      "status": "Succeeded",
      "statusChangedAt": 1569875293.58
    }
  ]
}
```
• For API details, see [DeleteRelationalDatabaseSnapshot](https://awscli.amazonaws.com/v2/documentation/api/latest/reference/lightsail/delete-relational-database-snapshot.html) in *AWS CLI Command Reference*.

**detach-static-ip**

The following code example shows how to use `detach-static-ip`.

**AWS CLI**

**To detach a static IP from an instance**

The following `detach-static-ip` example detaches static IP `StaticIp-1` from any attached instance.

```bash
aws lightsail detach-static-ip \
    --static-ip-name StaticIp-1
```

Output:

```json
{
    "operations": [
        {
            "id": "2a43d8a3-9f2d-4fe7-bdd0-eEXAMPLE3cf3",
            "resourceName": "StaticIp-1",
            "resourceType": "StaticIp",
            "createdAt": 1571088261.999,
            "location": {
                "availabilityZone": "all",
                "regionName": "us-west-2"
            },
            "isTerminal": true,
            "operationDetails": "MEAN-1",
            "operationType": "DetachStaticIp",
            "status": "Succeeded",
            "statusChangedAt": 1571088261.999
        },
        {
            "id": "41a7d40c-74e8-4d2e-a837-cEXAMPLEf747",
            "resourceName": "MEAN-1",
            "resourceType": "Instance",
```
For API details, see [DetachStaticIp](https://awscli.amazonaws.com/v2/documentation/api/current/reference/api/lightsail/detach-static-ip.html) in *AWS CLI Command Reference*.

**get-active-names**

The following code example shows how to use `get-active-names`.

**AWS CLI**

**To get active resource names**

The following `get-active-names` example returns the active resource names in the configured AWS Region.

```bash
aws lightsail get-active-names
```

**Output:**

```json
{
  "activeNames": [
    "WordPress-1",
    "StaticIp-1",
    "MEAN-1",
    "Plesk_Hosting(Stack_on_Ubuntu-1"
  ]
}
```

For API details, see [GetActiveNames](https://awscli.amazonaws.com/v2/documentation/api/current/reference/api/lightsail/get-active-names.html) in *AWS CLI Command Reference*. 
get-auto-snapshots

The following code example shows how to use get-auto-snapshots.

AWS CLI

To get the available automatic snapshots for an instance

The following get-auto-snapshots example returns the available automatic snapshots for instance WordPress-1.

```bash
aws lightsail get-auto-snapshots \
  --resource-name WordPress-1
```

Output:

```json
{
  "resourceName": "WordPress-1",
  "resourceType": "Instance",
  "autoSnapshots": [
   {
     "date": "2019-10-14",
     "createdAt": 1571033872.0,
     "status": "Success",
     "fromAttachedDisks": []
   },
   {
     "date": "2019-10-13",
     "createdAt": 1570947473.0,
     "status": "Success",
     "fromAttachedDisks": []
   },
   {
     "date": "2019-10-12",
     "createdAt": 1570861072.0,
     "status": "Success",
     "fromAttachedDisks": []
   },
   {
     "date": "2019-10-11",
     "createdAt": 1570774672.0,
     "status": "Success",
     "fromAttachedDisks": []
   }
}
```
For more information, see Keeping automatic snapshots of instances or disks in Amazon Lightsail in the Lightsail Dev Guide.

- For API details, see GetAutoSnapshots in AWS CLI Command Reference.

get-blueprints

The following code example shows how to use get-blueprints.

AWS CLI

To get the blueprints for new instances

The following get-blueprints example displays details about all of the available blueprints that can be used to create new instances in Amazon Lightsail.

```bash
aws lightsail get-blueprints
```

Output:

```json
{
  "blueprints": [
    {
      "blueprintId": "wordpress",
      "name": "WordPress",
      "group": "wordpress",
      "type": "app",
      "description": "Bitnami, the leaders in application packaging, and Automattic, the experts behind WordPress, have teamed up to offer this official WordPress image. This image is a pre-configured, ready-to-run image for running WordPress on Amazon Lightsail. WordPress is the world's most popular content management platform. Whether it's for an enterprise or small business website, or a personal or corporate blog, content authors can easily create content using its new Gutenberg editor, and developers can extend the base platform with additional features. Popular plugins like Jetpack, Akismet, All in One SEO Pack, WP Mail, Google Analytics for Wordpress, and Amazon Polly are all pre-installed in this image. Let's Encrypt SSL certificates are supported through an auto-configuration script.",
      "isActive": true,
```
LAMP (PHP 7)
- Description: LAMP with PHP 7.x certified by Bitnami greatly simplifies the development and deployment of PHP applications. It includes the latest versions of PHP 7.x, Apache and MySQL together with phpMyAdmin and popular PHP frameworks Zend, Symfony, CodeIgniter, CakePHP, Smarty, and Laravel. Other pre-configured components and PHP modules include FastCGI, ModSecurity, SQLite, Varnish, ImageMagick, xDebug, Xcache, OpenLDAP, Memcache, OAuth, PEAR, PECL, APC, GD and cURL. It is secure by default and supports multiple applications, each with its own virtual host and project directory. Let's Encrypt SSL certificates are supported through an auto-configuration script.
- isActive: true
- minPower: 0
- version: "7.1.28"
- versionCode: "1"
- licenseUrl: "https://d7umqicpi7263.cloudfront.net/eula/product/cb6af0d5-a3b2-4916-a36b-bccd414f5f21/12ab56cc-6a8c-4977-9611-dcd770824aad.txt"

Node.js
- Description: Node.js certified by Bitnami is a pre-configured, ready to run image for Node.js on Amazon EC2. It includes the latest version of Node.js, Apache, Python and Redis. The image supports multiple Node.js applications, each with its own virtual host and project directory. It is configured for production use and is secure by default, as all ports except HTTP, HTTPS and SSH ports are closed. Let's Encrypt SSL certificates are supported through an auto-configuration script. Developers benefit from instant access to a secure, update and consistent environment.
- isActive: true
- minPower: 0
- version: "0.12.7"
- versionCode: "1"
- productUrl: "https://aws.amazon.com/marketplace/pp/B00NN8Y43U"
- licenseUrl: "https://d7umqicpi7263.cloudfront.net/eula/product/7d426cb7-9522-4dd7-a56b-55dd8cc1c8d0/588fd495-6492-4610-b3e8-d15ce864454c.txt"
Node.js environment without having to manually install and configure multiple components and libraries.

For API details, see GetBlueprints in AWS CLI Command Reference.

get-bundles

The following code example shows how to use get-bundles.

AWS CLI

To get the bundles for new instances

The following get-bundles example displays details about all of the available bundles that can be used to create new instances in Amazon Lightsail.

```
aws lightsail get-bundles
```

Output:

```
{
  "bundles": [
    {
      "price": 3.5,
      "cpuCount": 1,
      "diskSizeInGb": 20,
      "bundleId": "nano_2_0",
      "instanceType": "nano",
    },
    ...
  ]
}
```
"isActive": true,
"name": "Nano",
"power": 300,
"ramSizeInGb": 0.5,
"transferPerMonthInGb": 1024,
"supportedPlatforms": [
  "LINUX_UNIX"
]
],
{
"price": 5.0,
"cpuCount": 1,
"diskSizeInGb": 40,
"bundleId": "micro_2_0",
"instanceType": "micro",
"isActive": true,
"name": "Micro",
"power": 500,
"ramSizeInGb": 1.0,
"transferPerMonthInGb": 2048,
"supportedPlatforms": [
  "LINUX_UNIX"
]
],
{
"price": 10.0,
"cpuCount": 1,
"diskSizeInGb": 60,
"bundleId": "small_2_0",
"instanceType": "small",
"isActive": true,
"name": "Small",
"power": 1000,
"ramSizeInGb": 2.0,
"transferPerMonthInGb": 3072,
"supportedPlatforms": [
  "LINUX_UNIX"
]
],
...
For API details, see [GetBundles](https://docs.aws.amazon.com/cli/latest/cli-reference/g) in *AWS CLI Command Reference*.

### get-cloud-formation-stack-records

The following code example shows how to use `get-cloud-formation-stack-records`.

**AWS CLI**

To get the CloudFormation stack records and their associated stacks

The following `get-cloud-formation-stack-records` example displays details about the CloudFormation stack records and their associated stacks used to create Amazon EC2 resources from exported Amazon Lightsail snapshots.

```
aws lightsail get-cloud-formation-stack-records
```

Output:

```
{
    "cloudFormationStackRecords": [
        {
            "name": "CloudFormationStackRecord-588a4243-e2d1-490d-8200-3a7513ecebdf",
            "createdAt": 1565301666.586,
            "location": {
                "availabilityZone": "all",
                "regionName": "us-west-2"
            },
            "resourceType": "CloudFormationStackRecord",
            "state": "Succeeded",
            "sourceInfo": [
                {
                    "resourceType": "ExportSnapshotRecord",
                    "name": "ExportSnapshotRecord-e02f23d7-0453-4aa9-9c95-91aa01a141dd",
                }
            ],
            "destinationInfo": {
```
For API details, see [GetCloudFormationStackRecords](https://docs.aws.amazon.com/cli/latest/reference/cloudformation/get-cloudformation-stack-records.html) in *AWS CLI Command Reference*.

**get-disk**

The following code example shows how to use `get-disk`.

**AWS CLI**

To get information about a block storage disk

The following `get-disk` example displays details about the disk Disk-1.

```
aws lightsail get-disk \
   --disk-name Disk-1
```

**Output:**

```
{
   "disk": {
      "name": "Disk-1",
      "arn": "arn:aws:lightsail:us-west-2:111122223333:Disk/c21c8a0f-0f2-44ae-9a23-bEXAMPLE8096",
      "supportCode": "6EXAMPLE3362/vol-0EXAMPLEf2f88b32f",
      "createdAt": 1566585439.587,
      "location": {
         "availabilityZone": "us-west-2a",
         "regionName": "us-west-2"
      },
      "resourceType": "Disk",
      "tags": [],
      "sizeInGb": 8,
      "isSystemDisk": false,
      "iops": 100,
      "path": "/dev/xvdf",
   }
}
For more information, see title in the guide.

- For API details, see GetDisk in AWS CLI Command Reference.

**get-disk-snapshot**

The following code example shows how to use get-disk-snapshot.

**AWS CLI**

To get information about a disk snapshot

The following get-disk-snapshot example displays details about the disk snapshot Disk-1-1566839161.

```bash
aws lightsail get-disk-snapshot \
   --disk-snapshot-name Disk-1-1566839161
```

Output:

```json
{
    "diskSnapshot": {
        "name": "Disk-1-1566839161",
        "arn": "arn:aws:lightsail:us-west-2:111122223333:DiskSnapshot/e2d0fa53-8ee0-41a0-8e56-0EXAMPLE1051",
        "supportCode": "6EXAMPLE3362/snap-0EXAMPLE06100d09",
        "createdAt": 1566839163.749,
        "location": {
            "availabilityZone": "all",
            "regionName": "us-west-2"
        },
        "resourceType": "DiskSnapshot",
        "tags": [],
        "sizeInGb": 8,
        "state": "completed",
        "progress": "100%",
    }
}
```
get-disk-snapshots

The following code example shows how to use get-disk-snapshots.

AWS CLI

To get information about all disk snapshots

The following get-disk-snapshots example displays details about all of the disk snapshots in the configured AWS Region.

```
aws lightsail get-disk-snapshots
```

Output:

```
{
  "diskSnapshots": [
    {
      "name": "Disk-2-1571090588",
      "supportCode": "6EXAMPLE3362/snap-0EXAMPLE1ca192a4",
      "createdAt": 1571090591.226,
      "location": {
        "availabilityZone": "all",
        "regionName": "us-west-2"
      },
      "resourceType": "DiskSnapshot",
      "tags": [],
      "sizeInGb": 8,
      "state": "completed",
      "progress": "100%",
    }
  ]
}
```
get-disks

The following code example shows how to use get-disks.

AWS CLI

To get information about all block storage disks

The following get-disks example displays details about all of the disks in the configured AWS Region.

```
aws lightsail get-disks
```
Output:

```json
{
    "disks": [
        {
            "name": "Disk-2",
            "arn": "arn:aws:lightsail:us-west-2:111122223333:Disk/6a343ff8-6341-422d-86e2-bEXAMPLE16c2",
            "supportCode": "6EXAMPLE3362/vol-0EXAMPLE929602087",
            "createdAt": 1571090461.634,
            "location": {
                "availabilityZone": "us-west-2a",
                "regionName": "us-west-2"
            },
            "resourceType": "Disk",
            "tags": [],
            "sizeInGb": 8,
            "isSystemDisk": false,
            "iops": 100,
            "state": "available",
            "isAttached": false,
            "attachmentState": "detached"
        },
        {
            "name": "Disk-1",
            "arn": "arn:aws:lightsail:us-west-2:111122223333:Disk/c21cfb0a-07f2-44ae-9a23-bEXAMPLE8096",
            "supportCode": "6EXAMPLE3362/vol-0EXAMPLEf2f88b32f",
            "createdAt": 1566585439.587,
            "location": {
                "availabilityZone": "us-west-2a",
                "regionName": "us-west-2"
            },
            "resourceType": "Disk",
            "tags": [],
            "sizeInGb": 8,
            "isSystemDisk": false,
            "iops": 100,
            "path": "/dev/xvdf",
            "state": "in-use",
            "attachedTo": "WordPress_Multisite-1",
            "isAttached": true,
            "attachmentState": "attached"
        }
    ]
}
```
get-domain

The following code example shows how to use get-domain.

AWS CLI

To get information about a domain

The following get-domain example displays details about the domain example.com.

Note: Lightsail’s domain-related API operations are available in only the us-east-1 AWS Region. If your CLI profile is configured to use a different Region, you must include the `--region us-east-1` parameter or the command fails.

```bash
aws lightsail get-domain \
  --domain-name example.com \
  --region us-east-1
```

Output:

```json
{
    "domain": {
        "name": "example.com",
        "arn": "arn:aws:lightsail:global:111122223333:Domain/28cda903-3f15-44b2-9baf-3EXAMPLEb304",
        "supportCode": "6EXAMPLEE3362//hostedzone/ZEXAMPLEDNGSC1",
        "createdAt": 1570728588.6,
        "location": {
            "availabilityZone": "all",
            "regionName": "global"
        },
        "resourceType": "Domain",
        "tags": [],
        "domainEntries": [
            {
                "id": "-1682899164",
                "name": "example.com",
            }
        ]
    }
}
```
"target": "192.0.2.0",
"isAlias": false,
"type": "A"
},
{
  "id": "1703104243",
  "name": "example.com",
  "target": "ns-137.awsdns-17.com",
  "isAlias": false,
  "type": "NS"
},
{
  "id": "-1038331153",
  "name": "example.com",
  "target": "ns-1710.awsdns-21.co.uk",
  "isAlias": false,
  "type": "NS"
},
{
  "id": "-2107289565",
  "name": "example.com",
  "target": "ns-692.awsdns-22.net",
  "isAlias": false,
  "type": "NS"
},
{
  "id": "1582095705",
  "name": "example.com",
  "target": "ns-1436.awsdns-51.org",
  "isAlias": false,
  "type": "NS"
},
{
  "id": "-1769796132",
  "name": "example.com",
  "target": "ns-1710.awsdns-21.co.uk. awsdns-hostmaster.amazon.com. 1 7200 900 1209600 86400",
  "isAlias": false,
  "type": "SOA"
}
• For API details, see [GetDomain](https://aws.amazon.com/documentation/cli/command-reference/) in *AWS CLI Command Reference*.

### get-domains

The following code example shows how to use `get-domains`.

**AWS CLI**

**To get information about all domains**

The following `get-domains` example displays details about all of the domains in the configured AWS Region.

**Note:** Lightsail's domain-related API operations are available in only the `us-east-1` AWS Region. If your CLI profile is configured to use a different Region, you must include the `--region us-east-1` parameter or the command fails.

```bash
aws lightsail get-domains \
   --region us-east-1
```

**Output:**

```json
{
   "domains": [
      {
         "name": "example.com",
         "arn": "arn:aws:lightsail:global:111122223333:Domain/28cda903-3f15-44b2-9baf-3EXAMPLEb304",
         "supportCode": "6EXAMPLE3362//hostedzone/ZEXAMPLEONGSC1",
         "createdAt": 1570728588.6,
         "location": {
            "availabilityZone": "all",
            "regionName": "global"
         },
         "resourceType": "Domain",
         "tags": [],
         "domainEntries": [
            {
               "id": "-1682899164",
               "name": "example.com",
               "target": "192.0.2.0",
               "isAlias": false,
            
```
"type": "A",
},
{
  "id": "1703104243",
  "name": "example.com",
  "target": "ns-137.awsdns-17.com",
  "isAlias": false,
  "type": "NS"
},
{
  "id": "-1038331153",
  "name": "example.com",
  "target": "ns-4567.awsdns-21.co.uk",
  "isAlias": false,
  "type": "NS"
},
{
  "id": "-2107289565",
  "name": "example.com",
  "target": "ns-333.awsdns-22.net",
  "isAlias": false,
  "type": "NS"
},
{
  "id": "1582095705",
  "name": "example.com",
  "target": "ns-1111.awsdns-51.org",
  "isAlias": false,
  "type": "NS"
},
{
  "id": "-1769796132",
  "name": "example.com",
  "target": "ns-1234.awsdns-21.co.uk. awsdns-hostmaster.amazon.com. 1 7200 900 1209600 86400",
  "isAlias": false,
  "type": "SOA"
},
{
  "id": "1029454894",
  "name": "_dead6a124ede046a0319eb44a4eb3cbc.example.com",
  "target": "_be133b0a0899fb7b6bf79d9741d1a383.hkvuiqjoua.acm-validations.aws",
  "isAlias": false,
"type": "CNAME"
}
]
}
{
"name": "example.net",
"arn": "arn:aws:lightsail:global:111122223333:Domain/9c9f0d70-c92e-4753-86c2-6EXAMPLE029d",
"supportCode": "6EXAMPLE3362//hostedzone/ZEXAMPLE5TPKMV",
"createdAt": 1556661071.384,
"location": {
  "availabilityZone": "all",
  "regionName": "global"
},
"resourceType": "Domain",
"tags": [],
"domainEntries": [
  {
    "id": "-766320943",
    "name": "example.net",
    "target": "192.0.2.2",
    "isAlias": false,
    "type": "A"
  },
  {
    "id": "-453913825",
    "name": "example.net",
    "target": "ns-123.awsdns-10.net",
    "isAlias": false,
    "type": "NS"
  },
  {
    "id": "1553601564",
    "name": "example.net",
    "target": "ns-4444.awsdns-47.co.uk",
    "isAlias": false,
    "type": "NS"
  },
  {
    "id": "1653797661",
    "name": "example.net",
    "target": "ns-7890.awsdns-61.org",
    "isAlias": false,
    "type": "NS"
{
    "id": "706414698",
    "name": "example.net",
    "target": "ns-123.awsdns-44.com",
    "isAlias": false,
    "type": "NS"
},
{
    "id": "337271745",
    "name": "example.net",
    "target": "ns-4444.awsdns-47.co.uk. awsdns-hostmaster.amazon.com. 1 7200 900 1209600 86400",
    "isAlias": false,
    "type": "SOA"
},
{
    "id": "-1785431096",
    "name": "www.example.net",
    "target": "192.0.2.2",
    "isAlias": false,
    "type": "A"
}
]}
{
    "name": "example.org",
    "arn": "arn:aws:lightsail:global:111122223333:Domain/f0f13ba3-3df0-4fdc-8ebb-1EXAMPLEf26e",
    "supportCode": "6EXAMPLE3362//hostedzone/ZEXAMPLEAFO38",
    "createdAt": 1556661199.106,
    "location": {
        "availabilityZone": "all",
        "regionName": "global"
    },
    "resourceType": "Domain",
    "tags": [],
    "domainEntries": [
        {
            "id": "2065301345",
            "name": "example.org",
            "target": "192.0.2.4",
            "isAlias": false,
            "type": "A"
        }
    ]
}
{
    "id": "+447198516",
    "name": "example.org",
    "target": "ns-123.awsdns-45.com",
    "isAlias": false,
    "type": "NS"
},
{
    "id": "136463022",
    "name": "example.org",
    "target": "ns-9999.awsdns-15.co.uk",
    "isAlias": false,
    "type": "NS"
},
{
    "id": "1395941679",
    "name": "example.org",
    "target": "ns-555.awsdns-01.net",
    "isAlias": false,
    "type": "NS"
},
{
    "id": "872052569",
    "name": "example.org",
    "target": "ns-6543.awsdns-38.org",
    "isAlias": false,
    "type": "NS"
},
{
    "id": "1001949377",
    "name": "example.org",
    "target": "ns-1234.awsdns-15.co.uk. awsdns-hostmaster.amazon.com. 1 7200 900 1209600 86400",
    "isAlias": false,
    "type": "SOA"
},
{
    "id": "1046191192",
    "name": "www.example.org",
    "target": "192.0.2.4",
    "isAlias": false,
    "type": "A"
}
For API details, see [GetDomains](#) in *AWS CLI Command Reference*.

**get-export-snapshot-record**

The following code example shows how to use `get-export-snapshot-record`.

**AWS CLI**

To get the records of snapshots exported to Amazon EC2

The following `get-export-snapshot-record` example displays details about Amazon Lightsail instance or disk snapshots exported to Amazon EC2.

```bash
aws lightsail get-export-snapshot-records
```

**Output:**

```json
{
    "exportSnapshotRecords": [
        {
            "name": "ExportSnapshotRecord-d2da10ce-0b3c-4ae1-ab3a-2EXAMPLEa586",
            "arn": "arn:aws:lightsail:us-west-2:111122223333:ExportSnapshotRecord/076c7060-b0cc-4162-98f0-2EXAMPLEe28e",
            "createdAt": 1543534665.678,
            "location": {
                "availabilityZone": "all",
                "regionName": "us-west-2"
            },
            "resourceType": "ExportSnapshotRecord",
            "state": "Succeeded",
            "sourceInfo": {
                "resourceType": "InstanceSnapshot",
                "createdAt": 1540339310.706,
                "name": "WordPress-512MB-Oregon-1-1540339219",
                "fromResourceName": "WordPress-512MB-Oregon-1"
            }
        }
    ]
}
```
"fromResourceArn": "arn:aws:lightsail:us-west-2:111122223333:Instance/4b8f1f24-4e4d1-4cf3-88ff-cEXAMPLEa397",
"instanceSnapshotInfo": {
  "fromBundleId": "nano_2_0",
  "fromBlueprintId": "wordpress_4_9_8",
  "fromDiskInfo": [
    {
      "path": "/dev/sda1",
      "sizeInGb": 20,
      "isSystemDisk": true
    }
  ]
},
"destinationInfo": {
  "id": "ami-0EXAMPLEc0d65058e",
  "service": "Aws::EC2::Image"
},
{ "name": "ExportSnapshotRecord-1c94e884-40ff-4fe1-9302-0EXAMPLE14c2",
  "createdAt": 1543432110.2,
  "location": {
    "availabilityZone": "all",
    "regionName": "us-west-2"
  },
  "resourceType": "ExportSnapshotRecord",
  "state": "Succeeded",
  "sourceInfo": {
    "resourceType": "InstanceSnapshot",
    "createdAt": 1540833603.545,
    "name": "LAMP_PHP_5-512MB-Oregon-1-1540833565",
    "fromResourceName": "LAMP_PHP_5-512MB-Oregon-1",
    "instanceSnapshotInfo": {
      "fromBundleId": "nano_2_0",
      "fromBlueprintId": "lamp_5_6_37_2",
      "fromDiskInfo": [
        {"path": "/dev/sda1",
          "sizeInGb": 20,
          "isSystemDisk": true
        }
      ]
    }
  }
}
For API details, see [GetExportSnapshotRecord](https://docs.aws.amazon.com/cli/latest/reference/lightsail/get-export-snapshot-record.html) in *AWS CLI Command Reference*.

**get-instance**

The following code example shows how to use `get-instance`.

**AWS CLI**

**To get information about an instance**

The following `get-instance` example displays details about the instance MEAN-1.

```bash
aws lightsail get-instance \n  --instance-name MEAN-1
```

**Output**:

```json
{
  "instance": {
    "name": "MEAN-1",
    "supportCode": "6EXAMPLE3362/i-05EXAMPLE407c97d3",
    "createdAt": 1570635023.124,
    "location": {
      "availabilityZone": "us-west-2a",
      "regionName": "us-west-2"
    }
  }
}
```
"resourceType": "Instance",
"tags": [],
"blueprintId": "mean_4_0_9",
"blueprintName": "MEAN",
"bundleId": "medium_2_0",
"isStaticIp": false,
"privateIpAddress": "192.0.2.0",
"publicIpAddress": "192.0.2.0",
"hardware": {
  "cpuCount": 2,
  "disks": [
    {
      "createdAt": 1570635023.124,
      "sizeInGb": 80,
      "isSystemDisk": true,
      "iops": 240,
      "path": "/dev/sda1",
      "attachedTo": "MEAN-1",
      "attachmentState": "attached"
    }
  ],
  "ramSizeInGb": 4.0
},
"networking": {
  "monthlyTransfer": {
    "gbPerMonthAllocated": 4096
  },
  "ports": [
    {
      "fromPort": 80,
      "toPort": 80,
      "protocol": "tcp",
      "accessFrom": "Anywhere (0.0.0.0/0)",
      "accessType": "public",
      "commonName": ",",
      "accessDirection": "inbound"
    },
    {
      "fromPort": 22,
      "toPort": 22,
      "protocol": "tcp",
      "accessFrom": "Anywhere (0.0.0.0/0)",
      "accessType": "public",
      "commonName": ",",
      "accessDirection": "inbound"
    }
  ]
}
For API details, see `GetInstance` in *AWS CLI Command Reference*. 

**get-instance-access-details**

The following code example shows how to use `get-instance-access-details`.

**AWS CLI**

**To get host key information for an instance**

The following `get-instance-access-details` example displays host key information for instance `WordPress_Multisite-1`.

```
aws lightsail get-instance-access-details \
  --instance-name WordPress_Multisite-1
```

Output:

```
{
  "accessDetails": {
    
    "fromPort": 443,
    "toPort": 443,
    "protocol": "tcp",
    "accessFrom": "Anywhere (0.0.0.0/0)",
    "accessType": "public",
    "commonName": "",
    "accessDirection": "inbound"
  }
}
```
"certKey": "ssh-rsa-cert-v01@openssh.com


"example" { "certKey": "ssh-rsa-cert-v01@openssh.com
AEXAMPLEaC1yc2E	YvdC12MDFAb3BlbnNzaC5jb20AAAAGf076D73pmpD0fpXZVMm5491aEAYY9cHqAJ3fnML8vEXAMPLE2eBWJyQv7n0l
i0:s+966h5s8x8UD791PB7qSUESd5VZGFtytrykfQnjiwqe7E7V5agzvbjlLj26Fb37EKda9HFvc0u8pWbvk7Y7n9w29+xMfQm9xVz0xZmq8x8uld3jpRLCMtviofWQU
KIEXAMPLEAAAAAABAAAAAL00Mz0zMD4aMz40Qn1MTy7mJn40mp6UWlndHk4ueIRSG9STitOTG5QSEE9PQAASAAaAAL
+iL+B+ozNBuACdNL9Y67x7qPV/R7XhTc21+2a+8+GuvPk/K29dqDlMlNAXAMPLE+yYN
tiXm7O8ogziK+71DB7uxU4qvghm4n+gqz9nKwYVwVe2+0XLxV7cnWPB7iuHq
+E3LukrV4ZFw9jp7x7DfDNKfMwXgWlg11SRkImEXAMPLEEHjrf1RqC
QH6TpwCpxf8uvuWvDtfkE/Sfa5BCzbeG9I1Uu94Uad8nHcB5fM9qiK7Kcek7Y9XFM
KwmM7pcWjBcLDMO7n9bnbcv6m8zoB2N2YLM5sdW7berEXAMPLEObqfdtYJYHHe11EuyEJsf1wnU35DJIglgzcPAV
+ZlbqyUCXzf00lsa++HE85f0
FRq9YSBSHmmebeb0f1PhmgSmqLeyhlbr6wwWIDbREXAMPLEJZ49H7RdXqDyYrzPwRgcr0Q2ELOtAajnpQ8UZq
AQte0xNSpFL0J490WtacCGRAjhlhbAx7K1t/1ZWXo6c+iijq8cl1r37EXAMPLE/
e89GC89KcmKClFgqniDAugF8qofIbq3Z00giAAYCVxC14iL468NhVxyoWuXQPBRQSEXAMPLEWm74tDL9tFNc37tSe
Oz0cT+c4sAAAIAIAAAAAABA3c2ECAAncY
L0Di5nLwhExo4aHqMgd0m00oLLAYx6OQH9F0TM9EXAMPLE961rZSCM0n7ZgsWNlnL00wZqDoG
+rtJ4N0B7H0vwns4ynUFbqN3qFGeGe31KwXL41vIi5y7sDk8a10LMrKjI11E1c118u0RobLOXOYEXAMPLEaUCeX
+10+WEXAMPLEg6y4U4ZvEB3xryrDpvys5BFmKf5qSpIacvnkogoL0GssZ2XMPm5J6gN40BpQlLtpj9sNmAgZPcaUjhqkh
+nx9094N2U2PwBv5Ua1g6mpug9xbwnO1m2t34Je1LKTxcJ6zzS8W0c0KpAm5c4hWks3Mbyut52jav/h4s
+BhryGptzfwe5qRXEXAMPLEHzQz3YFgZYoB/1Lk3NHHc0ihsiAfYyMei0BFZT1/F7C3M0zzoAeETkIdg06
Mw6UDqMPozyQK116ALFhYCOZG9drWcoRa741m4kY9T0P028Za8sgDHm1wpxLQ9gixon50HP8a/M/
sEXAMPLEr2+f6kn+w18to05L6+VKoPlXagaqZ/fBYEXAMPLEMQHjnLM1JYNvtEEhp+T11nZXhumiuwWf
Ht04m0AVpXrIsDx10s2XY=

"ipAddress": "192.0.2.0",

"privateKey": "-----BEGIN RSA PRIVATE KEY-----

--------BEGIN RSA PRIVATE KEY------

Actions and scenarios

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Actions and scenarios
• For API details, see [GetInstanceAccessDetails](#) in *AWS CLI Command Reference*.

**get-instance-metric-data**

The following code example shows how to use `get-instance-metric-data`.

**AWS CLI**

**To get metric data for an instance**

The following `get-instance-metric-data` example returns the average percent of CPUUtilization every 7200 seconds (2 hours) between 1571342400 and 1571428800 for instance MEAN-1.

We recommend that you use a unix time converter to identify the start and end times.

```bash
aws lightsail get-instance-metric-data \
  --instance-name MEAN-1 \
  --metric-name CPUUtilization \
  --period 7200 \
  --start-time 1571342400 \
  --end-time 1571428800 \
  --unit Percent \
  --statistics Average
```

**Output:**

```json
{
  "metricName": "CPUUtilization",
  "metricData": [
    {
      "average": 0.26113718770120725,
      "timestamp": 1571342400.0,
      "unit": "Percent"
    },
    {
      "average": 0.26861268928111953,
      "timestamp": 1571428800.0,
      "unit": "Percent"
    }
  ]
}
```
"timestamp": 1571392800.0,
"unit": "Percent"
},
{
    "average": 0.28187475104748777,
    "timestamp": 1571378400.0,
    "unit": "Percent"
},
{
    "average": 0.2651936960458352,
    "timestamp": 1571421600.0,
    "unit": "Percent"
},
{
    "average": 0.2561856213712188,
    "timestamp": 1571371200.0,
    "unit": "Percent"
},
{
    "average": 0.3021383254607764,
    "timestamp": 1571356800.0,
    "unit": "Percent"
},
{
    "average": 0.2618381649223539,
    "timestamp": 1571407200.0,
    "unit": "Percent"
},
{
    "average": 0.26331929394825787,
    "timestamp": 1571400000.0,
    "unit": "Percent"
},
{
    "average": 0.2576348407007818,
    "timestamp": 1571385600.0,
    "unit": "Percent"
},
{
    "average": 0.2513008454658378,
    "timestamp": 1571364000.0,
    "unit": "Percent"
}
For API details, see [GetInstanceMetricData](awscli://lightsail.get-instance-metric-data) in AWS CLI Command Reference.

### get-instance-port-states

The following code example shows how to use `get-instance-port-states`.

**AWS CLI**

**To get firewall information for an instance**

The following `get-instance-port-states` example returns the firewall ports configured for instance `MEAN-1`.

```
aws lightsail get-instance-port-states \
   --instance-name MEAN-1
```

**Output:**

```
{
   "portStates": [
   {
   "fromPort": 80,
   "toPort": 80,
   "protocol": "tcp",
   "state": "open"
   },
   {
   "fromPort": 22,
   "toPort": 22,
   ```
For API details, see [GetInstancePortStates](#) in *AWS CLI Command Reference*.

### get-instance-snapshot

The following code example shows how to use `get-instance-snapshot`.

**AWS CLI**

**To get information about a specified instance snapshot**

The following `get-instance-snapshot` example displays details about the specified instance snapshot.

```bash
aws lightsail get-instance-snapshot \
  --instance-snapshot-name MEAN-1-1571419854
```

**Output:**

```json
{
  "instanceSnapshot": {
    "name": "MEAN-1-1571419854",
    "supportCode": "6EXAMPLE3362/ami-0EXAMPLE67a73020d",
    "createdAt": 1571419891.927,
    "location": {
      "availabilityZone": "all",
      "regionName": "us-west-2"
    }
  }
}
• For API details, see `GetInstanceSnapshot` in *AWS CLI Command Reference*.

get-instance-snapshots

The following code example shows how to use `get-instance-snapshots`.

AWS CLI

To get information about all of your instance snapshots

The following `get-instance-snapshots` example displays details about all of the instance snapshots in the configured AWS Region.

```
aws lightsail get-instance-snapshots
```

Output:

```
{
   "instanceSnapshots": [
   {
      "name": "MEAN-1-1571421498",
      "arn": "arn:aws:lightsail:us-west-2:111122223333:InstanceSnapshot/a20e6ebe-b0ee-4ae4-a750-3EXAMPLEeb0c",
      "supportCode": "6EXAMPLE3362/ami-0EXAMPLEe33cabfa1",
      "createdAt": 1571421527.755,
      "location": {
         "availabilityZone": "all",
      }
   }
   ]
}
```
"regionName": "us-west-2",
"resourceType": "InstanceSnapshot",
"tags": [
    {
        "key": "no_delete"
    }
],
"state": "available",
"fromAttachedDisks": [],
"fromInstanceName": "MEAN-1",
"fromBlueprintId": "wordpress_5_1_1_2",
"fromBundleId": "micro_2_0",
"isFromAutoSnapshot": false,
"sizeInGb": 40
],
{
    "name": "MEAN-1-1571419854",
    "supportCode": "6EXAMPLE3362/ami-0EXAMPLE67a73020d",
    "createdAt": 1571419891.927,
    "location": {
        "availabilityZone": "all",
        "regionName": "us-west-2"
    },
    "resourceType": "InstanceSnapshot",
    "tags": [],
    "state": "available",
    "fromAttachedDisks": [],
    "fromInstanceName": "MEAN-1",
    "fromInstanceArn": "arn:aws:lightsail:us-west-2:111122223333:Instance/bd470fc5-a68b-44c5-8dbc-8EXAMPLEbada",
    "fromBlueprintId": "mean_4_0_9",
    "fromBundleId": "medium_2_0",
    "isFromAutoSnapshot": false,
    "sizeInGb": 80
}
]
}

get-instance-state

The following code example shows how to use get-instance-state.

AWS CLI

To get information about the state of an instance

The following get-instance-state example returns the state of the specified instance.

```
aws lightsail get-instance-state \\
--instance-name MEAN-1
```

Output:

```
{
   "state": {
      "code": 16,
      "name": "running"
   }
}
```

• For API details, see [GetInstanceState](https://docs.aws.amazon.com/AWSLightsail/latest/APIReference/API_GetInstanceState.html) in *AWS CLI Command Reference*.

get-instances

The following code example shows how to use get-instances.

AWS CLI

To get information about all instances

The following get-instances example displays details about all of the instances in the configured AWS Region.

```
aws lightsail get-instances
```

Output:

```
{
   "instances": [
      {
```

Actions and scenarios
"name": "Windows_Server_2016-1",
"supportCode": "62EXAMPLE362/i-0bEXAMPLE71a686b9",
"createdAt": 1571332358.665,
"location": {
    "availabilityZone": "us-west-2a",
    "regionName": "us-west-2"
},
"resourceType": "Instance",
"tags": [],
"blueprintId": "windows_server_2016",
"blueprintName": "Windows Server 2016",
"bundleId": "small_win_2_0",
"isStaticIp": false,
"privateIpAddress": "192.0.2.0",
"publicIpAddress": "192.0.2.0",
"hardware": {
    "cpuCount": 1,
    "disks": [
        {
            "createdAt": 1571332358.665,
            "sizeInGb": 60,
            "isSystemDisk": true,
            "iops": 180,
            "path": "/dev/sda1",
            "attachedTo": "Windows_Server_2016-1",
            "attachmentState": "attached"
        },
        {
            "name": "my-disk-for-windows-server",
            "supportCode": "6EXAMPLE3362/vol-0EXAMPLEb2b99ca3d",
            "createdAt": 1571355063.494,
            "location": {
                "availabilityZone": "us-west-2a",
                "regionName": "us-west-2"
            },
            "resourceType": "Disk",
            "tags": [],
            "sizeInGb": 128,
            "isSystemDisk": false,
            "iops": 384,
        }
    ]
}
"path": "/dev/xvdf",
"state": "in-use",
"attachedTo": "Windows_Server_2016-1",
"isAttached": true,
"attachmentState": "attached"
},
"ramSizeInGb": 2.0
},
"networking": {
"monthlyTransfer": {
"gbPerMonthAllocated": 3072
},
"ports": [
{
"fromPort": 80,
"toPort": 80,
"protocol": "tcp",
"accessFrom": "Anywhere (0.0.0.0/0)",
"accessType": "public",
"commonName": "",
"accessDirection": "inbound"
},
{
"fromPort": 22,
"toPort": 22,
"protocol": "tcp",
"accessFrom": "Anywhere (0.0.0.0/0)",
"accessType": "public",
"commonName": "",
"accessDirection": "inbound"
},
{
"fromPort": 3389,
"toPort": 3389,
"protocol": "tcp",
"accessFrom": "Anywhere (0.0.0.0/0)",
"accessType": "public",
"commonName": "",
"accessDirection": "inbound"
}]
},
"state": {
"isSystemDisk": false,
"iops": 100,
"path": "/dev/xvdf",
"state": "in-use",
"attachedTo": "MEAN-1",
"isAttached": true,
"attachmentState": "attached"
},
{
"createdAt": 1570635023.124,
"sizeInGb": 80,
"isSystemDisk": true,
"iops": 240,
"path": "/dev/sda1",
"attachedTo": "MEAN-1",
"attachmentState": "attached"
},
"ramSizeInGb": 4.0
},
"networking": {
"monthlyTransfer": {
"gbPerMonthAllocated": 4096
},
"ports": [
{
"fromPort": 80,
"toPort": 80,
"protocol": "tcp",
"accessFrom": "Anywhere (0.0.0.0/0)",
"accessType": "public",
"commonName": "",
"accessDirection": "inbound"
},
{
"fromPort": 22,
"toPort": 22,
"protocol": "tcp",
"accessFrom": "Anywhere (0.0.0.0/0)",
"accessType": "public",
"commonName": "",
"accessDirection": "inbound"
},
{}}
{
  "fromPort": 443,
  "toPort": 443,
  "protocol": "tcp",
  "accessFrom": "Anywhere (0.0.0.0/0)",
  "accessType": "public",
  "commonName": "",
  "accessDirection": "inbound"
}
]
",
"state": {
  "code": 16,
  "name": "running"
},
"username": "bitnami",
"sshKeyName": "MyTestKey"
}
]
}

• For API details, see GetInstances in AWS CLI Command Reference.

get-key-pair

The following code example shows how to use get-key-pair.

AWS CLI

To get information about a key pair

The following get-key-pair example displays details about the specified key pair.

```bash
aws lightsail get-key-pair \
    --key-pair-name MyKey1
```

Output:

```json
{
  "keyPair": {
    "name": "MyKey1",
```
For API details, see [GetKeyPair](#) in *AWS CLI Command Reference*.

### get-key-pairs

The following code example shows how to use `get-key-pairs`.

**AWS CLI**

To get information about all key pairs

The following `get-key-pairs` example displays details about all of the key pairs in the configured AWS Region.

```bash
aws lightsail get-key-pairs
```

**Output:**

```
{
   "keyPairs": [
   {
      "name": "MyKey1",
      "supportCode": "6EXAMPLE3362/MyKey1",
      "createdAt": 1571255026.975,
      "location": {
         "availabilityZone": "all",
         "regionName": "us-west-2"
      }
   }
   
```

---

Actions and scenarios
For API details, see [GetKeyPairs](https://docs.aws.amazon.com/cli/latest/reference/lightsail/key-pair-get.html) in *AWS CLI Command Reference*.

**get-load-balancer**

The following code example shows how to use `get-load-balancer`.

**AWS CLI**

To get information about a load balancer

The following `get-load-balancer` example displays details about the specified load balancer.

```bash
aws lightsail get-load-balancer \
--load-balancer-name LoadBalancer-1
```

Output:

```
{
   "loadBalancer": {
      "name": "LoadBalancer-1",
      "arn": "arn:aws:lightsail:us-west-2:111122223333:LoadBalancer/40486b2b-1ad0-4152-83e4-cEXAMPLE6f4b",
      "supportCode": "6EXAMPLE3362/arn:aws:elasticloadbalancing:us-west-2:333322221111:loadbalancer/app/bEXAMPLE128cb59d86f946a9395dd304/1EXAMPLE8dd9d77e",
      "createdAt": 1571677906.723,
      "location": {
         "availabilityZone": "all",
         "regionName": "us-west-2"
      },
      "resourceType": "LoadBalancer",
      "tags": [],
      "dnsName": "bEXAMPLE128cb59d86f946a9395dd304-1486911371.us-west-2.elb.amazonaws.com",
```

---

*Actions and scenarios*
"state": "active",
"protocol": "HTTP",
"publicPorts": [
  80
],
"healthCheckPath": "/",
"instancePort": 80,
"instanceHealthSummary": [
  {
    "instanceName": "MEAN-3",
    "instanceHealth": "healthy"
  },
  {
    "instanceName": "MEAN-1",
    "instanceHealth": "healthy"
  },
  {
    "instanceName": "MEAN-2",
    "instanceHealth": "healthy"
  }
],
"tlsCertificateSummaries": [
  {
    "name": "example-com",
    "isAttached": false
  }
],
"configurationOptions": {
  "SessionStickinessEnabled": "false",
  "SessionStickiness_LB_CookieDurationSeconds": "86400"
}
}

- For API details, see [GetLoadBalancer](https://docs.aws.amazon.com/cli/latest/reference/elb/get-load-balancer-tls-certificates) in *AWS CLI Command Reference*.

**get-load-balancer-tls-certificates**

The following code example shows how to use `get-load-balancer-tls-certificates`.

**AWS CLI**

To get information about TLS certificates for a load balancer
The following `get-load-balancer-tls-certificates` example displays details about the TLS certificates for the specified load balancer.

```
aws lightsail get-load-balancer-tls-certificates \
   --load-balancer-name LoadBalancer-1
```

Output:

```json
{
   "tlsCertificates": [
       {
           "name": "example-com",
           "arn": "arn:aws:lightsail:us-west-2:111122223333:LoadBalancerTlsCertificate/d7bf4643-6a02-4cd4-b3c4-fEXAMPLE9b4d",
           "supportCode": "6EXAMPLE3362/arn:aws:acm:us-west-2:333322221111:certificate/9af8e32c-a54e-4a67-8c63-cEXAMPLEb314",
           "createdAt": 1571678025.3,
           "location": {
               "availabilityZone": "all",
               "regionName": "us-west-2"
           },
           "resourceType": "LoadBalancerTlsCertificate",
           "loadBalancerName": "LoadBalancer-1",
           "isAttached": false,
           "status": "ISSUED",
           "domainName": "example.com",
           "domainValidationRecords": [
               {
                   "name": "_dEXAMPLE4ede046a0319eb44a4eb3cbbc.example.com.",
                   "type": "CNAME",
                   "value": "_bEXAMPLE0899fb76bf79d9741d1a383.hkvuiqjoua.acm-validations.aws.",
                   "validationStatus": "SUCCESS",
                   "domainName": "example.com"
               }
           ],
           "issuedAt": 1571678070.0,
           "issuer": "Amazon",
           "keyAlgorithm": "RSA-2048",
           "notAfter": 1605960000.0,
           "notBefore": 1571616000.0,
       }
   ]
}
```
For API details, see GetLoadBalancerTlsCertificates in AWS CLI Command Reference.

get-load-balancers

The following code example shows how to use get-load-balancers.

AWS CLI

To get information about all load balancers

The following get-load-balancers example displays details about all of the load balancers in the configured AWS Region.

```bash
aws lightsail get-load-balancers
```

Output:

```json
{
   "loadBalancers": [
   {
      "name": "LoadBalancer-1",
      "arn": "arn:aws:lightsail:us-west-2:1112222333:LoadBalancer/40486b2b-1ad0-4152-83e4-cEXAMPLE6f4b",
      "supportCode": "6EXAMPLE3362/arn:aws:elasticloadbalancing:us-west-2:33332221111:loadbalancer/app/bEXAMPLE128cb59d86f946a9395dd304/1EXAMPLE8dd9d77e",
      "createdAt": 1571677906.723,
      "location": {
         "availabilityZone": "all",
         "regionName": "us-west-2"
      },
      "resourceType": "LoadBalancer",
   }
   ]
}```
For API details, see [GetLoadBalancers](https://docs.aws.amazon.com/cli/latest/reference/elb/get-load-balancers) in *AWS CLI Command Reference*.

**get-operation**

The following code example shows how to use get-operation.
**AWS CLI**

**To get information about a single operation**

The following `get-operation` example displays details about the specified operation.

```bash/aws lightsail get-operation \
  --operation-id e5700e8a-daf2-4b49-bc01-3EXAMPLE910a
```

Output:

```json
{
  "operation": {
    "id": "e5700e8a-daf2-4b49-bc01-3EXAMPLE910a",
    "resourceName": "Instance-1",
    "resourceType": "Instance",
    "createdAt": 1571679872.404,
    "location": {
      "availabilityZone": "us-west-2a",
      "regionName": "us-west-2"
    },
    "isTerminal": true,
    "operationType": "CreateInstance",
    "status": "Succeeded",
    "statusChangedAt": 1571679890.304
  }
}
```

- For API details, see [GetOperation](https://aws.amazon.com/cli/) in *AWS CLI Command Reference*.

**get-operations**

The following code example shows how to use `get-operations`.

**AWS CLI**

**To get information about all operations**

The following `get-operations` example displays details about all of the operations in the configured AWS Region.

```bash/aws lightsail get-operations
```
Output:

```json
{
  "operations": [
    {
      "id": "e5700e8a-daf2-4b49-bc01-3EXAMPLE910a",
      "resourceName": "Instance-1",
      "resourceType": "Instance",
      "createdAt": 1571679872.404,
      "location": {
        "availabilityZone": "us-west-2a",
        "regionName": "us-west-2"
      },
      "isTerminal": true,
      "operationType": "CreateInstance",
      "status": "Succeeded",
      "statusChangedAt": 1571679890.304
    },
    {
      "id": "701a3339-930e-4914-a9f9-7EXAMPLE68d7",
      "resourceName": "WordPress-1",
      "resourceType": "Instance",
      "createdAt": 1571678786.072,
      "location": {
        "availabilityZone": "all",
        "regionName": "us-west-2"
      },
      "isTerminal": true,
      "operationDetails": "LoadBalancer-1",
      "operationType": "DetachInstancesFromLoadBalancer",
      "status": "Succeeded",
      "statusChangedAt": 1571679086.399
    },
    {
      "id": "e2973046-43f8-4252-a4b4-9EXAMPLE69ce",
      "resourceName": "LoadBalancer-1",
      "resourceType": "LoadBalancer",
      "createdAt": 1571678786.071,
      "location": {
        "availabilityZone": "all",
        "regionName": "us-west-2"
      },
      "isTerminal": true,
      "operationDetails": "WordPress-1",
      "operationType": "AttachInstancesToLoadBalancer",
      "status": "Succeeded",
      "statusChangedAt": 1571679650.102
    }
  ]
}
```
For API details, see GetOperations in AWS CLI Command Reference.

get-operations-for-resource

The following code example shows how to use get-operations-for-resource.

AWS CLI

To get all operations for a resource

The following get-operations-for-resource example displays details about all operations for the specified resource.

aws lightsail get-operations-for-resource \\   --resource-name LoadBalancer-1

Output:

```json
{
  "operations": [
    {
      "id": "e2973046-43f8-4252-a4b4-9EXAMPLE69ce",
      "resourceName": "LoadBalancer-1",
      "resourceType": "LoadBalancer",
      "createdAt": 1571678786.071,
      "location": {
        "availabilityZone": "all",
        "regionName": "us-west-2"
      },
      "isTerminal": true,
      "operationDetails": "MEAN-1",
      "operationType": "DetachInstancesFromLoadBalancer",
    },
    ...
  ]
}
```
For API details, see **GetOperationsForResource** in *AWS CLI Command Reference*.

**get-regions**

The following code example shows how to use `get-regions`.
To get all AWS Regions for Amazon Lightsail

The following `get-regions` example displays details about all of the AWS Regions for Amazon Lightsail.

```bash
aws lightsail get-regions
```

Output:

```json
{
    "regions": [
        {
            "continentCode": "NA",
            "description": "This region is recommended to serve users in the eastern United States",
            "displayName": "Virginia",
            "name": "us-east-1",
            "availabilityZones": [],
            "relationalDatabaseAvailabilityZones": []
        },
        {
            "continentCode": "NA",
            "description": "This region is recommended to serve users in the eastern United States",
            "displayName": "Ohio",
            "name": "us-east-2",
            "availabilityZones": [],
            "relationalDatabaseAvailabilityZones": []
        },
        {
            "continentCode": "NA",
            "description": "This region is recommended to serve users in the northwestern United States, Alaska, and western Canada",
            "displayName": "Oregon",
            "name": "us-west-2",
            "availabilityZones": [],
            "relationalDatabaseAvailabilityZones": []
        },
        ...
    ]
}
```
• For API details, see GetRegions in AWS CLI Command Reference.

get-relational-database

The following code example shows how to use get-relational-database.

AWS CLI

To get information about a relational database

The following get-relational-database example displays details about the specified relational database.

```bash
aws lightsail get-relational-database \
  --relational-database-name Database-1
```

Output:

```json
{
  "relationalDatabase": {
    "name": "Database-1",
    "arn": "arn:aws:lightsail:us-west-2:111122223333:RelationalDatabase/7ea932b1-b85a-4bd5-9b3e-bEXAMPLE8cc4",
    "supportCode": "6EXAMPLE3362/ls-9EXAMPLE8ad863723b62cc8901a8aa6e794ae0d2",
    "createdAt": 1571259453.795,
    "location": {
      "availabilityZone": "us-west-2a",
      "regionName": "us-west-2"
    },
    "resourceType": "RelationalDatabase",
    "tags": [],
    "relationalDatabaseBlueprintId": "mysql_8_0",
    "relationalDatabaseBundleId": "micro_1_0",
    "masterDatabaseName": "dbmaster",
    "hardware": {
      "cpuCount": 1,
      "diskSizeInGb": 40,
      "ramSizeInGb": 1.0
    },
    "state": "available",
  }
}
```

get-relational-database-blueprints

The following code example shows how to use get-relational-database-blueprints.

**AWS CLI**

To get the blueprints for new relational databases

The following get-relational-database-blueprints example displays details about all of the available relational database blueprints that can be used to create new relational databases in Amazon Lightsail.

```
aws lightsail get-relational-database-blueprints
```

Output:

```
{
   "blueprints": [
   {
     "blueprintId": "mysql_5_6",
     "engine": "mysql",
     "engineVersion": "5.6.44",
     "preferredBackupWindow": "10:01-10:31",
     "preferredMaintenanceWindow": "11:14-11:44",
     "publiclyAccessible": true,
     "masterEndpoint": {
       "port": 3306,
       "address": "ls-9EXAMPLE8ad863723b62ccEXAMPLEa6e794ae0d2.czowadgeezqi.us-west-2.rds.amazonaws.com"
     },
     "pendingMaintenanceActions": []
   }
   ]
}
```
"engineDescription": "MySQL Community Edition",
"engineVersionDescription": "MySQL 5.6.44",
"isEngineDefault": false
},
{
"blueprintId": "mysql_5_7",
"engine": "mysql",
"engineVersion": "5.7.26",
"engineDescription": "MySQL Community Edition",
"engineVersionDescription": "MySQL 5.7.26",
"isEngineDefault": true
},
{
"blueprintId": "mysql_8_0",
"engine": "mysql",
"engineVersion": "8.0.16",
"engineDescription": "MySQL Community Edition",
"engineVersionDescription": "MySQL 8.0.16",
"isEngineDefault": false
},
{
"blueprintId": "postgres_9_6",
"engine": "postgres",
"engineVersion": "9.6.15",
"engineDescription": "PostgreSQL",
"engineVersionDescription": "PostgreSQL 9.6.15-R1",
"isEngineDefault": false
},
{
"blueprintId": "postgres_10",
"engine": "postgres",
"engineVersion": "10.10",
"engineDescription": "PostgreSQL",
"engineVersionDescription": "PostgreSQL 10.10-R1",
"isEngineDefault": false
},
{
"blueprintId": "postgres_11",
"engine": "postgres",
"engineVersion": "11.5",
"engineDescription": "PostgreSQL",
"engineVersionDescription": "PostgreSQL 11.5-R1",
"isEngineDefault": true
}
For API details, see GetRelationalDatabaseBlueprints in AWS CLI Command Reference.

get-relational-database-bundles

The following code example shows how to use get-relational-database-bundles.

AWS CLI

To get the bundles for new relational databases

The following get-relational-database-bundles example displays details about all of the available relational database bundles that can be used to create new relational databases in Amazon Lightsail. Note that the response does not include inactive bundles because the --include-inactive flag is not specified in the command. You cannot use inactive bundles to create new relational databases.

```bash
aws lightsail get-relational-database-bundles
```

Output:

```
{
   "bundles": [
      {
          "bundleId": "micro_2_0",
          "name": "Micro",
          "price": 15.0,
          "ramSizeInGb": 1.0,
          "diskSizeInGb": 40,
          "transferPerMonthInGb": 100,
          "cpuCount": 2,
          "isEncrypted": true,
          "isActive": true
      },
      {
          "bundleId": "micro_ha_2_0",
          "name": "Micro with High Availability",
          "price": 30.0,
          "ramSizeInGb": 1.0,
          "diskSizeInGb": 40,
          "transferPerMonthInGb": 100,
          "cpuCount": 2,
          "isEncrypted": true,
          "isActive": true
      }
   ]
}
```
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"transferPerMonthInGb": 100,
"cpuCount": 2,
"isEncrypted": true,
"isActive": true
},
{
"bundleId": "small_2_0",
"name": "Small",
"price": 30.0,
"ramSizeInGb": 2.0,
"diskSizeInGb": 80,
"transferPerMonthInGb": 100,
"cpuCount": 2,
"isEncrypted": true,
"isActive": true
},
{
"bundleId": "small_ha_2_0",
"name": "Small with High Availability",
"price": 60.0,
"ramSizeInGb": 2.0,
"diskSizeInGb": 80,
"transferPerMonthInGb": 100,
"cpuCount": 2,
"isEncrypted": true,
"isActive": true
},
{
"bundleId": "medium_2_0",
"name": "Medium",
"price": 60.0,
"ramSizeInGb": 4.0,
"diskSizeInGb": 120,
"transferPerMonthInGb": 100,
"cpuCount": 2,
"isEncrypted": true,
"isActive": true
},
{
"bundleId": "medium_ha_2_0",
"name": "Medium with High Availability",
"price": 120.0,
"ramSizeInGb": 4.0,
"diskSizeInGb": 120,

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For more information, see [Creating a database in Amazon Lightsail](https://aws.amazon.com/documentation/lightsail/) in the *Amazon Lightsail Developer Guide*.

- For API details, see [GetRelationalDatabaseBundles](https://docs.aws.amazon.com/cli/latest/reference/lightsail/get-relational-database-bundles.html) in *AWS CLI Command Reference*.

### get-relational-database-events

The following code example shows how to use `get-relational-database-events`.

**AWS CLI**

To get the events for a relational database
The following `get-relational-database-events` example displays details about events in the last 17 hours (1020 minutes) for the specified relational database.

```bash
aws lightsail get-relational-database-events \
  --relational-database-name Database-1 \
  --duration-in-minutes 1020
```

Output:

```json
{
  "relationalDatabaseEvents": [
    {
      "resource": "Database-1",
      "createdAt": 1571654146.553,
      "message": "Backing up Relational Database",
      "eventCategories": [
        "backup"
      ]
    },
    {
      "resource": "Database-1",
      "createdAt": 1571654249.98,
      "message": "Finished Relational Database backup",
      "eventCategories": [
        "backup"
      ]
    }
  ]
}
```

- For API details, see [GetRelationalDatabaseEvents](https://awscli.amazonaws.com/v2/documentation/api/latest/reference/lightsail/get-relational-database-events.html) in *AWS CLI Command Reference*.

**get-relational-database-log-events**

The following code example shows how to use `get-relational-database-log-events`.

**AWS CLI**

To get log events for a relational database
The following `get-relational-database-log-events` example displays details about the specified log between 1570733176 and 1571597176 for relational database Database1. The information returned is configured to start from head.

We recommend that you use a unix time converter to identify the start and end times.

```
aws lightsail get-relational-database-log-events \
  --relational-database-name Database1 \
  --log-stream-name error \
  --start-from-head \
  --start-time 1570733176 \
  --end-time 1571597176
```

Output:

```
{
  "resourceLogEvents": [
    {
      "createdAt": 1570820267.0,
      "message": "2019-10-11 18:57:47 20969 [Warning] IP address '192.0.2.0' could not be resolved: Name or service not known"
    },
    {
      "createdAt": 1570860974.0,
      "message": "2019-10-12 06:16:14 20969 [Warning] IP address '8192.0.2.0' could not be resolved: Temporary failure in name resolution"
    },
    {
      "createdAt": 1570860977.0,
      "message": "2019-10-12 06:16:17 20969 [Warning] IP address '192.0.2.0' could not be resolved: Temporary failure in name resolution"
    },
    {
      "createdAt": 1570860979.0,
      "message": "2019-10-12 06:16:19 20969 [Warning] IP address '192.0.2.0' could not be resolved: Temporary failure in name resolution"
    },
    {
      "createdAt": 1570860981.0,
      "message": "2019-10-12 06:16:21 20969 [Warning] IP address '192.0.2.0' could not be resolved: Temporary failure in name resolution"
    }
  ]
}
```
get-relational-database-log-streams

The following code example shows how to use get-relational-database-log-streams.

AWS CLI

To get the log streams for a relational database

The following get-relational-database-log-streams example returns all of the available log streams for the specified relational database.

```
aws lightsail get-relational-database-log-streams \
--relational-database-name Database1
```

Output:

```json
{
}
```
"logStreams": [
    "audit",
    "error",
    "general",
    "slowquery"
]

- For API details, see [GetRelationalDatabaseLogStreams](#) in AWS CLI Command Reference.

### get-relational-database-master-user-password

The following code example shows how to use `get-relational-database-master-user-password`.

**AWS CLI**

To get the master user password for a relational database

The following `get-relational-database-master-user-password` example returns information about the master user password for the specified relational database.

```bash
aws lightsail get-relational-database-master-user-password \
    --relational-database-name Database-1
```

Output:

```json
{
    "masterUserPassword": "VEXAMPLEec.9qvx,_t<kWkf)kwboM,>2",
    "createdAt": 1571259453.959
}
```

- For API details, see [GetRelationalDatabaseMasterUserPassword](#) in AWS CLI Command Reference.

### get-relational-database-metric-data

The following code example shows how to use `get-relational-database-metric-data`.
AWS CLI

To get metric data for a relational database

The following `get-relational-database-metric-data` example returns the count sum of the metric `DatabaseConnections` over the period of 24 hours (86400 seconds) between 1570733176 and 1571597176 for relational database `Database1`.

We recommend that you use a unix time converter to identify the start and end times.

```
aws lightsail get-relational-database-metric-data \
   --relational-database-name Database1 \
   --metric-name DatabaseConnections \
   --period 86400 \
   --start-time 1570733176 \
   --end-time 1571597176 \
   --unit Count \
   --statistics Sum
```

Output:

```
{
   "metricName": "DatabaseConnections",
   "metricData": [
     {
       "sum": 1.0,
       "timestamp": 1571510760.0,
       "unit": "Count"
     },
     {
       "sum": 1.0,
       "timestamp": 1570733160.0,
       "unit": "Count"
     },
     {
       "sum": 1.0,
       "timestamp": 1570992360.0,
       "unit": "Count"
     },
     {
       "sum": 0.0,
       "timestamp": 1571251560.0,
       "unit": "Count"
    ]
}
```
For API details, see [GetRelationalDatabaseMetricData](https://docs.aws.amazon.com/cli/latest/reference/rdb/get-relational-database-metric-data.html) in *AWS CLI Command Reference*.

**get-relational-database-parameters**

The following code example shows how to use `get-relational-database-parameters`.

**AWS CLI**

To get parameters for a relational database
The following `get-relational-database-parameters` example returns information about all of the available parameters for the specified relational database.

```bash
aws lightsail get-relational-database-parameters \
   --relational-database-name Database-1
```

Output:

```json
{
   "parameters": [
   {
      "allowedValues": "0,1",
      "applyMethod": "pending-reboot",
      "applyType": "dynamic",
      "dataType": "boolean",
      "description": "Automatically set all granted roles as active after the user has authenticated successfully.",
      "isModifiable": true,
      "parameterName": "activate_all_roles_on_login",
      "parameterValue": "0"
   },
   {
      "allowedValues": "0,1",
      "applyMethod": "pending-reboot",
      "applyType": "static",
      "dataType": "boolean",
      "description": "Controls whether user-defined functions that have only an xxx symbol for the main function can be loaded",
      "isModifiable": false,
      "parameterName": "allow-suspicious-udfs"
   },
   {
      "allowedValues": "0,1",
      "applyMethod": "pending-reboot",
      "applyType": "dynamic",
      "dataType": "boolean",
      "description": "Sets the autocommit mode",
      "isModifiable": true,
      "parameterName": "autocommit"
   },
   {
      "allowedValues": "0,1",
      "applyMethod": "pending-reboot",
      "applyType": "static",
      "dataType": "boolean",
      "description": "Controls automating the cold backup to the local volume upon the end of the Job",
      "isModifiable": false,
      "parameterName": "auto-backup"
   }
   ]
}
```
"applyType": "static",
"dataType": "boolean",
"description": "Controls whether the server autogenerates SSL key and certificate files in the data directory, if they do not already exist.",
"isModifiable": false,
"parameterName": "auto_generate_certs"
},
...
]

For more information, see [Updating database parameters in Amazon Lightsail](https://docs.aws.amazon.com/lightsail/latest/userguide/lightsail-database-update.html) in the *Lightsail Dev Guide*.

- For API details, see [GetRelationalDatabaseParameters](https://docs.aws.amazon.com/cli/latest/reference/lightsail/get-relational-database-snapshot.html) in *AWS CLI Command Reference*.

**get-relational-database-snapshot**

The following code example shows how to use `get-relational-database-snapshot`.

**AWS CLI**

**To get information about a relational database snapshot**

The following `get-relational-database-snapshot` example displays details about the specified relational database snapshot.

```bash
aws lightsail get-relational-database-snapshot \
    --relational-database-snapshot-name Database-1-1571350042
```

Output:

```json
{
    "relationalDatabaseSnapshot": {
        "name": "Database-1-1571350042",
        "supportCode": "6EXAMPLE3362/ls-8EXAMPLE2ba7ad041451946fafc2ad19cfbd9eb2",
        "createdAt": 1571350046.238,
        "location": {
            "availabilityZone": "all",
            "regionName": "us-west-2"
        }
    }
}
```
For API details, see [GetRelationalDatabaseSnapshot](aws CLI Command Reference) in **AWS CLI Command Reference**.

### get-relational-database-snapshots

The following code example shows how to use `get-relational-database-snapshots`.

**AWS CLI**

**To get information about all relational database snapshots**

The following `get-relational-database-snapshots` example displays details about all of the relational database snapshots in the configured AWS Region.

```bash/aws lightsail get-relational-database-snapshots
```

**Output:**

```json
{
    "relationalDatabaseSnapshots": [
        {
            "name": "Database-1-1571350042",
            "supportCode": "6EXAMPLE3362/ls-8EXAMPLE2ba7ad041451946fafc2ad19cfbd9eb2",
            "createdAt": 1571350046.238,
            "location": {
```

```json
        
```
```
```
"availabilityZone": "all",
"regionName": "us-west-2"
},
"resourceType": "RelationalDatabaseSnapshot",
"tags": [],
"engine": "mysql",
"engineVersion": "8.0.16",
"sizeInGb": 40,
"state": "available",
"fromRelationalDatabaseName": "Database-1",
"fromRelationalDatabaseArn": "arn:aws:lightsail:us-west-2:111122223333:RelationalDatabase/7ea932b1-b85a-4bd5-9b3e-bEXAMPLEBcc4",
"fromRelationalDatabaseBundleId": "micro_1_0",
"fromRelationalDatabaseBlueprintId": "mysql_8_0"
},
{
"name": "Database1-Console",
"arn": "arn:aws:lightsail:us-west-2:111122223333:RelationalDatabaseSnapshot/8b94136e-06ec-4b1a-a3fb-5EXAMPLEBc9e1",
"supportCode": "6EXAMPLE3362/ls-9EXAMPLEB4b0000d34c8d1c432734e137612d55b5c",
"createdAt": 1571249981.025,
"location": {
  "availabilityZone": "all",
  "regionName": "us-west-2"
},
"resourceType": "RelationalDatabaseSnapshot",
"tags": [
  {
    "key": "test"
  }
],
"engine": "mysql",
"engineVersion": "5.6.44",
"sizeInGb": 40,
"state": "available",
"fromRelationalDatabaseName": "Database1",
"fromRelationalDatabaseArn": "arn:aws:lightsail:us-west-2:111122223333:RelationalDatabase/a6161cb7-4535-4f16-9dcf-8EXAMPLE3d4e",
"fromRelationalDatabaseBundleId": "micro_1_0",
"fromRelationalDatabaseBlueprintId": "mysql_5_6"
}
• For API details, see `GetRelationalDatabaseSnapshots` in `AWS CLI Command Reference`.

get-relational-databases

The following code example shows how to use `get-relational-databases`.

**AWS CLI**

To get information about all relational databases

The following `get-relational-databases` example displays details about all of the relational databases in the configured AWS Region.

```bash
aws lightsail get-relational-databases
```

**Output:**

```json
{
    "relationalDatabases": [
    {
        "name": "MySQL",
        "supportCode": "6EXAMPLE3362/ls-3EXAMPLEa995d8c3b06b4501356e5f2f28e1aeba",
        "createdAt": 1554306019.155,
        "location": {
            "availabilityZone": "us-west-2a",
            "regionName": "us-west-2"
        },
        "resourceType": "RelationalDatabase",
        "tags": [],
        "relationalDatabaseBlueprintId": "mysql_8_0",
        "relationalDatabaseBundleId": "micro_1_0",
        "masterDatabaseName": "dbmaster",
        "hardware": {
            "cpuCount": 1,
            "diskSizeInGb": 40,
            "ramSizeInGb": 1.0
        }
    }
    ]
}
```
get-static-ip

The following code example shows how to use `get-static-ip`.

**AWS CLI**

To get information about a static IP

The following `get-static-ip` example displays details about the specified static IP.

```
aws lightsail get-static-ip \
  --static-ip-name StaticIp-1
```

Output:

```
{
    "staticIp": {
        "name": "StaticIp-1",
        "arn": "arn:aws:lightsail:us-west-2:111122223333:StaticIp/2257cd76-1f0e-4ac0-82e2-2EXAMPLE23ad",
        "supportCode": "6EXAMPLE3362/192.0.2.0",
        "createdAt": 1571071325.076,
    }
}
```

### get-static-ips

The following code example shows how to use `get-static-ips`.

#### AWS CLI

**To get information about all static IPs**

The following `get-static-ips` example displays details about all of the static IPs in the configured AWS Region.

```
aws lightsail get-static-ips
```

**Output:**

```json
{
    "staticIps": [
        {
            "name": "StaticIp-1",
            "arn": "arn:aws:lightsail:us-west-2:111122223333:StaticIp/2257cd76-1f0e-4ac0-8EXAMPLE16f9423ad",
            "supportCode": "6EXAMPLE3362/192.0.2.0",
            "createdAt": 1571071325.076,
            "location": {
                "availabilityZone": "all",
                "regionName": "us-west-2"
            },
            "resourceType": "StaticIp",
            "ipAddress": "192.0.2.0",
        }
    ]
}
```

**is-vpc-peered**

The following code example shows how to use `is-vpc-peered`.

**AWS CLI**

To identify if your Amazon Lightsail virtual private cloud is peered

The following `is-vpc-peered` example returns the peering status of the Amazon Lightsail virtual private cloud (VPC) for the specified AWS Region.

```
aws lightsail is-vpc-peered \
  --region us-west-2
```

Output:

```
{
  "isPeered": true
}
```
open-instance-public-ports

The following code example shows how to use open-instance-public-ports.

**AWS CLI**

**To open firewall ports for an instance**

The following open-instance-public-ports example opens TCP port 22 on the specified instance.

```
aws lightsail open-instance-public-ports \
   --instance-name MEAN-2 \
   --port-info fromPort=22,protocol=TCP,toPort=22
```

Output:

```
{
   "operation": {
      "id": "719744f0-a022-46f2-9f11-6EXAMPLE4642",
      "resourceName": "MEAN-2",
      "resourceType": "Instance",
      "createdAt": 1571072906.849,
      "location": {
         "availabilityZone": "us-west-2a",
         "regionName": "us-west-2"
      },
      "isTerminal": true,
      "operationDetails": "22/tcp",
      "operationType": "OpenInstancePublicPorts",
      "status": "Succeeded",
      "statusChangedAt": 1571072906.849
   }
}
```

- For API details, see [IsVpcPeered](#) in *AWS CLI Command Reference*.

peer-vpc

The following code example shows how to use peer-vpc.
AWS CLI

To peer the Amazon Lightsail virtual private cloud

The following peer-vpc example peers the Amazon Lightsail virtual private cloud (VPC) for the specified AWS Region.

/aws lightsail peer-vpc
   --region us-west-2

Output:

{
   "operation": {
      "id": "787e846a-54ac-497f-bce2-9EXAMPLE5d91",
      "resourceName": "vpc-0EXAMPLEa5261efb3",
      "resourceType": "PeeredVpc",
      "createdAt": 1571694233.104,
      "location": {
         "availabilityZone": "all",
         "regionName": "us-west-2"
      },
      "isTerminal": true,
      "operationDetails": "vpc-e2b3eb9b",
      "operationType": "PeeredVpc",
      "status": "Succeeded",
      "statusChangedAt": 1571694233.104
   }
}

• For API details, see PeerVpc in AWS CLI Command Reference.

reboot-instance

The following code example shows how to use reboot-instance.

AWS CLI

To reboot an instance

The following reboot-instance example reboots the specified instance.
aws lightsail reboot-instance \
   --instance-name MEAN-1

Output:

```
{
   "operations": [
   {
      "id": "2b67f1c-8b71-4bb4-8e97-8EXAMPLEed93",
      "resourceName": "MEAN-1",
      "resourceType": "Instance",
      "createdAt": 1571694445.49,
      "location": {
         "availabilityZone": "us-west-2a",
         "regionName": "us-west-2"
      },
      "isTerminal": true,
      "operationDetails": "",
      "operationType": "RebootInstance",
      "status": "Succeeded",
      "statusChangedAt": 1571694445.49
   }
   ]
}
```

- For API details, see [RebootInstance](#) in [AWS CLI Command Reference](#).

**reboot-relational-database**

The following code example shows how to use `reboot-relational-database`.

**AWS CLI**

To reboot a relational database

The following `reboot-relational-database` example reboots the specified relational database.

aws lightsail reboot-relational-database \
   --relational-database-name Database-1
Output:

```json
{
  "operations": [
    {
      "id": "e4c980c0-3137-496c-9c91-1EXAMPLEdec2",
      "resourceName": "Database-1",
      "resourceType": "RelationalDatabase",
      "createdAt": 1571694532.91,
      "location": {
        "availabilityZone": "us-west-2a",
        "regionName": "us-west-2"
      },
      "isTerminal": false,
      "operationDetails": "",
      "operationType": "RebootRelationalDatabase",
      "status": "Started",
      "statusChangedAt": 1571694532.91
    }
  ]
}
```

- For API details, see [RebootRelationalDatabase](aws-cli-command-reference) in *AWS CLI Command Reference*.

**release-static-ip**

The following code example shows how to use release-static-ip.

**AWS CLI**

**To delete a static IP**

The following `release-static-ip` example deletes the specified static IP.

```bash
aws lightsail release-static-ip \
  --static-ip-name StaticIp-1
```

**Output:**

```json
{
  "operations": [
```

Actions and scenarios

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• For API details, see `ReleaseStaticIp` in *AWS CLI Command Reference*.

**start-instance**

The following code example shows how to use `start-instance`.

**AWS CLI**

**To start an instance**

The following `start-instance` example starts the specified instance.

```
aws lightsail start-instance \
    --instance-name WordPress-1
```

**Output:**

```json
{
    "operations": [
        {
            "id": "f88d2a93-7cea-4165-afce-2d688cb18f23",
            "resourceName": "WordPress-1",
            "resourceType": "Instance",
            "createdAt": 1571695583.463,
            "isTerminal": false,
            "location": {
                "availabilityZone": "us-west-2",
                "regionName": "us-west-2"
            },
            "status": "Succeeded",
            "statusChangedAt": 1571695583.463
        }
    ]
}
```
start-relational-database

The following code example shows how to use `start-relational-database`.

AWS CLI

To start a relational database

The following `start-relational-database` example starts the specified relational database.

```bash
aws lightsail start-relational-database \
   --relational-database-name Database-1
```

Output:

```json
{
   "operations": [
      {
         "id": "4d5294ec-a38a-4fda-9e37-aEXAMPLE0d24",
         "resourceName": "Database-1",
         "resourceType": "RelationalDatabase",
         "createdAt": 1571695998.822,
         "location": {
            "availabilityZone": "us-west-2a",
            "regionName": "us-west-2"
         },
         "isTerminal": false,
         "operationType": "StartRelationalDatabase",
```
For API details, see [StartRelationalDatabase](#) in *AWS CLI Command Reference*.

**stop-instance**

The following code example shows how to use `stop-instance`.

**AWS CLI**

To stop an instance

The following `stop-instance` example stops the specified instance.

```bash
aws lightsail stop-instance \
--instance-name WordPress-1
```

Output:

```json
{
    "operations": [
        {
            "id": "265357e2-2943-4d51-888a-1EXAMPLE7585",
            "resourceName": "WordPress-1",
            "resourceType": "Instance",
            "createdAt": 1571695471.134,
            "location": {
                "availabilityZone": "us-west-2a",
                "regionName": "us-west-2"
            },
            "isTerminal": false,
            "operationType": "StopInstance",
            "status": "Started",
            "statusChangedAt": 1571695471.134
        }
    ]
}
```
• For API details, see StopInstance in AWS CLI Command Reference.

**stop-relational-database**

The following code example shows how to use stop-relational-database.

**AWS CLI**

To stop a relational database

The following stop-relational-database example stops the specified relational database.

```
aws lightsail stop-relational-database \
  --relational-database-name Database-1
```

Output:

```
{
  "operations": [
    {
      "id": "cc559c19-4adb-41e4-b75b-5EXAMPLE4e61",
      "resourceName": "Database-1",
      "resourceType": "RelationalDatabase",
      "createdAt": 1571695526.29,
      "location": {
        "availabilityZone": "us-west-2a",
        "regionName": "us-west-2"
      },
      "isTerminal": false,
      "operationType": "StopRelationalDatabase",
      "status": "Started",
      "statusChangedAt": 1571695526.29
    }
  ]
}
```

• For API details, see StopRelationalDatabase in AWS CLI Command Reference.

**unpeer-vpc**

The following code example shows how to use unpeer-vpc.
AWS CLI

To unpeer the Amazon Lightsail virtual private cloud

The following `unpeer-vpc` example unpeers the Amazon Lightsail virtual private cloud (VPC) for the specified AWS Region.

```bash
aws lightsail unpeer-vpc \
  --region us-west-2
```

Output:

```json
{
  "operation": {
    "id": "531aca64-7157-47ab-84c6-eEXAMPLEd898",
    "resourceName": "vpc-0EXAMPLEa5261efb3",
    "resourceType": "PeeredVpc",
    "createdAt": 1571694109.945,
    "location": {
      "availabilityZone": "all",
      "regionName": "us-west-2"
    },
    "isTerminal": true,
    "operationDetails": "vpc-e2b3eb9b",
    "operationType": "UnpeeredVpc",
    "status": "Succeeded",
    "statusChangedAt": 1571694109.945
  }
}
```

- For API details, see [UnpeerVpc](#) in *AWS CLI Command Reference*.

Macie examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Macie.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.
Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics

- **Actions**

Actions

**describe-buckets**

The following code example shows how to use `describe-buckets`.

**AWS CLI**

To query data about one or more S3 buckets that Amazon Macie monitors and analyzes for your account

The following `describe-buckets` example queries metadata for all S3 buckets whose names begin with `MY-S3` and are in the current AWS Region.

```
aws macie2 describe-buckets \
  --criteria '{"bucketName":{"prefix":"my-S3"}}'
```

Output:

```
{
  "buckets": [
    {
      "accountId": "123456789012",
      "allowsUnencryptedObjectUploads": "FALSE",
      "bucketArn": "arn:aws:s3:::MY-S3-DOC-EXAMPLE-BUCKET1",
      "bucketCreatedAt": "2020-05-18T19:54:00+00:00",
      "bucketName": "MY-S3-DOC-EXAMPLE-BUCKET1",
      "classifiableObjectCount": 13,
      "classifiableSizeInBytes": 1592088,
      "jobDetails": {
        "isDefinedInJob": "TRUE",
        "isMonitoredByJob": "TRUE",
        "lastJobId": "08c81dc4a2f3377fae45c9ddaexample",
```
"lastJobRunTime": "2021-04-26T14:55:30.270000+00:00",
"lastAutomatedDiscoveryTime": "2022-12-10T19:11:25.364000+00:00",
"lastUpdated": "2022-12-13T07:33:06.337000+00:00",
"objectCount": 13,
"objectCountByEncryptionType": {
  "customerManaged": 0,
  "kmsManaged": 2,
  "s3Managed": 7,
  "unencrypted": 4,
  "unknown": 0
},
"publicAccess": {
  "effectivePermission": "NOT_PUBLIC",
  "permissionConfiguration": {
    "accountLevelPermissions": {
      "blockPublicAccess": {
        "blockPublicAcls": true,
        "blockPublicPolicy": true,
        "ignorePublicAcls": true,
        "restrictPublicBuckets": true
      }
    },
    "bucketLevelPermissions": {
      "accessControllist": {
        "allowsPublicReadAccess": false,
        "allowsPublicWriteAccess": false
      },
      "blockPublicAccess": {
        "blockPublicAcls": true,
        "blockPublicPolicy": true,
        "ignorePublicAcls": true,
        "restrictPublicBuckets": true
      },
      "bucketPolicy": {
        "allowsPublicReadAccess": false,
        "allowsPublicWriteAccess": false
      }
    }
  }
},
"region": "us-west-2",
"replicationDetails": {
  "replicated": false,
"replicatedExternally": false,
"replicationAccounts": []
},
"sensitivityScore": 78,
"serverSideEncryption": {
  "kmsMasterKeyId": null,
  "type": "NONE"
},
"sharedAccess": "NOT_SHARED",
"sizeInBytes": 4549746,
"sizeInBytesCompressed": 0,
"tags": [
  {
    "key": "Division",
    "value": "HR"
  },
  {
    "key": "Team",
    "value": "Recruiting"
  }
],
"unclassifiableObjectCount": {
  "fileType": 0,
  "storageClass": 0,
  "total": 0
},
"unclassifiableObjectSizeInBytes": {
  "fileType": 0,
  "storageClass": 0,
  "total": 0
},
"versioning": true
},
{
  "accountId": "123456789012",
  "allowsUnencryptedObjectUploads": "TRUE",
  "bucketArn": "arn:aws:s3:::MY-S3-DOC-EXAMPLE-BUCKET2",
  "bucketCreatedAt": "2020-11-25T18:24:38+00:00",
  "bucketName": "MY-S3-DOC-EXAMPLE-BUCKET2",
  "classifiableObjectCount": 8,
  "classifiableSizeInBytes": 133810,
  "jobDetails": {
    "isDefinedInJob": "TRUE",
    "isMonitoredByJob": "FALSE"
"lastJobId": "188d4f6044d621771ef7d6f2example",
"lastJobRunTime": "2021-04-09T19:37:11.511000+00:00"
},
"lastAutomatedDiscoveryTime": "2022-12-12T19:11:25.364000+00:00",
"lastUpdated": "2022-12-13T07:33:06.337000+00:00",
"objectCount": 8,
"objectCountByEncryptionType": {
  "customerManaged": 0,
  "kmsManaged": 0,
  "s3Managed": 8,
  "unencrypted": 0,
  "unknown": 0
},
"publicAccess": {
  "effectivePermission": "NOT_PUBLIC",
  "permissionConfiguration": {
    "accountLevelPermissions": {
      "blockPublicAccess": {
        "blockPublicAcls": true,
        "blockPublicPolicy": true,
        "ignorePublicAcls": true,
        "restrictPublicBuckets": true
      }
    },
    "bucketLevelPermissions": {
      "accessControlList": {
        "allowsPublicReadAccess": false,
        "allowsPublicWriteAccess": false
      },
      "blockPublicAccess": {
        "blockPublicAcls": true,
        "blockPublicPolicy": true,
        "ignorePublicAcls": true,
        "restrictPublicBuckets": true
      },
      "bucketPolicy": {
        "allowsPublicReadAccess": false,
        "allowsPublicWriteAccess": false
      }
    }
  }
},
"region": "us-west-2",
"replicationDetails": {
"replicated": false,
"replicatedExternally": false,
"replicationAccounts": [],
"sensitivityScore": 95,
"serverSideEncryption": {
  "kmsMasterKeyId": null,
  "type": "AES256"
},
"sharedAccess": "EXTERNAL",
"sizeInBytes": 175978,
"sizeInBytesCompressed": 0,
"tags": [
  {
    "key": "Division",
    "value": "HR"
  },
  {
    "key": "Team",
    "value": "Recruiting"
  }
],
"unclassifiableObjectCount": {
  "fileType": 3,
  "storageClass": 0,
  "total": 3
},
"unclassifiableObjectSizeInBytes": {
  "fileType": 2999826,
  "storageClass": 0,
  "total": 2999826
},
"versioning": true
}

For more information, see [Filtering your S3 bucket inventory](https://docs.aws.amazon.com/macie/latest/userguide/s3-bucket-inventory.html) in the *Amazon Macie User Guide*.

- For API details, see [DescribeBuckets](https://docs.aws.amazon.com/cli/latest/reference/s3api/describe-buckets.html) in *AWS CLI Command Reference*.
Amazon Managed Grafana examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon Managed Grafana.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**
- Actions

**Actions**

**list-workspaces**

The following code example shows how to use `list-workspaces`.

**AWS CLI**

To list workspaces for the account in the Region specified by the user credential

The following `list-workspaces` example lists Grafana workspaces for the account's Region.

```
aws grafana list-workspaces
```

Output:

```
{
   "workspaces": [
      {
         "authentication": {
            "providers": [
```
For API details, see ListWorkspaces in AWS CLI Command Reference.

MediaConnect examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with MediaConnect.
Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics

- Actions

Actions

**add-flow-outputs**

The following code example shows how to use `add-flow-outputs`.

**AWS CLI**

**To add outputs to a flow**

The following `add-flow-outputs` example adds outputs to the specified flow.

```bash
aws mediaconnect add-flow-outputs \
--outputs Description='NYC' stream',Destination=192.0.2.12,Name=NYC,Port=3333,Protocol=rtp-fec,SmoothingLatency=100 Description='LA' stream',Destination=203.0.113.9,Name=LA,Port=4444,Protocol=rtp-fec,SmoothingLatency=100
```

Output:

```
{
  "Outputs": [
    {
      "Port": 3333,
```
For more information, see Adding Outputs to a Flow in the AWS Elemental MediaConnect User Guide.

- For API details, see AddFlowOutputs in AWS CLI Command Reference.

**create-flow**

The following code example shows how to use create-flow.

**AWS CLI**

**To create a flow**

The following create-flow example creates a flow with the specified configuration.

```
aws mediaconnect create-flow \   
    --availability-zone us-west-2c \    
    --name ExampleFlow \    
```
--source Description='Example source, backup', IngestPort=1055, Name=BackupSource, Protocol=rtp, WhitelistCidr=10.24.34.0/23

Output:

```json
{
   "Flow": {
      "AvailabilityZone": "us-west-2c",
      "EgressIp": "54.245.71.21",
      "Source": {
         "IngestPort": 1055,
         "Transport": {
            "Protocol": "rtp",
            "MaxBitrate": 8000000
         },
         "Description": "Example source, backup",
         "IngestIp": "54.245.71.21",
         "WhitelistCidr": "10.24.34.0/23",
         "Name": "mySource"
      },
      "Entitlements": [],
      "Name": "ExampleFlow",
      "Outputs": [],
      "Status": "STANDBY",
      "Description": "Example source, backup"
   }
}
```

For more information, see Creating a Flow in the AWS Elemental MediaConnect User Guide.

- For API details, see CreateFlow in AWS CLI Command Reference.

**delete-flow**

The following code example shows how to use delete-flow.

**AWS CLI**

To delete a flow
The following delete-flow example deletes the specified flow.

```bash
aws mediaconnect delete-flow \
```

Output:

```
{
   "Status": "DELETING"
}
```

For more information, see Deleting a Flow in the AWS Elemental MediaConnect User Guide.

- For API details, see DeleteFlow in AWS CLI Command Reference.

describe-flow

The following code example shows how to use describe-flow.

AWS CLI

To view the details of a flow

The following describe-flow example displays the specified flow's details, such as ARN, Availability Zone, status, source, entitlements, and outputs.

```bash
aws mediaconnect describe-flow \
```

Output:

```
{
   "Flow": {
      "EgressIp": "54.201.4.39",
      "AvailabilityZone": "us-west-2c",
      "Status": "ACTIVE",
   }
}
```
"Entitlements": [
    {
      "Description": "Assign to this account",
      "Name": "MyEntitlement",
      "Subscribers": [
        "4445556666"
      ]
    },
    {
      "Description": "NYC awards show",
      "Name": "AwardsShow",
      "Outputs": [
        {
          "Port": 2355,
          "Name": "NYC",
          "Transport": {
            "SmoothingLatency": 0,
            "Protocol": "rtp-fec"
          },
          "Destination": "192.0.2.0"
        },
        {
          "Port": 3025,
          "Name": "LA",
          "Transport": {
            "SmoothingLatency": 0,
            "Protocol": "rtp-fec"
          },
          "Destination": "192.0.2.0"
        }
      ],
      "Source": {
        "IngestIp": "54.201.4.39",
        "SourceArn": "arn:aws:mediacar:us-east-1:123456789012:source:3-4aBC56dEF78hiJ90-4de5fGHi78Jk:ShowSource",
        "Transport": {
          "MaxBitrate": 80000000,
          "Protocol": "rtp"
        }
      }
    }
]
The following code example shows how to use `grant-flow-entitlements`.

**AWS CLI**

**To grant an entitlement on a flow**

The following `grant-flow-entitlements` example grants an entitlement to the specified existing flow to share your content with another AWS account.

```bash
aws mediaconnect grant-flow-entitlements \
  --entitlements Description='For AnyCompany',Encryption={"Algorithm=aes128,KeyType=static-key,RoleArn=arn:aws:iam::111122223333:role/MediaConnect-ASM,SecretArn=arn:aws:secretsmanager:us-west-2:111122223333:secret:mySecret1"},Name=AnyCompany_Entitlement,Subscribers=444455556666 Description='For Example Corp',Name=ExampleCorp,Subscribers=777788889999
```

**Output:**

```
{
  "Entitlements": [
  {
    "Name": "AnyCompany_Entitlement",
```
"Subscribers": [
   "44455556666"
],
"Description": "For AnyCompany",
"Encryption": {
   "Algorithm": "aes128",
   "RoleArn": "arn:aws:iam::111122223333:role/MediaConnect-ASM",
   "KeyType": "static-key"
}
},
{
   "Name": "ExampleCorp",
   "Subscribers": [
      "777788889999"
   ],
   "Description": "For Example Corp"
}
],


### list-entitlements

The following code example shows how to use `list-entitlements`.

**AWS CLI**

**To view a list of entitlements**

The following `list-entitlements` example displays a list of all entitlements that have been granted to the account.
aws mediaconnect list-entitlements

Output:

```json
{
    "Entitlements": [
        {
            "EntitlementName": "MyEntitlement"
        }
    ]
}
```

For more information, see [ListEntitlements](#) in the [AWS Elemental MediaConnect API Reference](#).

- For API details, see [ListEntitlements](#) in [AWS CLI Command Reference](#).

**list-flows**

The following code example shows how to use list-flows.

**AWS CLI**

To view a list of flows

The following list-flows example displays a list of flows.

aws mediaconnect list-flows

Output:

```json
{
    "Flows": [
        {
            "Status": "STANDBY",
            "SourceType": "OWNED",
            "AvailabilityZone": "us-west-2a",
            "Description": "NYC awards show",
            "Name": "AwardsShow"
        }
    ]
}
```
{
  "Status": "STANDBY",
  "SourceType": "OWNED",
  "AvailabilityZone": "us-west-2c",
  "Description": "LA basketball game",
  "Name": "BasketballGame",
}
]}

For more information, see [Viewing a List of Flows](https://aws.amazon.com) in the *AWS Elemental MediaConnect User Guide*.

- For API details, see [ListFlows](https://aws.amazon.com) in *AWS CLI Command Reference*.

### list-tags-for-resource

The following code example shows how to use `list-tags-for-resource`.

**AWS CLI**

**To list tags for a MediaConnect resource**

The following `list-tags-for-resource` example displays the tag keys and values associated with the specified MediaConnect resource.

```bash
aws mediaconnect list-tags-for-resource \
```

**Output:**

```json
{
  "Tags": {
    "region": "west",
    "stage": "prod"
  }
}
```
For more information, see ListTagsForResource, TagResource, UntagResource in the AWS Elemental MediaConnect API Reference.

- For API details, see ListTagsForResource in AWS CLI Command Reference.

**remove-flow-output**

The following code example shows how to use remove-flow-output.

**AWS CLI**

To remove an output from a flow

The following remove-flow-output example removes an output from the specified flow.

```
aws mediaconnect remove-flow-output \
```

Output:

```
{
   "OutputArn": "arn:aws:mediaconnect:us-east-1:111122223333:output:2-3aBC45dEF67hiJ89-c34de5fG678h:NYC"
}
```

For more information, see Removing Outputs from a Flow in the AWS Elemental MediaConnect User Guide.

- For API details, see RemoveFlowOutput in AWS CLI Command Reference.

**revoke-flow-entitlement**

The following code example shows how to use revoke-flow-entitlement.
AWS CLI

To revoke an entitlement

The following `revoke-flow-entitlement` example revokes an entitlement on the specified flow.

```bash
aws mediaconnect revoke-flow-entitlement \
```

Output:

```json
{
}
```

For more information, see [Revoking an Entitlement](#) in the *AWS Elemental MediaConnect User Guide*.

- For API details, see [RevokeFlowEntitlement](#) in *AWS CLI Command Reference*.

start-flow

The following code example shows how to use `start-flow`.

AWS CLI

To start a flow

The following `start-flow` example starts the specified flow.

```bash
aws mediaconnect start-flow \
```
This command produces no output. Output:

```json
{
    "Status": "STARTING"
}
```

For more information, see Starting a Flow in the AWS Elemental MediaConnect User Guide.

- For API details, see StartFlow in AWS CLI Command Reference.

**stop-flow**

The following code example shows how to use stop-flow.

**AWS CLI**

To stop a flow

The following stop-flow example stops the specified flow.

```bash
aws mediaconnect stop-flow \
```

Output:

```json
{
    "Status": "STOPPING",
}
```

For more information, see Stopping a Flow in the AWS Elemental MediaConnect User Guide.

- For API details, see StopFlow in AWS CLI Command Reference.

**tag-resource**

The following code example shows how to use tag-resource.
AWS CLI

To add tags to a MediaConnect resource

The following `tag-resource` example adds a tag with a key name and value to the specified MediaConnect resource.

```
aws mediaconnect tag-resource \
   --tags region=west
```

This command produces no output.

For more information, see [ListTagsForResource, TagResource, UntagResource](https://docs.aws.amazon.com/ElemMediaConnect/latest/APIReference/index.html) in the *AWS Elemental MediaConnect API Reference*.

- For API details, see [TagResource](https://docs.aws.amazon.com/ElemMediaConnect/latest/APIReference/index.html) in *AWS CLI Command Reference*.

untag-resource

The following code example shows how to use `untag-resource`.

AWS CLI

To remove tags from a MediaConnect resource

The following `untag-resource` example remove the tag with the specified key name and its associated value from a MediaConnect resource.

```
aws mediaconnect untag-resource \
   --tag-keys region
```

This command produces no output.

For more information, see [ListTagsForResource, TagResource, UntagResource](https://docs.aws.amazon.com/ElemMediaConnect/latest/APIReference/index.html) in the *AWS Elemental MediaConnect API Reference*.

- For API details, see [UntagResource](https://docs.aws.amazon.com/ElemMediaConnect/latest/APIReference/index.html) in *AWS CLI Command Reference*. 

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update-flow-entitlement

The following code example shows how to use update-flow-entitlement.

AWS CLI

To update an entitlement

The following update-flow-entitlement example updates the specified entitlement with a new description and subscriber.

```bash
aws mediaconnect update-flow-entitlement
   --description 'For AnyCompany Affiliate'
   --subscribers 777788889999
```

Output:

```json
{
   "Entitlement": {
      "Name": "AnyCompany_Entitlement",
      "Description": "For AnyCompany Affiliate",
      "Encryption": {
         "KeyType": "static-key",
         "Algorithm": "aes128",
         "RoleArn": "arn:aws:iam::111122223333:role/MediaConnect-ASM",
      },
      "Subscribers": [777788889999]
   }
}
```
For more information, see [Updating an Entitlement](#) in the *AWS Elemental MediaConnect User Guide*.

- For API details, see [UpdateFlowEntitlement](#) in *AWS CLI Command Reference*.

**update-flow-output**

The following code example shows how to use `update-flow-output`.

**AWS CLI**

**To update an output on a flow**

The following `update-flow-output` example updates an output on the specified flow.

```bash
aws mediaconnect update-flow-output \\
  --output-arn arn:aws:mediaconnect:us-east-1:111122223333:output:2-3aBC45dEF67hiJ89-c34de5f678h:NYC \\
  --port 3331
```

Output:

```json
{
  "Output": {
    "Name": "NYC",
    "Port": 3331,
    "Description": "NYC stream",
    "Transport": {
      "Protocol": "rtp-fec",
      "SmoothingLatency": 100
    }
  },
  "Destination": "192.0.2.12"
}
```

For more information, see [Updating Outputs on a Flow](#) in the *AWS Elemental MediaConnect User Guide*.
update-flow-source

The following code example shows how to use update-flow-source.

**AWS CLI**

**To update the source of an existing flow**

The following update-flow-source example updates the source of an existing flow.

```bash
aws mediaconnect update-flow-source \
  --source-arn arn:aws:mediaconnect:us-east-1:111122223333:source:3-4aBC56dEF78hiJ90-4de5fG6Hi78Jk:ShowSource \
  --description 'Friday night show' \n  --ingest-port 3344 \
  --protocol rtp-fec \
  --whitelist-cidr 10.24.34.0/23
```

**Output:**

```json
{
  "Source": {
    "IngestIp": "34.210.136.56",
    "WhitelistCidr": "10.24.34.0/23",
    "Transport": {
      "Protocol": "rtp-fec"
    },
    "IngestPort": 3344,
    "Name": "ShowSource",
    "Description": "Friday night show",
    "SourceArn": "arn:aws:mediaconnect:us-east-1:111122223333:source:3-4aBC56dEF78hiJ90-4de5fG6Hi78Jk:ShowSource"
  }
}
```
For more information, see [Updating the Source of a Flow](https://aws.amazon.com/premiumsupport/help/documentation/aws-elemental-mediaconnect/user-guide/) in the *AWS Elemental MediaConnect User Guide*.

- For API details, see [UpdateFlowSource](https://aws.amazon.com/premiumsupport/help/documentation/awscli/command-reference/) in *AWS CLI Command Reference*.

## MediaConvert examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with MediaConvert.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

### Topics
- [Actions](#)

### Actions

#### Create a transcoding job

The following code example shows how to create an AWS Elemental MediaConvert transcoding job.

**AWS CLI**

**To create a job**

The following `create-job` example creates a transcoding job with the settings that are specified in a file `job.json` that resides on the system that you send the command from. This JSON job specification might specify each setting individually, reference a job template, or reference output presets.

```bash
aws mediaconvert create-job
```
You can use the AWS Elemental MediaConvert console to generate the JSON job specification by choosing your job settings, and then choosing **Show job JSON** at the bottom of the **Job** section.

To get your account-specific endpoint, use **describe-endpoints**, or send the command without the endpoint. The service returns an error and your endpoint.

If your request is successful, the service returns the JSON job specification that you sent with your request.

For more information, see **Working with AWS Elemental MediaConvert Jobs** in the **AWS Elemental MediaConvert User Guide**.

- For API details, see **CreateJob** in **AWS CLI Command Reference**.

### Get a transcoding job

The following code example shows how to get an AWS Elemental MediaConvert transcoding job.

**AWS CLI**

**To get details for a particular job**

The following example requests the information for the job with ID 1234567890987-1ab2c3, which in this example ended in an error.

```bash
aws mediaconvert get-job \
  --endpoint-url https://abcd1234.mediaconvert.region-name-1.amazonaws.com \
  --region region-name-1 \
  --id 1234567890987-1ab2c3
```

To get your account-specific endpoint, use **describe-endpoints**, or send the command without the endpoint. The service returns an error and your endpoint.

If your request is successful, the service returns a JSON file with job information, including job settings, any returned errors, and other job data, as follows:
For more information, see Working with AWS Elemental MediaConvert Jobs in the AWS Elemental MediaConvert User Guide.

- For API details, see GetJob in AWS CLI Command Reference.

List transcoding jobs

The following code example shows how to list AWS Elemental MediaConvert transcoding jobs.

AWS CLI

To get details for all jobs in a region

The following example requests the information for all of your jobs in the specified region.

```
aws mediaconvert list-jobs
   --endpoint-url https://abcd1234.mediaconvert.region-name-1.amazonaws.com
   --region region-name-1
```
To get your account-specific endpoint, use describe-endpoints, or send the command without the endpoint. The service returns an error and your endpoint.

For more information, see [Working with AWS Elemental MediaConvert Jobs](#) in the [AWS Elemental MediaConvert User Guide](#).

- For API details, see [ListJobs](#) in [AWS CLI Command Reference](#).

**cancel-job**

The following code example shows how to use cancel-job.

**AWS CLI**

*To cancel a job that is in a queue*

The following cancel-job example cancels the job with ID 1234567891234-abc123. You can't cancel a job that the service has started processing.

```
aws mediaconvert cancel-job \
  --endpoint-url https://abcd1234.mediaconvert.region-name-1.amazonaws.com \
  --region region-name-1 \
  --id 1234567891234-abc123
```

To get your account-specific endpoint, use describe-endpoints, or send the command without the endpoint. The service returns an error and your endpoint.

For more information, see [Working with AWS Elemental MediaConvert Jobs](#) in the [AWS Elemental MediaConvert User Guide](#).

- For API details, see [CancelJob](#) in [AWS CLI Command Reference](#).

**create-job-template**

The following code example shows how to use create-job-template.

**AWS CLI**

*To create a job template*

The following create-job-template example creates a job template with the transcoding settings that are specified in the file `job-template.json` that resides on your system.
aws mediaconvert create-job-template \
   --endpoint-url https://abcd1234.mediaconvert.region-name-1.amazonaws.com \
   --region region-name-1 \
   --name JobTemplate1 \
   --cli-input-json file://~/job-template.json

If you create your job template JSON file by using get-job-template and then modifying the file, remove the JobTemplate object, but keep the Settings child object inside it. Also, make sure to remove the following key-value pairs: LastUpdated, Arn, Type, and CreatedAt. You can specific the category, description, name, and queue either in the JSON file or at the command line.

To get your account-specific endpoint, use describe-endpoints, or send the command without the endpoint. The service returns an error and your endpoint.

If your request is successful, the service returns the JSON specification for the job template that you created.

For more information, see Working with AWS Elemental MediaConvert Job Templates in the AWS Elemental MediaConvert User Guide.

• For API details, see CreateJobTemplate in AWS CLI Command Reference.

create-preset

The following code example shows how to use create-preset.

AWS CLI

To create a custom output preset

The following create-preset example creates a custom output preset based on the output settings that are specified in the file preset.json. You can specify the category, description, and name either in the JSON file or at the command line.

aws mediaconvert create-preset \
   --endpoint-url https://abcd1234.mediaconvert.region-name-1.amazonaws.com \
   --region region-name-1 \
   --cli-input-json file://~/preset.json
If you create your preset JSON file by using `get-preset` and then modifying the output file, ensure that you remove the following key-value pairs: `LastUpdated`, `Arn`, `Type`, and `CreatedAt`.

To get your account-specific endpoint, use `describe-endpoints`, or send the command without the endpoint. The service returns an error and your endpoint.

For more information, see Working with AWS Elemental MediaConvert Output Presets in the AWS Elemental MediaConvert User Guide.

- For API details, see `CreatePreset` in AWS CLI Command Reference.

**create-queue**

The following code example shows how to use `create-queue`.

**AWS CLI**

To create a custom queue

The following `create-queue` example creates a custom transcoding queue.

```bash
aws mediaconvert create-queue \
   --endpoint-url https://abcd1234.mediaconvert.region-name-1.amazonaws.com \
   --region region-name-1 \
   --name Queue1 \
   --description "Keep this queue empty unless job is urgent."
```

To get your account-specific endpoint, use `describe-endpoints`, or send the command without the endpoint. The service returns an error and your endpoint.

Output:

```json
{
   "Queue": {
      "Status": "ACTIVE",
      "Name": "Queue1",
      "LastUpdated": 1518034928,
      "Arn": "arn:aws:mediaconvert:region-name-1:012345678998:queues/Queue1",
      "Type": "CUSTOM",
      "CreatedAt": 1518034928,
      "Description": "Keep this queue empty unless job is urgent."
   }
}
```
For more information, see [Working with AWS Elemental MediaConvert Queues](https://docs.aws.amazon.com/mediaconvert/latest/userguide/working-with-queues.html) in the *AWS Elemental MediaConvert User Guide*.

- For API details, see [CreateQueue](https://docs.aws.amazon.com/cli/latest/reference/mediaconvert/createqueue.html) in *AWS CLI Command Reference*.

**delete-job-template**

The following code example shows how to use `delete-job-template`.

**AWS CLI**

**To delete a job template**

The following `delete-job-template` example deletes the specified custom job template.

```bash
aws mediaconvert delete-job-template \
  --name "DASH Streaming" \
  --endpoint-url https://abcd1234.mediaconvert.us-west-2.amazonaws.com
```

This command produces no output. Run `aws mediaconvert list-job-templates` to confirm that your template was deleted.

For more information, see [Working with AWS Elemental MediaConvert Job Templates](https://docs.aws.amazon.com/mediaconvert/latest/userguide/working-with-job-templates.html) in the *AWS Elemental MediaConvert User Guide*.

- For API details, see [DeleteJobTemplate](https://docs.aws.amazon.com/cli/latest/reference/mediaconvert/deletejobtemplate.html) in *AWS CLI Command Reference*.

**delete-preset**

The following code example shows how to use `delete-preset`.

**AWS CLI**

**To delete a custom on-demand queue**

The following `delete-preset` example deletes the specified custom preset.

```bash
aws mediaconvert delete-preset \
  --name SimpleMP4 \
  --endpoint-url https://abcd1234.mediaconvert.us-west-2.amazonaws.com
```
This command produces no output. Run `aws mediaconvert list-presets` to confirm that your preset was deleted.

For more information, see [Working with AWS Elemental MediaConvert Output Presets](https://docs.aws.amazon.com/mediaconvert/latest/userguide/) in the *AWS Elemental MediaConvert User Guide*.

- For API details, see [DeletePreset](https://docs.aws.amazon.com/cli/latest/reference/mediaconvert/delete-preset.html) in *AWS CLI Command Reference*.

**delete-queue**

The following code example shows how to use `delete-queue`.

**AWS CLI**

**To delete a custom on-demand queue**

The following `delete-queue` example deletes the specified custom on-demand queue.

You can't delete your default queue. You can't delete a reserved queue that has an active pricing plan or that contains unprocessed jobs.

```bash
aws mediaconvert delete-queue \
  --name Customer1 \
  --endpoint-url https://abcd1234.mediaconvert.us-west-2.amazonaws.com
```

This command produces no output. Run `aws mediaconvert list-queues` to confirm that your queue was deleted.

For more information, see [Working with AWS Elemental MediaConvert Queues](https://docs.aws.amazon.com/mediaconvert/latest/userguide/) in the *AWS Elemental MediaConvert User Guide*.

- For API details, see [DeleteQueue](https://docs.aws.amazon.com/cli/latest/reference/mediaconvert/delete-queue.html) in *AWS CLI Command Reference*.

**describe-endpoints**

The following code example shows how to use `describe-endpoints`.

**AWS CLI**

**To get your account-specific endpoint**

The following `describe-endpoints` example retrieves the endpoint that you need to send any other request to the service.
aws mediaconvert describe-endpoints

Output:

```json
{
    "Endpoints": [
        {
            "Url": "https://abcd1234.mediaconvert.region-name-1.amazonaws.com"
        }
    ]
}
```

For more information, see [Getting Started with MediaConvert Using the API](aws.amazon.com/mediaconvert) in the [AWS Elemental MediaConvert API Reference](aws.amazon.com/mediaconvert).

- For API details, see [DescribeEndpoints](aws.amazon.com/mediaconvert) in [AWS CLI Command Reference](aws.amazon.com/cli).

### get-job-template

The following code example shows how to use `get-job-template`.

**AWS CLI**

#### To get details for a job template

The following `get-job-template` example displays the JSON definition of the specified custom job template.

```bash
aws mediaconvert get-job-template \
    --name "DASH Streaming" \
    --endpoint-url https://abcd1234.mediaconvert.us-east-1.amazonaws.com
```

Output:

```json
{
    "JobTemplate": {
        "StatusUpdateInterval": "SECONDS_60",
        "LastUpdated": 1568652998,
        "Description": "Create a DASH streaming ABR stack",
        "CreatedAt": 1568652998,
        "Priority": 0,
        "Name": "DASH Streaming",
        ...
    }
}
```
"Settings": {
    ...<truncated for brevity>...
},
"Type": "CUSTOM"
}
}

For more information, see Working with AWS Elemental MediaConvert Job Templates in the AWS Elemental MediaConvert User Guide.

- For API details, see GetJobTemplate in AWS CLI Command Reference.

get-preset

The following code example shows how to use get-preset.

AWS CLI

To get details for a particular preset

The following get-preset example requests the JSON definition of the specified custom preset.

aws mediaconvert get-preset \
    --name SimpleMP4 \
    --endpoint-url https://abcd1234.mediaconvert.us-west-2.amazonaws.com

Output:

{
    "Preset": {
        "Description": "Creates basic MP4 file. No filtering or preproccessing.",
        "LastUpdated": 1568843141,
        "Name": "SimpleMP4",
        "Settings": {
            "ContainerSettings": {
                "Mp4Settings": {
                    "FreeSpaceBox": "EXCLUDE",
                    "CslgAtom": "INCLUDE",
                    "MoovPlacement": "PROGRESSIVE_DOWNLOAD"
                }
            }
        }
    }
}


doSomething()


doSomethingElse()


}]

"AudioDescription": {

"LanguageCodeControl": "FOLLOW_INPUT",
"AudioTypeControl": "FOLLOW_INPUT",
"CodecSettings": {

"AacSettings": {

"RawFormat": "NONE",
"CodecProfile": "LC",
"AudioDescriptionBroadcasterMix": "NORMAL",
"SampleRate": 48000,
"Bitrate": 96000,
"RateControlMode": "CBR",
"Specification": "MPEG4",
"CodingMode": "CODING_MODE_2_0"

},

"Codec": "AAC"

}

},

"VideoDescription": {

"RespondToAfd": "NONE",
"TimecodeInsertion": "DISABLED",
"Sharpness": 50,
"ColorMetadata": "INSERT",
"CodecSettings": {

"H264Settings": {

"FramerateControl": "INITIALIZE_FROM_SOURCE",
"SpatialAdaptiveQuantization": "ENABLED",
"Softness": 0,
"Telecine": "NONE",
"CodecLevel": "AUTO",
"QualityTuningLevel": "SINGLE_PASS",
"UnregisteredSeiTimecode": "DISABLED",
"Slices": 1,
"Syntax": "DEFAULT",
"GopClosedCadence": 1,
"AdaptiveQuantization": "HIGH",
"EntropyEncoding": "CABAC",
"InterlaceMode": "PROGRESSIVE",
"ParControl": "INITIALIZE_FROM_SOURCE",
"NumberBFramesBetweenReferenceFrames": 2,

}

}
"GopSizeUnits": "FRAMES",
"RepeatPps": "DISABLED",
"CodecProfile": "MAIN",
"FieldEncoding": "PAFF",
"GopSize": 90.0,
"SlowPal": "DISABLED",
"SceneChangeDetect": "ENABLED",
"GopBReference": "DISABLED",
"RateControlMode": "CBR",
"FramerateConversionAlgorithm": "DUPLICATE_DROP",
"FlickerAdaptiveQuantization": "DISABLED",
"DynamicSubGop": "STATIC",
"MinIInterval": 0,
"TemporalAdaptiveQuantization": "ENABLED",
"Bitrate": 400000,
"NumberReferenceFrames": 3
},
"Codec": "H_264"
},
"AfdSignaling": "NONE",
"AntiAlias": "ENABLED",
"ScalingBehavior": "DEFAULT",
"DropFrameTimecode": "ENABLED"
},
"Type": "CUSTOM",
"CreatedAt": 1568841521
}
}

For more information, see Working with AWS Elemental MediaConvert Output Presets in the AWS Elemental MediaConvert User Guide.

- For API details, see GetPreset in AWS CLI Command Reference.

get-queue

The following code example shows how to use get-queue.

AWS CLI

To get details for a queue
The following get-queue example retrieves the details of the specified custom queue.

```bash
aws mediaconvert get-queue \
   --name Customer1 \
   --endpoint-url https://abcd1234.mediaconvert.us-west-2.amazonaws.com
```

**Output:**

```json
{
   "Queue": {
      "LastUpdated": 1526428502,
      "Type": "CUSTOM",
      "SubmittedJobsCount": 0,
      "Status": "ACTIVE",
      "PricingPlan": "ON_DEMAND",
      "CreatedAt": 1526428502,
      "ProgressingJobsCount": 0,
      "Name": "Customer1"
   }
}
```

For more information, see [Working with AWS Elemental MediaConvert Queues](https://docs.aws.amazon.com/mediaconvert/latest/ug/working-with-queues.html) in the *AWS Elemental MediaConvert User Guide*.

- For API details, see [GetQueue](https://docs.aws.amazon.com/cli/latest/reference/mediaconvert/get-queue.html) in *AWS CLI Command Reference*.

---

### list-job-templates

The following code example shows how to use `list-job-templates`.

**AWS CLI**

**Example 1: To list your custom job templates**

The following `list-job-templates` example lists all custom job templates in the current Region. To list the system job templates, see the next example.

```bash
aws mediaconvert list-job-templates \
   --endpoint-url https://abcd1234.mediaconvert.us-west-2.amazonaws.com
```

**Output:**

```json
Actions and scenarios
```
Example 2: To list the MediaConvert system job templates

The following list-job-templates example lists all system job templates.

```bash
aws mediaconvert list-job-templates \
   --endpoint-url https://abcd1234.mediaconvert.us-east-1.amazonaws.com \
   --list-by SYSTEM
```

Output:

```json
{

```
"JobTemplates": [
  {
    "CreatedAt": 1568321779,
    "Arn": "arn:aws:mediaconvert:us-east-1:123456789012:jobTemplates/System-Generic_Mp4_Hev1_Avc_Aac_Sd_Sd_Cbr",
    "Name": "System-Generic_Mp4_Hev1_Avc_Aac_Sd_Sd_Cbr",
    "Description": "GENERIC, MP4, AVC + HEVC(SDR), AAC, SDR, QVBR",
    "Category": "GENERIC",
    "Settings": {
      "AdAvailOffset": 0,
      "OutputGroups": [
        {
          "Outputs": [
            {
              "Extension": "mp4",
              "Preset": "System-Generic_Hd_Mp4_Avc_Aac_Sd_Sd_Cbr_1280x720p_30Hz_5Mbps_Vqbr_Vq9",
              "NameModifier": "_Generic_Hd_Mp4_Avc_Aac_Sd_Sd_Cbr_1280x720p_30Hz_5000Kbps_Vqbr_Vq9"
            },
            {
              "Extension": "mp4",
              "Preset": "System-Generic_Hd_Mp4_Avc_Aac_Sd_Sd_Cbr_1920x1080p_30Hz_10Mbps_Vqbr_Vq9",
              "NameModifier": "_Generic_Hd_Mp4_Avc_Aac_Sd_Sd_Cbr_1920x1080p_30Hz_10000Kbps_Vqbr_Vq9"
            },
            {
              "Extension": "mp4",
              "Preset": "System-Generic_Sd_Mp4_Avc_Aac_Sd_Sd_Cbr_640x360p_30Hz_0.8Mbps_Vqbr_Vq7",
              "NameModifier": "_Generic_Sd_Mp4_Avc_Aac_Sd_Sd_Cbr_640x360p_30Hz_800Kbps_Vqbr_Vq7"
            },
            {
              "Extension": "mp4",
              "Preset": "System-Generic_Hd_Mp4_Hev1_Aac_Sd_Sd_Cbr_1280x720p_30Hz_4000Kbps_Vqbr_Vq9",
              "NameModifier": "_Generic_Hd_Mp4_Hev1_Aac_Sd_Sd_Cbr_1280x720p_30Hz_4000Kbps_Vqbr_Vq9"
            }
          ]
        }
      ]
    }
  }
]
For more information, see [Working with AWS Elemental MediaConvert Job Templates](#) in the [AWS Elemental MediaConvert User Guide](#).

- For API details, see [ListJobTemplates](#) in [AWS CLI Command Reference](#).

### list-presets

The following code example shows how to use list-presets.

#### AWS CLI

**Example 1: To list your custom output presets**

```python
"Preset": "System-Generic_Hd_Mp4_Hev1_Aac_16x9_Sdr_1920x1080p_30Hz_8Mbps_Qvbr_Vq9",
"NameModifier": "_Generic_Hd_Mp4_Hev1_Aac_16x9_Sdr_1920x1080p_30Hz_8000Kbps_Qvbr_Vq9"
},
{
   "Extension": "mp4",
   "Preset": "System-Generic_Uhd_Mp4_Hev1_Aac_16x9_Sdr_3840x2160p_30Hz_12Mbps_Qvbr_Vq9",
   "NameModifier": "_Generic_Uhd_Mp4_Hev1_Aac_16x9_Sdr_3840x2160p_30Hz_12000Kbps_Qvbr_Vq9"
}

"OutputGroupSettings": {
   "FileGroupSettings": {
      "Type": "FILE_GROUP_SETTINGS"
   },
   "Name": "File Group"
}

"Type": "SYSTEM",
"LastUpdated": 1568321779

...<truncatedforbrevity>...
The following list-presets example lists your custom output presets. To list the system presets, see the next example.

```bash
aws mediaconvert list-presets \
    --endpoint-url https://abcd1234.mediaconvert.us-west-2.amazonaws.com
```

Output:

```json
{
    "Presets": [
        {
            "Name": "SimpleMP4",
            "CreatedAt": 1568841521,
            "Settings": {
                ...
            },
            "Type": "CUSTOM",
            "LastUpdated": 1568843141,
            "Description": "Creates basic MP4 file. No filtering or preprocessing."
        },
        {
            "Name": "SimpleTS",
            "CreatedAt": 1568843113,
            "Settings": {
                ...
            },
            "Type": "CUSTOM",
            "LastUpdated": 1568843113,
            "Description": "Create a basic transport stream."
        }
    ]
}
```

**Example 2: To list the system output presets**

The following list-presets example lists the available MediaConvert system presets. To list your custom presets, see the previous example.

```bash
aws mediaconvert list-presets \
    --list-by SYSTEM \
```
Output:

```json
{
  "Presets": [
    {
      "Name": "System-Avc_16x9_1080p_29_97fps_8500kbps",
      "CreatedAt": 1568321789,
      "Description": "Wifi, 1920x1080, 16:9, 29.97fps, 8500kbps",
      "LastUpdated": 1568321789,
      "Type": "SYSTEM",
      "Category": "HLS",
      "Settings": {
        ...<output settings removed for brevity>...
      }
    },
    ...
    {
      "Name": "System-Xdcam_HD_1080i_29_97fps_35mpbs",
      "CreatedAt": 1568321790,
      "Description": "XDCAM MPEG HD, 1920x1080i, 29.97fps, 35mbps",
      "LastUpdated": 1568321790,
      "Type": "SYSTEM",
      "Category": "MXF",
      "Settings": {
        ...<output settings removed for brevity>...
      }
    }
  ]
}
```


list-queues

The following code example shows how to use list-queues.

AWS CLI

To list your queues

The following list-queues example lists all of your MediaConvert queues.

```
aws mediaconvert list-queues \
    --endpoint-url https://abcd1234.mediaconvert.us-west-2.amazonaws.com
```

Output:

```
{
    "Queues": [
        {
            "PricingPlan": "ON_DEMAND",
            "Type": "SYSTEM",
            "Status": "ACTIVE",
            "CreatedAt": 1503451595,
            "Name": "Default",
            "SubmittedJobsCount": 0,
            "ProgressingJobsCount": 0,
            "LastUpdated": 1534549158
        },
        {
            "PricingPlan": "ON_DEMAND",
            "Type": "CUSTOM",
            "Status": "ACTIVE",
            "CreatedAt": 1537460025,
            "Name": "Customer1",
            "SubmittedJobsCount": 0,
            "Description": "Jobs we run for our cusotmer.",
            "ProgressingJobsCount": 0,
            "LastUpdated": 1537460025
        },
        {
            "ProgressingJobsCount": 0,
            "Status": "ACTIVE",
            "Name": "transcode-library",
```
"SubmittedJobsCount": 0,
"LastUpdated": 1564066204,
"ReservationPlan": {
    "Status": "ACTIVE",
    "ReservedSlots": 1,
    "PurchasedAt": 1564066203,
    "Commitment": "ONE_YEAR",
    "ExpiresAt": 1595688603,
    "RenewalType": "EXPIRE"
},
"PricingPlan": "RESERVED",
"Type": "CUSTOM",
"CreatedAt": 1564066204
]
}

For more information, see [Working with AWS Elemental MediaConvert Queues](https://aws.amazon.com/documentation/mediacenter/working-with-aws-elemental-mediaconvert-queues/) in the *AWS Elemental MediaConvert User Guide*.

- For API details, see [ListQueues](https://docs.aws.amazon.com/cli/latest/reference/mediaconvert/list-queues.html) in *AWS CLI Command Reference*.

### list-tags-for-resource

The following code example shows how to use `list-tags-for-resource`.

#### AWS CLI

**To list the tags on a MediaConvert queue, job template, or output preset**

The following `list-tags-for-resource` example lists the tags on the specified output preset.

```bash
aws mediaconvert list-tags-for-resource \
  --arn arn:aws:mediaconvert:us-west-2:123456789012:presets/SimpleMP4 \
  --endpoint-url https://abcd1234.mediaconvert.us-west-2.amazonaws.com
```

**Output:**

```json
{
    "ResourceTags": {
```
For more information, see [Tagging AWS Elemental MediaConvert Queues, Job Templates, and Output Presets](https://docs.aws.amazon.com/mediaconvert/latest/userguide) in the [AWS Elemental MediaConvert User Guide](https://docs.aws.amazon.com/mediaconvert/latest/userguide).


---

### update-job-template

The following code example shows how to use `update-job-template`.

**AWS CLI**

**To change a job template**

The following `update-job-template` example replaces the JSON definition of the specified custom job template with the JSON definition in the provided file.


**Contents of `job-template-update.json`:

```json
{
    "Description": "A simple job template that generates a single file output.",
    "Name": "SimpleFile",
    "Settings": {
        "OutputGroups": [
            {
                "Name": "File Group",
                "Outputs": [
                    {
                        "ContainerSettings": {
                            "Container": "MP4",
                            "Mp4Settings": {
                                "CslgAtom": "INCLUDE",
                                "Quality": "LOW"
                            }
                        }
                    }
                ]
            }
        ]
    }
}
```
"FreeSpaceBox": "EXCLUDE",
  "MoovPlacement": "PROGRESSIVE_DOWNLOAD"
}
},
"VideoDescription": {
  "ScalingBehavior": "DEFAULT",
  "TimecodeInsertion": "DISABLED",
  "AntiAlias": "ENABLED",
  "Sharpness": 50,
  "CodecSettings": {
    "Codec": "H_264",
    "H264Settings": {
      "InterlaceMode": "PROGRESSIVE",
      "NumberReferenceFrames": 3,
      "Syntax": "DEFAULT",
      "Softness": 0,
      "GopClosedCadence": 1,
      "GopSize": 90,
      "Slices": 1,
      "GopBFReference": "DISABLED",
      "SlowPal": "DISABLED",
      "SpatialAdaptiveQuantization": "ENABLED",
      "TemporalAdaptiveQuantization": "ENABLED",
      "FlickerAdaptiveQuantization": "DISABLED",
      "EntropyEncoding": "CABAC",
      "Bitrate": 400000,
      "FramerateControl": "INITIALIZE_FROM_SOURCE",
      "RateControlMode": "CBR",
      "CodecProfile": "MAIN",
      "Telecine": "NONE",
      "MinIInterval": 0,
      "AdaptiveQuantization": "HIGH",
      "CodecLevel": "AUTO",
      "FieldEncoding": "PAFF",
      "SceneChangeDetect": "ENABLED",
      "QualityTuningLevel": "SINGLE_PASS",
      "FramerateConversionAlgorithm": "DUPLICATE_DROP",
      "UnregisteredSeiTimecode": "DISABLED",
      "GopSizeUnits": "FRAMES",
      "ParControl": "INITIALIZE_FROM_SOURCE",
      "NumberBFramesBetweenReferenceFrames": 2,
      "RepeatPps": "DISABLED",
      "DynamicSubGop": "STATIC"
    }
  }
}
The system returns the JSON payload that you send with your request, even when the request results in an error. Therefore, the JSON returned is not necessarily the new definition of the job template.
Because the JSON payload can be long, you might need to scroll up to see any error messages.

For more information, see Working with AWS Elemental MediaConvert Job Templates in the AWS Elemental MediaConvert User Guide.

- For API details, see UpdateJobTemplate in AWS CLI Command Reference.

**update-preset**

The following code example shows how to use update-preset.

**AWS CLI**

**To change a preset**

The following update-preset example replaces the description for the specified preset.

```bash
aws mediaconvert update-preset \
--name Customer1 \
--description "New description text." \
--endpoint-url https://abcd1234.mediaconvert.us-west-2.amazonaws.com
```

This command produces no output. Output:

```
{
   "Preset": {
      "Settings": {
         ...<output settings removed for brevity>...
      },
      "Type": "CUSTOM",
      "LastUpdated": 1568938411,
      "Description": "New description text.",
      "Name": "SimpleMP4",
      "CreatedAt": 1568938240
   }
}
```

For more information, see Working with AWS Elemental MediaConvert Output Presets in the AWS Elemental MediaConvert User Guide.

- For API details, see UpdatePreset in AWS CLI Command Reference.
**update-queue**

The following code example shows how to use `update-queue`.

**AWS CLI**

**To change a queue**

The following `update-queue` example pauses the specified queue, by changing its status to **PAUSED**.

```bash
aws mediaconvert update-queue \
--name Customer1 \
--status PAUSED \
--endpoint-url https://abcd1234.mediaconvert.us-west-2.amazonaws.com
```

**Output:**

```json
{
    "Queue": {
        "LastUpdated": 1568839845,
        "Status": "PAUSED",
        "ProgressingJobsCount": 0,
        "CreatedAt": 1526428516,
        "Name": "Customer1",
        "SubmittedJobsCount": 0,
        "PricingPlan": "ON_DEMAND",
        "Type": "CUSTOM"
    }
}
```

For more information, see [Working with AWS Elemental MediaConvert Queues](https://aws.amazon.com) in the **AWS Elemental MediaConvert User Guide**.

- For API details, see [UpdateQueue](https://aws.amazon.com) in **AWS CLI Command Reference**.

**MediaLive examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with MediaLive.
Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics
- Actions

Actions

create-channel

The following code example shows how to use create-channel.

AWS CLI

To create a channel

The following create-channel example creates a channel by passing in a JSON file that contains the parameters that you want to specify.

The channel in this example ingests an HLS PULL input that connects to a source that contains video, audio, and embedded captions. The channel creates one HLS output group with an Akamai server as the destination. The output group contains two outputs: one for the H.265 video and AAC audio, and one for the Web-VTT captions, in English only.

The JSON for this example channel includes the minimum required parameters for a channel that uses an HLS PULL input and that produces an HLS output group with Akamai as the destination. The JSON contains these main sections:

InputAttachments, which specifies one source for the audio, and one source for the captions. It does not specify a video selector, which means that MediaLive extracts the first video it finds in the source.

Destinations, which contains the two IP addresses (URLs) for the single output group in this channel. These addresses require passwords.

EncoderSettings, which contains subsections. AudioDescriptions, which specifies that the channel contains one audio output asset, which uses the source from InputAttachments, and produces audio in
AAC format. CaptionDescriptions, which specifies that the channel contains one captions output asset, which uses the source from InputAttachments, and produces captions in WebVTT format. VideoDescriptions, which specifies that the channel contains one video output asset, with the specified resolution. OutputGroups, which specifies the output groups. In this example there is one group named Akamai. The connection is made using HLS PUT. The output group contains two outputs. One output is for the video asset (named Video_high) and the audio asset (named Audio_EN). One output is for the captions asset (named WebVTT_EN).

In this example, some of the parameters contain no value or contain nested empty parameters. For example, OutputSettings for the Video_and_audio output contains several nested parameters that end at an empty parameter M3u8Settings. This parameter must be included, but you can omit one, several, or all its children, which means that the child will take its default value or be null.

All the parameters that apply to this example channel but that aren't specified in this file will either take the default value, be set to null, or take a unique value generated by MediaLive.

```
aws medialive create-channel \
   --cli-input-json file://channel-in-hls-out-hls-akamai.json
```

Contents of channel-in-hls-out-hls-akamai.json:

```json
{
    "Name": "News_West",
    "RoleArn": "arn:aws:iam::111122223333:role/MediaLiveAccessRole",
    "InputAttachments": [
        {
            "InputAttachmentName": "local_news",
            "InputId": "1234567",
            "InputSettings": {
                "AudioSelectors": [
                    {
                        "Name": "English-Audio",
                        "SelectorSettings": {
                            "AudioLanguageSelection": {
                                "LanguageCode": "EN"
                            }
                        }
                    }
                ]
            },
            "CaptionSelectors": [
                {
                    "Name": "WebVTT_EN"
                }
            ]
        }
    ]
}```
{
    "LanguageCode": "ENE",
    "Name": "English_embedded"
}
],
"Destinations": [
{
    "Id": "akamai-server-west",
    "Settings": [
    {
        "PasswordParam": "/medialive/examplecorp1",
        "Url": "http://203.0.113.55/news/news_west",
        "Username": "examplecorp"
    },
    {
        "PasswordParam": "/medialive/examplecorp2",
        "Url": "http://203.0.113.82/news/news_west",
        "Username": "examplecorp"
    }
    ]
}
],
"EncoderSettings": {
    "AudioDescriptions": [
    {
        "AudioSelectorName": "English-Audio",
        "CodecSettings": {
            "AacSettings": {}
        },
        "Name": "Audio_EN"
    }
    ],
    "CaptionDescriptions": [
    {
        "CaptionSelectorName": "English_embedded",
        "DestinationSettings": {
            "WebvttDestinationSettings": {}
        },
        "Name": "WebVTT_EN"
    }
    ]
}
"VideoDescriptions": [
  {
    "Height": 720,
    "Name": "Video_high",
    "Width": 1280
  }
],
"OutputGroups": [
  {
    "Name": "Akamai",
    "OutputGroupSettings": {
      "HlsGroupSettings": {
        "Destination": {
          "DestinationRefId": "akamai-server-west"
        },
        "HlsCdnSettings": {
          "HlsBasicPutSettings": {}
        }
      }
    },
    "Outputs": [
      {
        "AudioDescriptionNames": [
          "Audio_EN"
        ],
        "OutputName": "Video_and_audio",
        "OutputSettings": {
          "HlsOutputSettings": {
            "HlsSettings": {
              "StandardHlsSettings": {
                "M3u8Settings": {}
              }
            },
            "NameModifier": "_1"
          }
        },
        "VideoDescriptionName": "Video_high"
      },
      {
        "CaptionDescriptionNames": [
          "WebVTT_EN"
        ],
        "OutputName": "Captions-WebVTT",
        "OutputSettings": {
          "NameModifier": "_1"
        }
      }
    ]
  }
]
"HlsOutputSettings": { 
  "HlsSettings": { 
    "StandardHlsSettings": { 
      "M3u8Settings": {} 
    }, 
    "NameModifier": "_2" 
  }, 
  "EgressEndpoints": [] 
}, 
"TimecodeConfig": { 
  "Source": "EMBEDDED" 
}
}

Output:

The output repeats back the contents of the JSON file, plus the following values. All parameters are ordered alphabetically.

ARN for the channel. The last part of the ARN is the unique channel ID. EgressEndpoints is blank in this example channel because it used only for PUSH inputs. When it applies it shows the addresses on MediaLive that content is pushed to. OutputGroups, Outputs. These show all the parameters for the output group and outputs, including those that you didn't include but that are relevant to this channel. The parameters might be empty (perhaps indicating the parameter or feature is disabled in this channel configuration) or might show the default value that will apply. LogLevel is set to the default (DISABLED). Tags is set to the default (null). PipelinesRunningCount and State show the current status of the channel.

For more information, see Creating a Channel from Scratch in the AWS Elemental MediaLive User Guide.

- For API details, see CreateChannel in AWS CLI Command Reference.

create-input

The following code example shows how to use create-input.
**AWS CLI**

**To create an input**

The following `create-input` example creates an HLS PULL input by passing in a JSON file that contains the parameters that apply to this type of input. The JSON for this example input specifies two sources (addresses) to the input, in order to support redundancy in the ingest. These addresses require passwords.

```
aws medialive create-input \
   --cli-input-json file://input-hls-pull-news.json
```

**Contents of `input-hls-pull-news.json`**:

```json
{
   "Name": "local_news",
   "RequestId": "cli000059",
   "Sources": [
       {
           "Url": "https://203.0.113.13/newschannel/anytownusa.m3u8",
           "Username": "examplecorp",
           "PasswordParam": "/medialive/examplecorp1"
       },
       {
           "Url": "https://198.51.100.54/fillervideos/oceanwaves.mp4",
           "Username": "examplecorp",
           "PasswordParam": "examplecorp2"
       }
   ],
   "Type": "URL_PULL"
}
```

**Output**:

The output repeats back the contents of the JSON file, plus the following values. All parameters are ordered alphabetically.

Arn for the input. The last part of the ARN is the unique input ID. Attached Channels, which is always empty for a newly created input. Destinations, which is empty in this example because it is used only with a PUSH input. Id for the input, the same as the ID in the ARN. MediaConnectFlows, which is empty in this example because it is used only with an input
of type MediaConnect.SecurityGroups, which is empty in this example because it is used only with a PUSH input. State of this input. Tags, which is empty (the default for this parameter).

For more information, see Creating an Input in the AWS Elemental MediaLive User Guide.

- For API details, see CreateInput in AWS CLI Command Reference.

**MediaPackage examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with MediaPackage.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- **Actions**

**Actions**

**List channels**

The following code example shows how to list your MediaPackage channels.

**AWS CLI**

**To list all channels**

The following `list-channels` command lists all of the channels that are configured on the current AWS account.

```
aws mediapackage list-channels
```

Output:
For more information, see View Channel Details in the AWS Elemental MediaPackage User Guide.

• For API details, see ListChannels in AWS CLI Command Reference.

List your origin endpoints

The following code example shows how to list your MediaPackage origin endpoints.

AWS CLI

To list all origin-endpoints on a channel
The following list-origin-endpoints command lists all of the origin endpoints that are configured on the channel named test.

```
aws mediapackage list-origin-endpoints \
--channel-id test
```

Output:

```
{
  "OriginEndpoints": [
    {
      "Arn": "arn:aws:mediapackage:us-west-2:111222333:origin_endpoints/247cff871f2845d3805129be22f2c0a2",
      "ChannelId": "test",
      "DashPackage": {
        "ManifestLayout": "FULL",
        "ManifestWindowSeconds": 60,
        "MinBufferTimeSeconds": 30,
        "MinUpdatePeriodSeconds": 15,
        "PeriodTriggers": [],
        "Profile": "NONE",
        "SegmentDurationSeconds": 2,
        "SegmentTemplateFormat": "NUMBER_WITH_TIMELINE",
        "StreamSelection": {
          "MaxVideoBitsPerSecond": 2147483647,
          "MinVideoBitsPerSecond": 0,
          "StreamOrder": "ORIGINAL"
        },
        "SuggestedPresentationDelaySeconds": 25
      },
      "Id": "tester2",
      "ManifestName": "index",
      "StartoverWindowSeconds": 0,
      "Tags": {},
      "TimeDelaySeconds": 0,
      "Url": "https://8343f7014c0ea438.mediapackage.us-west-2.amazonaws.com/out/v1/247cff871f2845d3805129be22f2c0a2/index.mpd",
      "Whitelist": []
    },
    {
      "ChannelId": "test",
    }
  ]
}
```
For more information, see Viewing all Endpoints Associated with a Channel in the AWS Elemental MediaPackage User Guide.

- For API details, see ListOriginEndpoints in AWS CLI Command Reference.

create-channel

The following code example shows how to use create-channel.

AWS CLI

To create a channel

The following create-channel command creates a channel named sportschannel in the current account.

/aws mediapackage create-channel --id sportschannel
Output:

```json
{
  "Arn": "arn:aws:mediapackage:us-west-2:111222333:channels/6d345804ec3f46c9b454a91d4a80d0e0",
  "HlsIngest": {
    "IngestEndpoints": [
      {
        "Id": "6d345804ec3f46c9b454a91d4a80d0e0",
        "Password": "generatedwebdavpassword1",
        "Url": "https://f31c86aed53b815a.mediapackage.us-west-2.amazonaws.com/in/v2/6d345804ec3f46c9b454a91d4a80d0e0/6d345804ec3f46c9b454a91d4a80d0e0/channel",
        "Username": "generatedwebdavusername1"
      },
      {
        "Id": "2daa32878af24803b24183727211b8ff",
        "Password": "generatedwebdavpassword2",
        "Url": "https://6ebbe7e04c4b0afa.mediapackage.us-west-2.amazonaws.com/in/v2/6d345804ec3f46c9b454a91d4a80d0e0/2daa32878af24803b24183727211b8ff/channel",
        "Username": "generatedwebdavusername2"
      }
    ],
    "Id": "sportschannel",
    "Tags": {
      "region": "west"
    }
  }
}
```

For more information, see Creating a Channel in the AWS Elemental MediaPackage User Guide.

- For API details, see CreateChannel in AWS CLI Command Reference.

**create-origin-endpoint**

The following code example shows how to use create-origin-endpoint.

**AWS CLI**

To create an origin endpoint
The following `create-origin-endpoint` command creates an origin endpoint named `cmafsports` with the package settings provided in a JSON file and specified endpoint settings.

```bash
aws mediapackage create-origin-endpoint \
   --channel-id sportschannel \
   --id cmafsports \
   --cmaf-package file://file/path/cmafpkg.json --description "cmaf output of sports" \
   --id cmaf_sports \
   --manifest-name sports_channel \
   --startover-window-seconds 300 \
   --tags region=west,media=sports \
   --time-delay-seconds 10
```

Output:

```json
{
    "Arn": "arn:aws:mediapackage:us-west-2:111222333:origin_endpoints/1dc6718be36f4f34bb9cd86bc50925e6",
    "ChannelId": "sportschannel",
    "CmafPackage": {
        "HlsManifests": [
            {
                "AdMarkers": "PASSTHROUGH",
                "Id": "cmaf_sports_endpoint",
                "IncludeIframeOnlyStream": true,
                "ManifestName": "index",
                "PlaylistType": "EVENT",
                "PlaylistWindowSeconds": 300,
                "ProgramDateTimeIntervalSeconds": 300,
                "Url": "https://c4af3793bf76b33c.mediapackage.us-west-2.amazonaws.com/out/v1/1dc6718be36f4f34bb9cd86bc50925e6/cmaf_sports_endpoint/index.m3u8"
            }
        ],
        "SegmentDurationSeconds": 2,
        "SegmentPrefix": "sportschannel"
    },
    "Description": "cmaf output of sports",
    "Id": "cmaf_sports",
    "ManifestName": "sports_channel",
    "StartoverWindowSeconds": 300,
    "Tags": {
```
For more information, see [Creating an Endpoint](#) in the *AWS Elemental MediaPackage User Guide*. For API details, see [CreateOriginEndpoint](#) in *AWS CLI Command Reference*.

**delete-channel**

The following code example shows how to use delete-channel.

**AWS CLI**

**To delete a channel**

The following `delete-channel` command deletes the channel named `test`.

```bash
aws mediapackage delete-channel \
--id test
```

This command produces no output.

For more information, see [Deleting a Channel](#) in the *AWS Elemental MediaPackage User Guide*. For API details, see [DeleteChannel](#) in *AWS CLI Command Reference*.

**delete-origin-endpoint**

The following code example shows how to use delete-origin-endpoint.

**AWS CLI**

**To delete an origin endpoint**

The following `delete-origin-endpoint` command deletes the origin endpoint named `tester2`.

```bash
aws mediapackage delete-origin-endpoint \
```
For more information, see [Deleting an Endpoint](#) in the AWS Elemental MediaPackage User Guide.

• For API details, see [DeleteOriginEndpoint](#) in AWS CLI Command Reference.

### describe-channel

The following code example shows how to use `describe-channel`.

**AWS CLI**

To describe a channel

The following `describe-channel` command displays all of the details of the channel named `test`.

```bash
aws mediapackage describe-channel \
  --id test
```

**Output:**

```json
{
    "Arn": "arn:aws:mediapackage:us-west-2:111222333:channels/584797f1740548c389a273585dd22a63",
    "HlsIngest": {
        "IngestEndpoints": [
            { 
                "Id": "584797f1740548c389a273585dd22a63",
                "Password": "webdavgeneratedpassword1",
                "Url": "https://9be9c4405c474882.mediapackage.us-west-2.amazonaws.com/in/v2/584797f1740548c389a273585dd22a63/584797f1740548c389a273585dd22a63/channel",
                "Username": "webdavgeneratedusername1"
            },
            { 
                "Id": "7d187c8616fd455f88aaa5a9fcf74442",
                "Password": "webdavgeneratedpassword2",
                "Url": "https://7bf454c57220328d.mediapackage.us-west-2.amazonaws.com/in/v2/584797f1740548c389a273585dd22a63/7d187c8616fd455f88aaa5a9fcf74442/channel",
                "Username": "webdavgeneratedusername2"
            }
        ]
    }
}
```
For more information, see Viewing Channel Details<https://docs.aws.amazon.com/mediapackage/latest/ug/channels-view.html> in the AWS Elemental MediaPackage User Guide.

- For API details, see DescribeChannel in AWS CLI Command Reference.

**describe-origin-endpoint**

The following code example shows how to use describe-origin-endpoint.

**AWS CLI**

**To describe an origin endpoint**

The following describe-origin-endpoint command displays all of the details of the origin endpoint named cmaf_sports.

```bash
aws mediapackage describe-origin-endpoint \
--id cmaf_sports
```

**Output:**

```json
{
    "Arn": "arn:aws:mediapackage:us-west-2:111222333:origin_endpoints/1dc6718be36f4f34bb9cd86bc50925e6",
    "ChannelId": "sportschannel",
    "CmafPackage": {
        "HlsManifests": [
            {
                "AdMarkers": "NONE",
                "Id": "cmaf_sports_endpoint",
                "IncludeIframeOnlyStream": false,
                "PlaylistType": "EVENT",
                "PlaylistWindowSeconds": 60,
                "ProgramDateTimeIntervalSeconds": 0,
                "Url": "https://c4af3793bf76b33c.mediapackage.us-west-2.amazonaws.com/out/v1/1dc6718be36f4f34bb9cd86bc50925e6/cmaf_sports_endpoint/index.m3u8"
            }
        ]
    }
}
```
For more information, see Viewing a Single Endpoint in the AWS Elemental MediaPackage User Guide.

- For API details, see DescribeOriginEndpoint in AWS CLI Command Reference.

**list-tags-for-resource**

The following code example shows how to use `list-tags-for-resource`.

**AWS CLI**

**To list the tags assigned to a resource**

The following `list-tags-for-resource` command lists the tags that are assigned to the specified resource.

```
aws mediapackage list-tags-for-resource \
  --resource-arn arn:aws:mediapackage:us-west-2:111222333:channels/6d345804ec3f46c9b454a91d4a80d0e0
```

**Output:**

```json
{
  "Tags": {
    "region": "west"
  }
}
```
For more information, see Tagging Resources in AWS Elemental MediaPackage in the AWS Elemental MediaPackage User Guide.

- For API details, see ListTagsForResource in AWS CLI Command Reference.

rotate-ingest-endpoint-credentials

The following code example shows how to use `rotate-ingest-endpoint-credentials`.

AWS CLI

**To rotate ingest credentials**

The following `rotate-ingest-endpoint-credentials` command rotates the WebDAV username and password for the specified ingest endpoint.

```bash
aws mediapackage rotate-ingest-endpoint-credentials \
   --id test \
   --ingest-endpoint-id 584797f1740548c389a273585dd22a63
```

Output:

```json
{
   "Arn": "arn:aws:mediapackage:us-west-2:111222333:channels/584797f1740548c389a273585dd22a63",
   "HlsIngest": {
      "IngestEndpoints": [
      {
         "Id": "584797f1740548c389a273585dd22a63",
         "Password": "webdavregeneratedpassword1",
         "Url": "https://9be9c4405c474882.mediapackage.us-west-2.amazonaws.com/in/v2/584797f1740548c389a273585dd22a63/584797f1740548c389a273585dd22a63/channel",
         "Username": "webdavregeneratedusername1"
      },
      {
         "Id": "7d187c8616fd455f88aaa5a9fcf74442",
         "Password": "webdavgeneratedpassword2",
         "Url": "https://7bf454c57220328d.mediapackage.us-west-2.amazonaws.com/in/v2/584797f1740548c389a273585dd22a63/7d187c8616fd455f88aaa5a9fcf74442/channel"
      }
      ]
   }
}
```
For more information, see [Rotating Credentials on an Input URL](#) in the *AWS Elemental MediaPackage User Guide*.

- For API details, see [RotateIngestEndpointCredentials](#) in *AWS CLI Command Reference*.

### tag-resource

The following code example shows how to use `tag-resource`.

**AWS CLI**

To add a tag to a resource

The following `tag-resource` commands adds a `region=west` key and value pair to the specified resource.

```
aws mediapackage tag-resource \
  --resource-arn arn:aws:mediapackage:us-west-2:111222333:channels/6d345804ec3f46c9b454a91d4a80d0e0 \
  --tags region=west
```

This command produces no output.

For more information, see [Tagging Resources in AWS Elemental MediaPackage](#) in the *AWS Elemental MediaPackage User Guide*.

- For API details, see [TagResource](#) in *AWS CLI Command Reference*.

### untag-resource

The following code example shows how to use `untag-resource`.

**AWS CLI**

To remove a tag from a resource
The following `untag-resource` command removes the tag with the key `region` from the specified channel.

```bash
aws mediapackage untag-resource \
    --resource-arn arn:aws:mediapackage:us-west-2:111222333:channels/6d345804ec3f46c9b454a91d4a80d0e0 \
    --tag-keys region
```

For more information, see Tagging Resources in AWS Elemental MediaPackage in the AWS Elemental MediaPackage User Guide.

- For API details, see `UntagResource` in AWS CLI Command Reference.

**update-channel**

The following code example shows how to use `update-channel`.

**AWS CLI**

**To update a channel**

The following `update-channel` command updates the channel named `sportschannel` to include the description `24x7 sports`.

```bash
aws mediapackage update-channel \
    --id sportschannel \
    --description "24x7 sports"
```

**Output:**

```
{
    "Arn": "arn:aws:mediapackage:us-west-2:111222333:channels/6d345804ec3f46c9b454a91d4a80d0e0",
    "Description": "24x7 sports",
    "HlsIngest": {
        "IngestEndpoints": [
            {
                "Id": "6d345804ec3f46c9b454a91d4a80d0e0",
                "Password": "generatedwebdavpassword1",
                "Url": "https://f31c86aed53b815a.mediapackage.us-west-2.amazonaws.com/in/v2/6d345804ec3f46c9b454a91d4a80d0e0/6d345804ec3f46c9b454a91d4a80d0e0/channel",
            }
        ]
    }
}
```
For more information, see Editing a Channel in the AWS Elemental MediaPackage User Guide.

- For API details, see UpdateChannel in AWS CLI Command Reference.

**update-origin-endpoint**

The following code example shows how to use update-origin-endpoint.

**AWS CLI**

**To update an origin endpoint**

The following update-origin-endpoint command updates the origin endpoint named cmaf_sports. It changes the time delay to 0 seconds.

```
aws mediapackage update-origin-endpoint \
  --id cmaf_sports \
  --time-delay-seconds 0
```

Output:

```
{
  "Arn": "arn:aws:mediapackage:us-west-2:111222333:origin_endpoints/1dc6718be36f4f34bb9cd86bc50925e6",
  "ChannelId": "sportschannel",
  "CmafPackage": {
```
For more information, see Editing an Endpoint in the AWS Elemental MediaPackage User Guide.

- For API details, see UpdateOriginEndpoint in AWS CLI Command Reference.

**MediaPackage VOD examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with MediaPackage VOD.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.
Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- **Actions**

**Actions**

**create-asset**

The following code example shows how to use `create-asset`.

**AWS CLI**

**To create an asset**

The following `create-asset` example creates an asset named `Chicken_Asset` in the current AWS account. The asset ingests the file `30sec_chicken.smil` to MediaPackage.

```bash
aws mediapackage-vod create-asset \
  --id chicken_asset \
  --packaging-group-id hls_chicken_gp \
  --source-role-arn arn:aws:iam::111122223333:role/EMP_Vod \
  --source-arn arn:aws:s3::111122223333:video-bucket/A/30sec_chicken.smil
```

**Output:**

```json
{
  "Id":"chicken_asset",
  "PackagingGroupId":"hls_chicken_gp",
  "SourceArn":"arn:aws:s3::111122223333:video-bucket/A/30sec_chicken.smil",
  "SourceRoleArn":"arn:aws:iam::111122223333:role/EMP_Vod",
  "EgressEndpoints":[
    {
      "PackagingConfigurationId":"New_config_1",
      "Url":"https://c75ea2668ab49d02bca7ae10ef31c59e.egress.mediapackage-vod.us-west-2.amazonaws.com/out/v1/6644b55df1744261ab3732a8e5cda907/904b06a58c7645e08d57d40d064216ac/f5b2e633ff4942228095d164c10074f3/index.m3u8"
    },
    {
      ...
```
For more information, see Ingest an Asset in the AWS Elemental MediaPackage User Guide.

- For API details, see CreateAsset in AWS CLI Command Reference.

### create-packaging-configuration

The following code example shows how to use create-packaging-configuration.

**AWS CLI**

To create a packaging configuration

The following `create-packaging-configuration` example creates a packaging configuration named `new_hls` in the packaging group named `hls_chicken`. This example uses a file on disk named `hls_pc.json` to provide the details.

```bash
aws mediapackage-vod create-packaging-configuration \
  --id new_hls \
  --packaging-group-id hls_chicken \
  --hls-package file://hls_pc.json
```

Contents of `hls_pc.json`:

```json
{
  "HlsManifests": [
    {
      "AdMarkers": "NONE",
      "IncludeIframeOnlyStream": false,
      "ManifestName": "string",
      "ProgramDateTimeIntervalSeconds": 60,
      "RepeatExtXKey": true,
      "StreamSelection": {
        "MaxVideoBitsPerSecond": 1000,
        "MinVideoBitsPerSecond": 0,
      }
    }
  ]
}
```
Output:

```json
{
    "Id":"new_hls",
    "PackagingGroupId":"hls_chicken",
    "HlsManifests":{
        "SegmentDurationSeconds":6,
        "UseAudioRenditionGroup":false,
        "HlsMarkers": [
            {
                "AdMarkers":"NONE",
                "IncludeIframeOnlyStream":false,
                "ManifestName":"string",
                "ProgramDateTimeIntervalSeconds":60,
                "RepeatExtXKey":true,
                "StreamSelection":{
                    "MaxVideoBitsPerSecond":1000,
                    "MinVideoBitsPerSecond":0,
                    "StreamOrder":"ORIGINAL"
                }
            }
        ]
    }
}
```

For more information, see [Creating a Packaging Configuration](#) in the AWS Elemental MediaPackage User Guide.

- For API details, see [CreatePackagingConfiguration](#) in AWS CLI Command Reference.

### create-packaging-group

The following code example shows how to use create-packaging-group.
AWS CLI

To create a packaging group

The following create-packaging-group example lists all of the packaging groups that are configured in the current AWS account.

```bash
aws mediapackage-vod create-packaging-group \
  --id hls_chicken
```

Output:

```json
{
        hls_chicken",
   "Id": "hls_chicken"
}
```

For more information, see Creating a Packaging Group in the AWS Elemental MediaPackage User Guide.

- For API details, see CreatePackagingGroup in AWS CLI Command Reference.

delete-asset

The following code example shows how to use delete-asset.

AWS CLI

To delete an asset

The following delete-asset example deletes the asset named 30sec_chicken.

```bash
aws mediapackage-vod delete-asset \
  --id 30sec_chicken
```

This command produces no output.

For more information, see Deleting an Asset in the AWS Elemental MediaPackage User Guide.

- For API details, see DeleteAsset in AWS CLI Command Reference.
delete-packaging-configuration

The following code example shows how to use delete-packaging-configuration.

AWS CLI

To delete a packaging configuration

The following delete-packaging-configuration example deletes the packaging configuration named CMAF.

```bash
aws mediapackage-vod delete-packaging-configuration \
   --id CMAF
```

This command produces no output.

For more information, see Deleting a Packaging Configuration in the AWS Elemental MediaPackage User Guide.

- For API details, see DeletePackagingConfiguration in AWS CLI Command Reference.

delete-packaging-group

The following code example shows how to use delete-packaging-group.

AWS CLI

To delete a packaging group

The following delete-packaging-group example deletes the packaging group named Dash_widevine.

```bash
aws mediapackage-vod delete-packaging-group \
   --id Dash_widevine
```

This command produces no output.

For more information, see Deleting a Packaging Group in the AWS Elemental MediaPackage User Guide.

- For API details, see DeletePackagingGroup in AWS CLI Command Reference.
describe-asset

The following code example shows how to use describe-asset.

AWS CLI

To describe an asset

The following describe-asset example displays all of the details of the asset named 30sec_chicken.

```bash
aws mediapackage-vod describe-asset \\
   --id 30sec_chicken
```

Output:

```json
{
   "Id":"30sec_chicken",
   "PackagingGroupId":"Packaging_group_1",
   "SourceArn":"arn:aws:s3:::111122223333:video-bucket/A/30sec_chicken.smil",
   "SourceRoleArn":"arn:aws:iam::111122223333:role/EMP_Vod",
   "EgressEndpoints":[
      {
         "PackagingConfigurationId":"DASH",
         "Url":"https://a5f46a44118ba3e3724ef39ef532e701.egress.mediapackage-vod.us-west-2.amazonaws.com/out/v1/aad7962c569946119c2d5a691be5663c/66c25aff456d463aae0855172b3beb27/4ddfd6da17c4279a1b8401cb0b6b224/index.mpd"
      },
      {
         "PackagingConfigurationId":"HLS",
         "Url":"https://a5f46a44118ba3e3724ef39ef532e701.egress.mediapackage-vod.us-west-2.amazonaws.com/out/v1/aad7962c569946119c2d5a691be5663c/6e5bf286a3414254a2bf0d22ae148d7e/06b5875b4d004c3cbdc4da2dc4b66b/index.m3u8"
      },
      {
         "PackagingConfigurationId":"CMAF",
         "Url":"https://a5f46a44118ba3e3724ef39ef532e701.egress.mediapackage-vod.us-west-2.amazonaws.com/out/v1/aad7962c569946119c2d5a691be5663c/628fb5d8d89e4702958b020af27fde0e/05eb062214064238ad6330a4436205/index.m3u8"
      }
   ]
}
```
For more information, see [Viewing Asset Details](aws Elemental MediaPackage User Guide) in the AWS Elemental MediaPackage User Guide.

- For API details, see [DescribeAsset](AWS CLI Command Reference) in *AWS CLI Command Reference*.

describe-packaging-configuration

The following code example shows how to use describe-packaging-configuration.

**AWS CLI**

**To describe a packaging configuration**

The following describe-packaging-configuration example displays all of the details of the packaging configuration named DASH.

```bash
aws mediapackage-vod describe-packaging-configuration \
  --id DASH
```

**Output:**

```json
{
  "Id": "DASH",
  "PackagingGroupId": "Packaging_group_1",
  "DashPackage": [
    {
      "SegmentDurationSeconds": "2"
    },
    {
      "DashManifests": {
        "ManifestName": "index",
        "MinBufferTimeSeconds": "30",
        "Profile": "NONE"
      }
    }
  ]
}
```
For more information, see [Viewing Packaging Configuration Details](https://docs.aws.amazon.com/mediapackage/latest/userguide/vod-packaging-configurations.html) in the *AWS Elemental MediaPackage User Guide*.

- For API details, see [DescribePackagingConfiguration](https://docs.aws.amazon.com/cli/latest/reference/mediapackage-vod/describe-packaging-configuration.html) in *AWS CLI Command Reference*.

### describe-packaging-group

The following code example shows how to use `describe-packaging-group`.

**AWS CLI**

**To describe a packaging group**

The following `describe-packaging-group` example displays all of the details of the packaging group named `Packaging_group_1`.

```
aws mediapackage-vod describe-packaging-group \\
    --id Packaging_group_1
```

**Output:**

```
{
    "Arn": "arn:aws:mediapackage-vod:us-west-2:111122223333:packaging-groups/Packaging_group_1",
    "Id": "Packaging_group_1"
}
```

For more information, see [Viewing Packaging Group Details](https://docs.aws.amazon.com/mediapackage/latest/userguide/vod-packaging-groups.html) in the *AWS Elemental MediaPackage User Guide*.

- For API details, see [DescribePackagingGroup](https://docs.aws.amazon.com/cli/latest/reference/mediapackage-vod/describe-packaging-group.html) in *AWS CLI Command Reference*.

### list-assets

The following code example shows how to use `list-assets`.

**AWS CLI**

**To list all assets**

The following `list-assets` example lists all of the assets that are configured in the current AWS account.
aws mediapackage-vod list-assets

Output:

```json
{
    "Assets": [
        {
            "Id": "30sec_chicken",
            "PackagingGroupId": "Packaging_group_1",
            "SourceArn": "arn:aws:s3::111122223333:video-bucket/A/30sec_chicken.smil",
            "SourceRoleArn": "arn:aws:iam::111122223333:role/EMP_Vod"
        }
    ]
}
```

For more information, see Viewing Asset Details in the AWS Elemental MediaPackage User Guide.

- For API details, see ListAssets in AWS CLI Command Reference.

**list-packaging-configurations**

The following code example shows how to use list-packaging-configurations.

**AWS CLI**

**To list all packaging configurations**

The following list-packaging-configurations example lists all of the packaging configurations that are configured on the packaging group named Packaging_group_1.

```
aws mediapackage-vod list-packaging-configurations \
     --packaging-group-id Packaging_group_1
```

Output:

```json
{
    "PackagingConfigurations": [
        {
            "Id": "CMAF",
            "PackagingGroupId": "Packaging_group_1",
```
"CmafPackage": [
  {
    "SegmentDurationSeconds":"2"
  },
  {
    "HlsManifests":{
      "AdMarkers":"NONE",
      "RepeatExtXKey":"False",
      "ManifestName":"index",
      "ProgramDateTimeIntervalSeconds":"0",
      "IncludeIframeOnlyStream":"False"
    }
  }
],
{
  "Id":"DASH",
  "PackagingGroupId":"Packaging_group_1",
  "DashPackage": [
    {
      "SegmentDurationSeconds":"2"
    },
    {
      "DashManifests":{
        "ManifestName":"index",
        "MinBufferTimeSeconds":"30",
        "Profile":"NONE"
      }
    }
  ]
},
{
  "Id":"HLS",
  "PackagingGroupId":"Packaging_group_1",
  "HlsPackage": [
    {
      "SegmentDurationSeconds":"6",
      "UseAudioRenditionGroup":"False"
    },
    {
      "AdMarkers":"NONE",
      "RepeatExtXKey":"False",
      "ManifestName":"index",
      "ProgramDateTimeIntervalSeconds":"0",
      "IncludeIframeOnlyStream":"False"
    }
  ]
}
"HlsManifests": {
  "AdMarkers": "NONE",
  "RepeatExtXKey": "False",
  "ManifestName": "index",
  "ProgramDateTimeIntervalSeconds": "0",
  "IncludeIframeOnlyStream": "False"
}
}

{
  "Id": "New_config_0_copy",
  "PackagingGroupId": "Packaging_group_1",
  "HlsPackage": [
    {
      "SegmentDurationSeconds": "6",
      "UseAudioRenditionGroup": "False"
    },
    {
      "Encryption": {
        "EncryptionMethod": "AWS_128",
        "SpekeKeyProvider": {
          "RoleArn": "arn:aws:iam:111122223333::role/SPEKERole",
          "Url": "https://1fgubdvs97.execute-api.us-west-2.amazonaws.com/EkeStage/copyProtection/",
          "SystemIds": [
            "81376844-f976-481e-a84e-cc25d39b0b33"
          ]
        }
      }
    }
  ]
}

{
  "HlsManifests": {
    "AdMarkers": "NONE",
    "RepeatExtXKey": "False",
    "ManifestName": "index",
    "ProgramDateTimeIntervalSeconds": "0",
    "IncludeIframeOnlyStream": "False"
  }
}
}
For more information, see Viewing Packaging Configuration Details in the AWS Elemental MediaPackage User Guide.

- For API details, see ListPackagingConfigurations in AWS CLI Command Reference.

list-packaging-groups

The following code example shows how to use list-packaging-groups.

AWS CLI

To list all packaging groups

The following list-packaging-groups example lists all of the packaging groups that are configured in the current AWS account.

```bash
aws mediapackage-vod list-packaging-groups
```

Output:

```json
{
   "PackagingGroups": [
      {
         "Id": "Dash_widevine"
      },
      {
         "Id": "Encrypted_HLS"
      },
      {
         "Arn": "arn:aws:mediapackage-vod:us-west-2:111122223333:packaging-groups/Packaging_group_1",
         "Id": "Packaging_group_1"
      }
   ]
}
```
For more information, see Viewing Packaging Group Details in the AWS Elemental MediaPackage User Guide.

- For API details, see ListPackagingGroups in AWS CLI Command Reference.

MediaStore Data Plane examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with MediaStore Data Plane.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics
- Actions

Actions

delete-object

The following code example shows how to use delete-object.

AWS CLI

To delete an object

The following delete-object example deletes the specified object.

```bash
aws mediastore-data delete-object 
   --endpoint=https://aaabbbccdddee.data.mediastore.us-west-2.amazonaws.com 
   --path=/folder_name/README.md
```

This command produces no output.
For more information, see Deleting an Object in the AWS Elemental MediaStore User Guide.

- For API details, see DeleteObject in AWS CLI Command Reference.

**describe-object**

The following code example shows how to use describe-object.

**AWS CLI**

**To view the headers for an object**

The following describe-object example displays the headers for an object at the specified path.

```bash
aws mediastore-data describe-object \
   --endpoint https://aaabbbccdddee.data.mediastore.us-west-2.amazonaws.com \
   --path events/baseball/setup.jpg
```

Output:

```json
{
   "LastModified": "Fri, 19 Jul 2019 21:50:31 GMT",
   "ContentType": "image/jpeg",
   "ContentLength": "3860266",
   "ETag": "2aa333bbcc8d8d22d777e999c88d4aa9eeeee4dd89ff7f5555555555da6d3"
}
```

For more information, see Viewing the Details of an Object in the AWS Elemental MediaStore User Guide.

- For API details, see DescribeObject in AWS CLI Command Reference.

**get-object**

The following code example shows how to use get-object.

**AWS CLI**

**Example 1: To download an entire object**

The following get-object example downloads the specified object.
aws mediastore-data get-object \
   --endpoint https://aaabbccdddee.data.mediastore.us-west-2.amazonaws.com \
   --path events/baseball/setup.jpg setup.jpg

Output:

```
{
   "ContentType": "image/jpeg",
   "StatusCode": 200,
   "ETag": "2aa333bbcc8d8d22d777e999c88d4aa9eeeee4dd89ff7f5555555555da6d3",
   "ContentLength": "3860266",
   "LastModified": "Fri, 19 Jul 2019 21:50:31 GMT"
}
```

Example 2: To download part of an object

The following get-object example downloads the specified part of an object.

aws mediastore-data get-object \
   --endpoint https://aaabbccdddee.data.mediastore.us-west-2.amazonaws.com \
   --path events/baseball/setup.jpg setup.jpg \
   --range "bytes=0-100"

Output:

```
{
   "StatusCode": 206,
   "LastModified": "Fri, 19 Jul 2019 21:50:31 GMT",
   "ContentType": "image/jpeg",
   "ContentRange": "bytes 0-100/3860266",
   "ETag": "2aa333bbcc8d8d22d777e999c88d4aa9eeeee4dd89ff7f5555555555da6d3",
   "ContentLength": "101"
}
```

For more information, see [Downloading an Object](#) in the [AWS Elemental MediaStore User Guide](#).

- For API details, see [GetObject](#) in [AWS CLI Command Reference](#).

list-items

The following code example shows how to use list-items.
AWS CLI

Example 1: To view a list of items (objects and folders) stored in a container

The following list-items example displays a list of items (objects and folders) stored in the specified container.

```
aws mediastore-data list-items \
   --endpoint https://aaabbbcccdddee.data.mediastore.us-west-2.amazonaws.com
```

Output:

```
{
   "Items": [
       {
           "Type": "OBJECT",
           "ContentLength": 3784,
           "Name": "setup.jpg",
           "ETag": "2aa333bb8d8d22d77e999c88d4aa9e1e4e44d89ff7f5555555555555555da6d3",
           "ContentType": "image/jpeg",
           "LastModified": 1563571859.379
       },
       {
           "Type": "FOLDER",
           "Name": "events"
       }
   ]
}
```

Example 2: To view a list of items (objects and folders) stored in a folder

The following list-items example displays a list of items (objects and folders) stored in the specified folder.

```
aws mediastore-data list-items \
   --endpoint https://aaabbbcccdddee.data.mediastore.us-west-2.amazonaws.com \
   --path events/baseball
```

Output:

```
{
}
```
For more information, see [Viewing a List of Objects](#) in the [AWS Elemental MediaStore User Guide](#).

- For API details, see [ListItems](#) in [AWS CLI Command Reference](#).

**put-object**

The following code example shows how to use `put-object`.

**AWS CLI**

**Example 1: To upload an object to a container**

The following `put-object` example upload an object to the specified container.

```
aws mediastore-data put-object \
  --endpoint https://aaabbbcccddee.data.mediastore.us-west-2.amazonaws.com \
  --body ReadMe.md \
  --path ReadMe.md \
  --cache-control "max-age=6, public" \
  --content-type binary/octet-stream
```

**Output:**

```
{
  "ContentSHA256": "f29bc64a9d3732b4b9035125fdb3285f5b6455778edca72414671e0ca3b2e0de",
  "StorageClass": "TEMPORAL",
  "ETag": "2aa333bbcc8d8d22d777e999c88d4aa9eeeee4dd89ff7f555555555555da6d3"
}
```
Example 2: To upload an object to a folder within a container

The following put-object example upload an object to the specified folder within a container.

```bash
aws mediastore-data put-object \
   --endpoint https://aaabbccddddee.data.mediastore.us-west-2.amazonaws.com \
   --body ReadMe.md \
   --path /september-events/ReadMe.md \
   --cache-control "max-age=6, public" \
   --content-type binary/octet-stream
```

Output:

```json
{
   "ETag": "2aa333bbcc8d8d22d777e999c88d4aa9eeeee4dd89ff7f555555555555da6d3",
   "ContentSHA256": "f29bc64a9d3732b4b9035125fdb3285f5b6455778edca72414671e0ca3b2e0de",
   "StorageClass": "TEMPORAL"
}
```

For more information, see Uploading an Object in the AWS Elemental MediaStore User Guide.

- For API details, see PutObject in AWS CLI Command Reference.

MediaTailor examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with MediaTailor.

**Actions** are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

**Scenarios** are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.
### Actions

**delete-playback-configuration**

The following code example shows how to use `delete-playback-configuration`.

**AWS CLI**

**To delete a configuration**

The following `delete-playback-configuration` deletes a configuration named `campaign_short`.

```
aws mediatailor delete-playback-configuration \
   --name campaign_short
```

This command produces no output.

For more information, see [Deleting a Configuration](#) in the *AWS Elemental MediaTailor User Guide*.

- For API details, see [DeletePlaybackConfiguration](#) in *AWS CLI Command Reference*.

**get-playback-configuration**

The following code example shows how to use `get-playback-configuration`.

**AWS CLI**

**To describe a configuration**

The following `get-playback-configuration` displays all of the details of the configuration named `west_campaign`.

```
aws mediatailor get-playback-configuration \
   --name west_campaign
```

Output:
For more information, see Viewing a Configuration in the AWS Elemental MediaTailor User Guide.

- For API details, see GetPlaybackConfiguration in AWS CLI Command Reference.

**list-playback-configurations**

The following code example shows how to use list-playback-configurations.

**AWS CLI**

**To list all configurations**

The following list-playback-configurations displays all of the details of the configuration on the current AWS account.
aws mediatailor list-playback-configurations

Output:

```json
{
    "Items": [
        {
            "AdDecisionServerUrl": "http://your.ads.url",
            "CdnConfiguration": {},
            "DashConfiguration": {
                "ManifestEndpointPrefix": "https://170c14299689462897d0cc45fc2000bb.mediatailor.us-west-2.amazonaws.com/v1/dash/1cbfeaaecb69778e0c167d0505a2bc57da2b1754/west_campaign/",
                "MpdLocation": "EMT_DEFAULT",
                "OriginManifestType": "MULTI_PERIOD"
            },
            "HlsConfiguration": {
                "ManifestEndpointPrefix": "https://170c14299689462897d0cc45fc2000bb.mediatailor.us-west-2.amazonaws.com/v1/master/1cbfeaaecb69778e0c167d0505a2bc57da2b1754/west_campaign/"
            },
            "Name": "west_campaign",
            "PlaybackEndpointPrefix": "https://170c14299689462897d0cc45fc2000bb.mediatailor.us-west-2.amazonaws.com",
            "SessionInitializationEndpointPrefix": "https://170c14299689462897d0cc45fc2000bb.mediatailor.us-west-2.amazonaws.com/v1/session/1cbfeaaecb69778e0c167d0505a2bc57da2b1754/west_campaign/"
        },
        {
            "AdDecisionServerUrl": "http://your.ads.url",
            "CdnConfiguration": {},
            "DashConfiguration": {
                "ManifestEndpointPrefix": "https://73511f91d6a24ca2b93f3cf1d7cedd67.mediatailor.us-west-2.amazonaws.com/v1/dash/1cbfeaaecb69778e0c167d0505a2bc57da2b1754/sports_campaign/",
                "MpdLocation": "DISABLED",
                "OriginManifestType": "MULTI_PERIOD"
            }
        }
    ]
}
```
"HlsConfiguration": {
  "ManifestEndpointPrefix": "https://73511f91d6a24ca2b93f3cf1d7cedd67.mediatailor.us-west-2.amazonaws.com/v1/master/1cbfeaaecb69778e0c167d0505a2bc57da2b1754/sports_campaign/",
  "Name": "sports_campaign",
  "PlaybackEndpointPrefix": "https://73511f91d6a24ca2b93f3cf1d7cedd67.mediatailor.us-west-2.amazonaws.com",
  "SessionInitializationEndpointPrefix": "https://73511f91d6a24ca2b93f3cf1d7cedd67.mediatailor.us-west-2.amazonaws.com/v1/session/1cbfeaaecb69778e0c167d0505a2bc57da2b1754/sports_campaign/",
  "SlateAdUrl": "http://s3.bucket/slate_ad.mp4",
  "Tags": {},
  "VideoContentSourceUrl": "https://c4af3793bf76b33c.mediapackage.us-west-2.amazonaws.com/out/v1/1dc6718be36f4f34bb9cd86bc50925e6/sports_endpoint/index.m3u8"
}
}

For more information, see Viewing a Configuration in the AWS Elemental MediaTailor User Guide.

• For API details, see ListPlaybackConfigurations in AWS CLI Command Reference.

put-playback-configuration

The following code example shows how to use put-playback-configuration.

AWS CLI

To create a configuration

The following put-playback-configuration creates a configuration named campaign_short.

```
aws mediatailor put-playback-configuration \
  --name campaign_short \
  --ad-decision-server-url http://your.ads.url \
  --video-content-source-url http://video.bucket/index.m3u8
```
Output:

```json
{
    "AdDecisionServerUrl": "http://your.ads.url",
    "CdnConfiguration": {},
    "DashConfiguration": {
        "ManifestEndpointPrefix": "https://13484114d38f4383bc0d6a7cb879bd00.mediatailor.us-west-2.amazonaws.com/v1/dash/1cbfeaaecb69778e0c167d0505a2bc57da2b1754/campaign_short/",
        "MpdLocation": "EMT_DEFAULT",
        "OriginManifestType": "MULTI_PERIOD"
    },
    "HlsConfiguration": {
        "ManifestEndpointPrefix": "https://13484114d38f4383bc0d6a7cb879bd00.mediatailor.us-west-2.amazonaws.com/v1/master/1cbfeaaecb69778e0c167d0505a2bc57da2b1754/campaign_short/",
        "Name": "campaign_short",
        "PlaybackEndpointPrefix": "https://13484114d38f4383bc0d6a7cb879bd00.mediatailor.us-west-2.amazonaws.com",
        "SessionInitializationEndpointPrefix": "https://13484114d38f4383bc0d6a7cb879bd00.mediatailor.us-west-2.amazonaws.com/v1/session/1cbfeaaecb69778e0c167d0505a2bc57da2b1754/campaign_short/",
        "Tags": {},
        "VideoContentSourceUrl": "http://video.bucket/index.m3u8"
    }
}
```

For more information, see Creating a Configuration in the AWS Elemental MediaTailor User Guide.

- For API details, see PutPlaybackConfiguration in AWS CLI Command Reference.

**MemoryDB examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with MemoryDB.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.
Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics

- Actions

Actions

copy-snapshot

The following code example shows how to use copy-snapshot.

AWS CLI

To copy a snapshot

The following copy-snapshot example creates a copy of a snapshot.

```bash
aws memorydb copy-snapshot \
   --source-snapshot-name my-cluster-snapshot \
   --target-snapshot-name my-cluster-snapshot-copy
```

Output

```
{
   "Snapshot": {
      "Name": "my-cluster-snapshot-copy",
      "Status": "creating",
      "Source": "manual",
      "ClusterConfiguration": {
         "Name": "my-cluster",
         "Description": "",
         "NodeType": "db.r6g.large",
         "EngineVersion": "6.2",
         "MaintenanceWindow": "wed:03:00-wed:04:00",
         "Port": 6379,
```

Actions and scenarios
actions and scenarios

```json
"ParameterGroupName": "default.memorydb-redis6",
"SubnetGroupName": "my-sg",
"VpcId": "vpc-xx2574fc",
"SnapshotRetentionLimit": 0,
"SnapshotWindow": "04:30-05:30",
"NumShards": 2
}
}
}

For more information, see Copying a snapshot in the MemoryDB User Guide.
• For API details, see CopySnapshot in AWS CLI Command Reference.

create-acl

The following code example shows how to use create-acl.

AWS CLI

**To create an ACL**

The following create-acl example creates a new Access control list.

```bash
aws memorydb create-acl \
  --acl-name "new-acl-1" \
  --user-names "my-user"
```

Output:

```json
{
  "ACL": {
    "Name": "new-acl-1",
    "Status": "creating",
    "UserNames": [
      "my-user"
    ],
    "MinimumEngineVersion": "6.2",
    "Clusters": [],
    "ARN": "arn:aws:memorydb:us-east-1:491658xxxxxxx:acl/new-acl-1"
  }
}
```
For more information, see [Authenticating users with Access Control Lists](#) in the [MemoryDB User Guide](#).

- For API details, see [CreateAcl](#) in [AWS CLI Command Reference](#).

**create-cluster**

The following code example shows how to use create-cluster.

**AWS CLI**

**To create a cluster**

The following `create-cluster` example creates a new cluster.

```bash
aws memorydb create-cluster \
  --cluster-name my-new-cluster \ 
  --node-type db.r6g.large \ 
  --acl-name my-acl \ 
  --subnet-group my-sg
```

Output:

```json
{
  "Cluster": {
    "Name": "my-new-cluster",
    "Status": "creating",
    "NumberOfShards": 1,
    "AvailabilityMode": "MultiAZ",
    "ClusterEndpoint": {
      "Port": 6379
    },
    "NodeType": "db.r6g.large",
    "EngineVersion": "6.2",
    "EnginePatchVersion": "6.2.6",
    "ParameterGroupName": "default.memorydb-redis6",
    "ParameterGroupStatus": "in-sync",
    "SubnetGroupName": "my-sg",
    "TLSEnabled": true,
    "ARN": "arn:aws:memorydb:us-east-1:49165xxxxxx:cluster/my-new-cluster",
    "SnapshotRetentionLimit": 0,
    "MaintenanceWindow": "sat:10:00-sat:11:00",
    "SnapshotWindow": "07:30-08:30",
  }
}
```
"ACLName": "my-acl",
"AutoMinorVersionUpgrade": true
}
}

For more information, see Managing Clusters in the MemoryDB User Guide.

- For API details, see CreateCluster in AWS CLI Command Reference.

create-parameter-group

The following code example shows how to use create-parameter-group.

AWS CLI

**To create a parameter group**

The following create-parameter-group example creates a parameter group.

```bash
aws memorydb create-parameter-group \
  --parameter-group-name myRedis6x \
  --family memorydb_redis6 \
  --description "my-parameter-group"
```

Output:

```json
{
  "ParameterGroup": {
    "Name": "myredis6x",
    "Family": "memorydb_redis6",
    "Description": "my-parameter-group",
    "ARN": "arn:aws:memorydb:us-east-1:49165xxxxxx:parametergroup/myredis6x"
  }
}
```

For more information, see Creating a parameter group in the MemoryDB User Guide.

- For API details, see CreateParameterGroup in AWS CLI Command Reference.

create-snapshot

The following code example shows how to use create-snapshot.
AWS CLI

To create a snapshot

The following create-snapshot example creates a snapshot.

```bash
aws memorydb create-snapshot \
  --cluster-name my-cluster \
  --snapshot-name my-cluster-snapshot
```

Output:

```json
{
  "Snapshot": {
    "Name": "my-cluster-snapshot1",
    "Status": "creating",
    "Source": "manual",
    "ARN": "arn:aws:memorydb:us-east-1:4916xxxxxxx:snapshot/my-cluster-
    snapshot",
    "ClusterConfiguration": {
      "Name": "my-cluster",
      "Description": "",
      "NodeType": "db.r6g.large",
      "EngineVersion": "6.2",
      "MaintenanceWindow": "wed:03:00-wed:04:00",
      "Port": 6379,
      "ParameterGroupName": "default.memorydb-redis6",
      "SubnetGroupName": "my-sg",
      "VpcId": "vpc-862xxxxx",
      "SnapshotRetentionLimit": 0,
      "SnapshotWindow": "04:30-05:30",
      "NumShards": 2
    }
  }
}
```

For more information, see [Making manual snapshots](#) in the MemoryDB User Guide.

- For API details, see [CreateSnapshot](#) in AWS CLI Command Reference.

create-subnet-group

The following code example shows how to use create-subnet-group.
AWS CLI

To create a subnet group

The following `create-subnet-group` example creates a subnet group.

```sh
aws memorydb create-subnet-group \
    --subnet-group-name mysubnetgroup \
    --description "my subnet group" \
    --subnet-ids subnet-5623xxxx
```

Output:

```
{
    "SubnetGroup": {
        "Name": "mysubnetgroup",
        "Description": "my subnet group",
        "VpcId": "vpc-86257xxx",
        "Subnets": [
            {
                "Identifier": "subnet-5623xxxx",
                "AvailabilityZone": {
                    "Name": "us-east-1a"
                }
            }
        ],
        "ARN": "arn:aws:memorydb:us-east-1:491658xxxxx:subnetgroup/mysubnetgroup"
    }
}
```

For more information, see Creating a subnet group in the MemoryDB User Guide.

- For API details, see CreateSubnetGroup in AWS CLI Command Reference.

create-user

The following code example shows how to use `create-user`.

AWS CLI

To create a user

The following `create-user` example creates a new user.
aws memorydb create-user \
   --user-name user-name-1 \
   --access-string "~objects:* ~items:* ~public:*" \
   --authentication-mode \n   Passwords="enterapasswordhere",Type=password

Output:

{
   "User": {
      "Name": "user-name-1",
      "Status": "active",
      "AccessString": "off ~objects:* ~items:* ~public:* resetchannels -@all",
      "ACLNames": [],
      "MinimumEngineVersion": "6.2",
      "Authentication": {
         "Type": "password",
         "PasswordCount": 1
      },
      "ARN": "arn:aws:memorydb:us-west-2:491658xxxxxx:user/user-name-1"
   }
}

For more information, see [Authenticating users with Access Control Lists](https://docs.aws.amazon.com/memorydb/latest/userguide/ACL-auth.html) in the [MemoryDB User Guide](https://docs.aws.amazon.com/memorydb/latest/userguide/).

- For API details, see [CreateUser](https://docs.aws.amazon.com/cli/latest/reference/memorydb/create-user.html) in [AWS CLI Command Reference](https://docs.aws.amazon.com/cli/latest/reference/). 

**delete-acl**

The following code example shows how to use `delete-acl`.

**AWS CLI**

**To delete an ACL**

The following `delete-acl` example deletes an Access control list.

```
aws memorydb delete-acl \
   --acl-name "new-acl-1"
```

Output:
For more information, see [Authenticating users with Access Control Lists](#) in the *MemoryDB User Guide*.

- For API details, see [DeleteAcl](#) in *AWS CLI Command Reference*.

**delete-cluster**

The following code example shows how to use `delete-cluster`.

**AWS CLI**

To delete a cluster

The following `delete-cluster` example deletes a cluster.

```bash
aws memorydb delete-cluster \
  --cluster-name my-new-cluster
```

Output:

```json
{
  "Cluster": {
    "Name": "my-new-cluster",
    "Status": "deleting",
    "NumberOfShards": 1,
    "ClusterEndpoint": {
      "Address": "clustercfg.my-new-cluster.xxxxx.memorydb.us-east-1.amazonaws.com",
    },
  }
}
```
"Port": 6379,
"NodeType": "db.r6g.large",
"EngineVersion": "6.2",
"EnginePatchVersion": "6.2.6",
"ParameterGroupName": "default.memorydb-redis6",
"ParameterGroupStatus": "in-sync",
"SubnetGroupName": "my-sg",
"TLSEnabled": true,
"ARN": "arn:aws:memorydb:us-east-1:491658xxxxxx:cluster/my-new-cluster",
"SnapshotRetentionLimit": 0,
"MaintenanceWindow": "sat:10:00-sat:11:00",
"SnapshotWindow": "07:30-08:30",
"AutoMinorVersionUpgrade": true
}
}

For more information, see Deleting a cluster in the MemoryDB User Guide.

- For API details, see DeleteCluster in AWS CLI Command Reference.

**delete-parameter-group**

The following code example shows how to use delete-parameter-group.

**AWS CLI**

To delete a parameter group

The following delete-parameter-group example deletes a parameter group.

```bash
aws memorydb delete-parameter-group \
   --parameter-group-name myRedis6x
```

Output:

```json
{
   "ParameterGroup": {
      "Name": "myredis6x",
      "Family": "memorydb_redis6",
      "Description": "my-parameter-group",
      "ARN": "arn:aws:memorydb:us-east-1:491658xxxxxx:parametergroup/myredis6x"
   }
}
```
For more information, see [Deleting a parameter group](#) in the *MemoryDB User Guide*.

- For API details, see [DeleteParameterGroup](#) in *AWS CLI Command Reference*.

### delete-snapshot

The following code example shows how to use `delete-snapshot`.

**AWS CLI**

#### To delete a snapshot

The following `delete-snapshot` example deletes a snapshot.

```bash
aws memorydb delete-snapshot \
   --snapshot-name my-cluster-snapshot
```

**Output:**

```json
{
   "Snapshot": {
      "Name": "my-cluster-snapshot",
      "Status": "deleting",
      "Source": "manual",
      "ClusterConfiguration": {
         "Name": "my-cluster",
         "Description": "",
         "NodeType": "db.r6g.large",
         "EngineVersion": "6.2",
         "MaintenanceWindow": "wed:03:00-wed:04:00",
         "Port": 6379,
         "ParameterGroupName": "default.memorydb-redis6",
         "SubnetGroupName": "my-sg",
         "VpcId": "vpc-862xxxxx",
         "SnapshotRetentionLimit": 0,
         "SnapshotWindow": "04:30-05:30",
         "NumShards": 2
      }
   }
}
```
For more information, see [Deleting a snapshot](MemoryDB User Guide) in the *MemoryDB User Guide*.

- For API details, see [DeleteSnapshot](AWS CLI Command Reference) in *AWS CLI Command Reference*.

### delete-subnet-group

The following code example shows how to use `delete-subnet-group`.

**AWS CLI**

To delete a subnet group

The following `delete-subnet-group` example deletes a subnet.

```bash
aws memorydb delete-subnet-group \
  --subnet-group-name mysubnetgroup
```

Output:

```json
{
  "SubnetGroup": {
    "Name": "mysubnetgroup",
    "Description": "my subnet group",
    "VpcId": "vpc-86xxxx4fc",
    "Subnets": [
      {
        "Identifier": "subnet-56xxx61b",
        "AvailabilityZone": {
          "Name": "us-east-1a"
        }
      }
    ],
    "ARN": "arn:aws:memorydb:us-east-1:491658xxxxxx:subnetgroup/mysubnetgroup"
  }
}
```

For more information, see [Deleting a subnet group](MemoryDB User Guide) in the *MemoryDB User Guide*. 

Actions and scenarios
delete-user

The following code example shows how to use `delete-user`.

AWS CLI

To delete a user

The following `delete-user` example deletes a user.

```
aws memorydb delete-user
  --user-name my-user
```

Output:

```
{
    "User": {
        "Name": "my-user",
        "Status": "deleting",
        "AccessString": "on ~app::*: resetchannels -@all +@read",
        "ACLNames": [
            "my-acl"
        ],
        "MinimumEngineVersion": "6.2",
        "Authentication": {
            "Type": "password",
            "PasswordCount": 1
        },
        "ARN": "arn:aws:memorydb:us-east-1:491658xxxxxx:user/my-user"
    }
}
```

For more information, see [Authenticating users with Access Control Lists](https://docs.aws.amazon.com/memorydb/latest/userguide/auth-access-control-lists.html) in the *MemoryDB User Guide*.

- For API details, see [DeleteSubnetGroup](https://docs.aws.amazon.com/cli/latest/reference/memorydb/delete-subnet-group.html) in *AWS CLI Command Reference*.

describe-acls

The following code example shows how to use `describe-acls`.

- For API details, see [DeleteUser](https://docs.aws.amazon.com/cli/latest/reference/memorydb/delete-user.html) in *AWS CLI Command Reference*. 

Actions and scenarios
AWS CLI

To return a list of ACLs

The following describe-acls` returns a list of ACLs.

aws memorydb describe-acls

Output:

```json
{
    "ACLs": [
        {
            "Name": "open-access",
            "Status": "active",
            "UserNames": [
                "default"
            ],
            "MinimumEngineVersion": "6.2",
            "Clusters": [],
            "ARN": "arn:aws:memorydb:us-east-1:491658xxxxxx:acl/open-access"
        },
        {
            "Name": "my-acl",
            "Status": "active",
            "UserNames": [],
            "MinimumEngineVersion": "6.2",
            "Clusters": [
                "my-cluster"
            ],
            "ARN": "arn:aws:memorydb:us-east-1:49165xxxxxxx:acl/my-acl"
        }
    ]
}
```

For more information, see Authenticating users with Access Control Lists in the MemoryDB User Guide.

- For API details, see DescribeAcls in AWS CLI Command Reference.

describe-clusters

The following code example shows how to use describe-clusters.
AWS CLI

To return a list of clusters

The following describe-clusters `returns a list of clusters.

aws memorydb describe-clusters

Output:

```json
{
   "Clusters": [
      {
         "Name": "my-cluster",
         "Status": "available",
         "NumberOfShards": 2,
         "ClusterEndpoint": {
            "Address": "clustercfg.my-cluster.llru6f.memorydb.us-east-1.amazonaws.com",
            "Port": 6379
         },
         "NodeType": "db.r6g.large",
         "EngineVersion": "6.2",
         "EnginePatchVersion": "6.2.6",
         "ParameterGroupName": "default.memorydb-redis6",
         "ParameterGroupStatus": "in-sync",
         "SecurityGroups": [
            {
               "SecurityGroupId": "sg-0a1434xxxxxc9fae",
               "Status": "active"
            }
         ],
         "SubnetGroupName": "pat-sg",
         "TLSEnabled": true,
         "ARN": "arn:aws:memorydb:us-east-1:49165xxxxxx:cluster/my-cluster",
         "SnapshotRetentionLimit": 0,
         "MaintenanceWindow": "wed:03:00-wed:04:00",
         "SnapshotWindow": "04:30-05:30",
         "ACLName": "my-acl",
         "AutoMinorVersionUpgrade": true
      }
   ]
}```
For more information, see Managing clusters in the MemoryDB User Guide.

- For API details, see DescribeClusters in AWS CLI Command Reference.

**describe-engine-versions**

The following code example shows how to use describe-engine-versions.

**AWS CLI**

*To return a list of engine versions*

The following describe-engine-versions ` returns a list of engine versions.

```
aws memorydb describe-engine-versions
```

Output:

```
{
   "EngineVersions": [
   {
      "EngineVersion": "6.2",
      "EnginePatchVersion": "6.2.6",
      "ParameterGroupFamily": "memorydb_redis6"
   }
   ]
}
```

For more information, see Engine versions and upgrading in the MemoryDB User Guide.

- For API details, see DescribeEngineVersions in AWS CLI Command Reference.

**describe-events**

The following code example shows how to use describe-events.

**AWS CLI**

*To return a list of events*

The following describe-events ` returns a list of events.

```
aws memorydb describe-events
```
Output:

```
{
    "Events": [
        {
            "SourceName": "my-cluster",
            "SourceType": "cluster",
            "Message": "Increase replica count started for replication group my-cluster on 2022-07-22T14:09:01.440Z",
            "Date": "2022-07-22T07:09:01.443000-07:00"
        },
        {
            "SourceName": "my-user",
            "SourceType": "user",
            "Message": "Create user my-user operation completed.",
            "Date": "2022-07-22T07:00:02.975000-07:00"
        }
    ]
}
```

For more information, see Monitoring events in the MemoryDB User Guide.

- For API details, see DescribeEvents in AWS CLI Command Reference.

**describe-parameter-groups**

The following code example shows how to use describe-parameter-groups.

**AWS CLI**

**To return a list of parameter groups**

The following describe-parameter-groups command returns a list of parameter groups.

```
aws memorydb describe-parameter-groups
```

Output:

```
{
    "ParameterGroups": [
        {
            "Name": "default.memorydb-redis6",
            "Family": "memorydb_redis6",
```
"Description": "Default parameter group for memorydb_redis6",
"ARN": "arn:aws:memorydb:us-east-1:491658xxxxxx:parametergroup/
default.memorydb-redis6"
}]
]

For more information, see Configuring engine parameters using parameter groups in the MemoryDB User Guide.

- For API details, see DescribeParameterGroups in AWS CLI Command Reference.

describe-parameters

The following code example shows how to use describe-parameters.

AWS CLI

To return a list of parameters

The following describe-parameters returns a list of parameters.

aws memorydb describe-parameters

Output:

{
    "Parameters": [
        {
            "Name": "acllog-max-len",
            "Value": "128",
            "Description": "The maximum length of the ACL Log",
            "DataType": "integer",
            "AllowedValues": "1-10000",
            "MinimumEngineVersion": "6.2.4"
        },
        {
            "Name": "activedefrag",
            "Value": "no",
            "Description": "Enabled active memory defragmentation",
            "DataType": "string",
            "AllowedValues": "yes,no",
            "MinimumEngineVersion": "6.2.4"
        }
    ]
}


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{
  "Name": "active-defrag-threshold-upper",
  "Value": "100",
  "Description": "Maximum percentage of fragmentation at which we use maximum effort",
  "DataType": "integer",
  "AllowedValues": "1-100",
  "MinimumEngineVersion": "6.2.4"
},
{
  "Name": "active-expire-effort",
  "Value": "1",
  "Description": "The amount of effort that redis uses to expire items in the active expiration job",
  "DataType": "integer",
  "AllowedValues": "1-10",
  "MinimumEngineVersion": "6.2.4"
},
{
  "Name": "activate-rehashing",
  "Value": "yes",
  "Description": "Apply rehashing or not",
  "DataType": "string",
  "AllowedValues": "yes,no",
  "MinimumEngineVersion": "6.2.4"
},
{
  "Name": "client-output-buffer-limit-normal-hard-limit",
  "Value": "0",
  "Description": "Normal client output buffer hard limit in bytes",
  "DataType": "integer",
  "AllowedValues": "0-",
  "MinimumEngineVersion": "6.2.4"
},
{
  "Name": "client-output-buffer-limit-normal-soft-limit",
  "Value": "0",
  "Description": "Normal client output buffer soft limit in bytes",
  "DataType": "integer",
  "AllowedValues": "0-",
  "MinimumEngineVersion": "6.2.4"
},
{
  "Name": "client-output-buffer-limit-normal-soft-seconds",
  "Value": "0",
  "Description": "Normal client output buffer soft limit in seconds",
  "DataType": "integer",
  "AllowedValues": "0-",
  "MinimumEngineVersion": "6.2.4"
}
"Value": "0",
"Description": "Normal client output buffer soft limit in seconds",
"DataType": "integer",
"AllowedValues": "0-",
"MinimumEngineVersion": "6.2.4"
},

{
"Name": "client-output-buffer-limit-pubsub-hard-limit",
"Value": "33554432",
"Description": "Pubsub client output buffer hard limit in bytes",
"DataType": "integer",
"AllowedValues": "0-",
"MinimumEngineVersion": "6.2.4"
},

{
"Name": "client-output-buffer-limit-pubsub-soft-limit",
"Value": "8388608",
"Description": "Pubsub client output buffer soft limit in bytes",
"DataType": "integer",
"AllowedValues": "0-",
"MinimumEngineVersion": "6.2.4"
},

{
"Name": "client-output-buffer-limit-pubsub-soft-seconds",
"Value": "60",
"Description": "Pubsub client output buffer soft limit in seconds",
"DataType": "integer",
"AllowedValues": "0-",
"MinimumEngineVersion": "6.2.4"
},

{
"Name": "hash-max-ziplist-entries",
"Value": "512",
"Description": "The maximum number of hash entries in order for the dataset to be compressed",
"DataType": "integer",
"AllowedValues": "0-",
"MinimumEngineVersion": "6.2.4"
},

{
"Name": "hash-max-ziplist-value",
"Value": "64",
"Description": "The threshold of biggest hash entries in order for the dataset to be compressed",
"DataType": "integer",
"AllowedValues": "0-",
"MinimumEngineVersion": "6.2.4"
"Name": "hll-sparse-max-bytes",
"Value": "3000",
"Description": "HyperLogLog sparse representation bytes limit",
"DataType": "integer",
"AllowedValues": "1-16000",
"MinimumEngineVersion": "6.2.4"
},

{ "Name": "lazyfree-lazy-eviction",
"Value": "no",
"Description": "Perform an asynchronous delete on evictions",
"DataType": "string",
"AllowedValues": "yes,no",
"MinimumEngineVersion": "6.2.4"
},

{ "Name": "lazyfree-lazy-expire",
"Value": "no",
"Description": "Perform an asynchronous delete on expired keys",
"DataType": "string",
"AllowedValues": "yes,no",
"MinimumEngineVersion": "6.2.4"
},

{ "Name": "lazyfree-lazy-server-del",
"Value": "no",
"Description": "Perform an asynchronous delete on key updates",
"DataType": "string",
"AllowedValues": "yes,no",
"MinimumEngineVersion": "6.2.4"
},

{ "Name": "lazyfree-lazy-user-del",
"Value": "no",
"Description": "Specifies whether the default behavior of DEL command acts the same as UNLINK",
"DataType": "string",
"AllowedValues": "yes,no",
"MinimumEngineVersion": "6.2.4"


```
},
{
  "Name": "lfu-decay-time",
  "Value": "1",
  "Description": "The amount of time in minutes to decrement the key counter for LFU eviction policyd",
  "DataType": "integer",
  "AllowedValues": "0-",
  "MinimumEngineVersion": "6.2.4"
},
{
  "Name": "lfu-log-factor",
  "Value": "10",
  "Description": "The log factor for incrementing key counter for LFU eviction policy",
  "DataType": "integer",
  "AllowedValues": "1-",
  "MinimumEngineVersion": "6.2.4"
},
{
  "Name": "list-compress-depth",
  "Value": "0",
  "Description": "Number of quicklist ziplist nodes from each side of the list to exclude from compression. The head and tail of the list are always uncompressed for fast push/pop operations",
  "DataType": "integer",
  "AllowedValues": "0-",
  "MinimumEngineVersion": "6.2.4"
},
{
  "Name": "maxmemory-policy",
  "Value": "noeviction",
  "Description": "Max memory policy",
  "DataType": "string",
  "AllowedValues": "volatile-lru,allkeys-lru,volatile-lfu,allkeys-lfu,volatile-random,allkeys-random,volatile-ttl,noeviction",
  "MinimumEngineVersion": "6.2.4"
},
{
  "Name": "maxmemory-samples",
  "Value": "3",
  "Description": "Max memory samples",
  "DataType": "integer",
  "AllowedValues": "1-",
```

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"MinimumEngineVersion": "6.2.4",
},
{
  "Name": "notify-keyspace-events",
  "Description": "The keyspace events for Redis to notify Pub/Sub clients about. By default all notifications are disabled",
  "DataType": "string",
  "MinimumEngineVersion": "6.2.4"
},
{
  "Name": "set-max-intset-entries",
  "Value": "512",
  "Description": "The limit in the size of the set in order for the dataset to be compressed",
  "DataType": "integer",
  "AllowedValues": "0-",
  "MinimumEngineVersion": "6.2.4"
},
{
  "Name": "slowlog-log-slower-than",
  "Value": "10000",
  "Description": "The execution time, in microseconds, to exceed in order for the command to get logged. Note that a negative number disables the slow log, while a value of zero forces the logging of every command",
  "DataType": "integer",
  "AllowedValues": "-",
  "MinimumEngineVersion": "6.2.4"
},
{
  "Name": "slowlog-max-len",
  "Value": "128",
  "Description": "The length of the slow log. There is no limit to this length. Just be aware that it will consume memory. You can reclaim memory used by the slow log with SLOWLOG RESET.",
  "DataType": "integer",
  "AllowedValues": "0-",
  "MinimumEngineVersion": "6.2.4"
},
{
  "Name": "stream-node-max-bytes",
  "Value": "4096",
  "Description": "The maximum size of a single node in a stream in bytes",
  "DataType": "integer",
  "AllowedValues": "0-",
  "MinimumEngineVersion": "6.2.4"}
"MinimumEngineVersion": "6.2.4"
},

{ "Name": "stream-node-max-entries",
  "Value": "100",
  "Description": "The maximum number of items a single node in a stream can contain",
  "DataType": "integer",
  "AllowedValues": "0-",
  "MinimumEngineVersion": "6.2.4"
},

{ "Name": "tcp-keepalive",
  "Value": "300",
  "Description": "If non-zero, send ACKs every given number of seconds",
  "DataType": "integer",
  "AllowedValues": "0-",
  "MinimumEngineVersion": "6.2.4"
},

{ "Name": "timeout",
  "Value": "0",
  "Description": "Close connection if client is idle for a given number of seconds, or never if 0",
  "DataType": "integer",
  "AllowedValues": "0,20-",
  "MinimumEngineVersion": "6.2.4"
},

{ "Name": "tracking-table-max-keys",
  "Value": "1000000",
  "Description": "The maximum number of keys allowed for the tracking table for client side caching",
  "DataType": "integer",
  "AllowedValues": "1-100000000",
  "MinimumEngineVersion": "6.2.4"
},

{ "Name": "zset-max-ziplist-entries",
  "Value": "128",
  "Description": "The maximum number of sorted set entries in order for the dataset to be compressed",
  "DataType": "integer",
  "AllowedValues": "0-",
  "MinimumEngineVersion": "6.2.4"}
For more information, see Configuring engine parameters using parameter groups in the MemoryDB User Guide.

- For API details, see DescribeParameters in AWS CLI Command Reference.

describe-snapshots

The following code example shows how to use describe-snapshots.

AWS CLI

To return a list of snapshots

The following describe-snapshots` returns a list of snapshots.

```
aws memorydb describe-snapshots
```

Output:

```
{
  "Snapshots": [
    {
      "Name": "my-cluster-snapshot",
      "Status": "available",
      "Source": "manual",
      "ClusterConfiguration": {
```
"Name": "my-cluster",
"Description": "",
"NodeType": "db.r6g.large",
"EngineVersion": "6.2",
"MaintenanceWindow": "wed:03:00-wed:04:00",
"Port": 6379,
"ParameterGroupName": "default.memorydb-redis6",
"SubnetGroupName": "my-sg",
"VpcId": "vpc-862574fc",
"SnapshotRetentionLimit": 0,
"SnapshotWindow": "04:30-05:30",
"NumShards": 2
}
}
}

For more information, see Snapshot and restore in the MemoryDB User Guide.

- For API details, see DescribeSnapshots in AWS CLI Command Reference.

describe-subnet-groups

The following code example shows how to use describe-subnet-groups.

AWS CLI

To return a list of subnet groups

The following describe-subnet-groups ` returns a list of subnet groups.

aws memorydb describe-subnet-groups

Output

```json
{
   "SubnetGroups": [
   {
      "Name": "my-sg",
      "Description": "pat-sg",
      "VpcId": "vpc-862574fc",
      "Subnets": [
      {
         "Identifier": "subnet-faxx84a6",
```
For more information, see Subnets and subnet groups in the MemoryDB User Guide. For API details, see DescribeSubnetGroups in AWS CLI Command Reference.

describe-users

The following code example shows how to use describe-users.

AWS CLI

To return a list of users

The following describe-users ` returns a list of users.

aws memorydb describe-users

Output

```json
{
  "Users": [
    {
      "Name": "default",
      "Status": "active",
      "AccessString": "on ~* &* +@all",
      "ACLNames": [
        "open-access"
      ]
    }
  ]
}
```
For more information, see [Authenticating users with Access Control Lists](#) in the [MemoryDB User Guide](#).

- For API details, see [DescribeUsers](#) in [AWS CLI Command Reference](#).

**failover-shard**

The following code example shows how to use `failover-shard`.

**AWS CLI**

To fail over a shard

The following `failover-shard` fails over a shard.

```
aws memorydb failover-shard \
   --cluster-name my-cluster --shard-name 0001
```

Output:

```
{
```
"Cluster": {
    "Name": "my-cluster",
    "Status": "available",
    "NumberOfShards": 2,
    "ClusterEndpoint": {
        "Address": "clustercfg.my-cluster.aaaaaaaa.memorydb.us-east-1.amazonaws.com",
        "Port": 6379
    },
    "NodeType": "db.r6g.large",
    "EngineVersion": "6.2",
    "EnginePatchVersion": "6.2.6",
    "ParameterGroupName": "default.memorydb-redis6",
    "ParameterGroupStatus": "in-sync",
    "SecurityGroups": [
        {
            "SecurityGroupId": "sg-0a143xxxx45c9fae",
            "Status": "active"
        }
    ],
    "SubnetGroupName": "my-sg",
    "TLSEnabled": true,
    "ARN": "arn:aws:memorydb:us-east-1:491658xxxxxxx:cluster/my-cluster",
    "SnapshotRetentionLimit": 0,
    "MaintenanceWindow": "wed:03:00-wed:04:00",
    "SnapshotWindow": "04:30-05:30",
    "AutoMinorVersionUpgrade": true
}

For more information, see [Minimizing downtime with MultiAZ](https://docs.aws.amazon.com/memorydb/latest/userguide/MinimizingDowntime.html) in the *MemoryDB User Guide*.

- For API details, see [FailoverShard](https://docs.aws.amazon.com/cli/latest/reference/memorydb/failover-shard.html) in *AWS CLI Command Reference*.

### list-allowed-node-type-updates

The following code example shows how to use `list-allowed-node-type-updates`.

#### AWS CLI

**To return a list of allowed node type updates**

The following `list-allowed-node-type-updates` returns a list of available node type updates.
aws memorydb list-allowed-node-type-updates

Output:

```json
{
    "Cluster": {
        "Name": "my-cluster",
        "Status": "available",
        "NumberOfShards": 2,
        "ClusterEndpoint": {
            "Address": "clustercfg.my-cluster.xxxxxx.memorydb.us-east-1.amazonaws.com",
            "Port": 6379
        },
        "NodeType": "db.r6g.large",
        "EngineVersion": "6.2",
        "EnginePatchVersion": "6.2.6",
        "ParameterGroupName": "default.memorydb-redis6",
        "ParameterGroupStatus": "in-sync",
        "SecurityGroups": [
            {
                "SecurityGroupId": "sg-0a143xxxx45c9fae",
                "Status": "active"
            }
        ],
        "SubnetGroupName": "my-sg",
        "TLSEnabled": true,
        "ARN": "arn:aws:memorydb:us-east-1:491658xxxxxx:cluster/my-cluster",
        "SnapshotRetentionLimit": 0,
        "MaintenanceWindow": "wed:03:00-wed:04:00",
        "SnapshotWindow": "04:30-05:30",
        "AutoMinorVersionUpgrade": true
    }
}
```

For more information, see [Scaling](https://docs.aws.amazon.com/memorydb/latest/userguide/Scaling.html) in the *MemoryDB User Guide*.

- For API details, see [ListAllowedNodeTypeUpdates](https://docs.aws.amazon.com/cli/latest/reference/memorydb/list-allowed-node-type-updates.html) in *AWS CLI Command Reference*.

### list-tags

The following code example shows how to use `list-tags`. 
AWS CLI

To return a list of tags

The following list-tags returns a list of tags.

```
aws memorydb list-tags \
   --resource-arn arn:aws:memorydb:us-east-1:491658xxxxxx:cluster/my-cluster
```

Output:

```
{
   "TagList": [
      {
         "Key": "mytag",
         "Value": "myvalue"
      }
   ]
}
```

For more information, see Tagging resources in the MemoryDB User Guide.

- For API details, see ListTags in AWS CLI Command Reference.

reset-parameter-group

The following code example shows how to use reset-parameter-group.

AWS CLI

To reset a parameter group

The following reset-parameter-group resets a parameter group.

```
aws memorydb reset-parameter-group \
   --parameter-group-name my-parameter-group \
   --all-parameters
```

Output:

```
{
}
```
"ParameterGroup": {
  "Name": "my-parameter-group",
  "Family": "memorydb_redis6",
  "Description": "my parameter group",
  "ARN": "arn:aws:memorydb:us-east-1:491658xxxxxx:parametergroup/my-parameter-group"
}

For more information, see Configuring engine parameters using parameter groups in the MemoryDB User Guide.

- For API details, see ResetParameterGroup in AWS CLI Command Reference.

tag-resource

The following code example shows how to use tag-resource.

AWS CLI

To tag a resource

The following tag-resource command adds a tag to a resource.

```
aws memorydb tag-resource \
  --resource-arn arn:aws:memorydb:us-east-1:491658xxxxxx:cluster/my-cluster \
  --tags Key="mykey",Value="myvalue"
```

Output:

```
{
  "TagList": [
    {
      "Key": "mytag",
      "Value": "myvalue"
    },
    {
      "Key": "mykey",
      "Value": "myvalue"
    }
  ]
}
```
For more information, see Tagging resources in the MemoryDB User Guide.

- For API details, see TagResource in AWS CLI Command Reference.

untag-resource

The following code example shows how to use untag-resource.

AWS CLI

To update an ACL

The following update-acl\` updates an ACL by adding a user.

```bash
aws memorydb untag-resource
   --tag-keys mykey
```

Output:

```json
{
   "TagList": [
      {
         "Key": "mytag",
         "Value": "myvalue"
      }
   ]
}
```

For more information, see Tagging resources in the MemoryDB User Guide.

- For API details, see UntagResource in AWS CLI Command Reference.

update-cluster

The following code example shows how to use update-cluster.

AWS CLI

To update a cluster

The following update-cluster\` updates the parameter group of a cluster to my-parameter-group.
aws memorydb update-cluster \
   --cluster-name my-cluster \
   --parameter-group-name my-parameter-group

Output:

```json
{}
   "Cluster": {
      "Name": "my-cluster",
      "Status": "available",
      "NumberOfShards": 2,
      "AvailabilityMode": "MultiAZ",
      "ClusterEndpoint": {
         "Address": "clustercfg.my-cluster.llru6f.memorydb.us-east-1.amazonaws.com",
         "Port": 6379
      },
      "NodeType": "db.r6g.large",
      "EngineVersion": "6.2",
      "EnginePatchVersion": "6.2.6",
      "ParameterGroupName": "my-parameter-group",
      "ParameterGroupStatus": "in-sync",
      "SecurityGroups": [
         {
            "SecurityGroupId": "sg-0a143xxxxxc9fae",
            "Status": "active"
         }
      ],
      "SubnetGroupName": "pat-sg",
      "TLSEnabled": true,
      "ARN": "arn:aws:memorydb:us-east-1:491658xxxxxx:cluster/my-cluster",
      "SnapshotRetentionLimit": 0,
      "MaintenanceWindow": "wed:03:00-wed:04:00",
      "SnapshotWindow": "04:30-05:30",
      "ACLName": "my-acl",
      "AutoMinorVersionUpgrade": true
   }
```

For more information, see [Modifying a cluster](#) in the *MemoryDB User Guide*.

- For API details, see [UpdateCluster](#) in *AWS CLI Command Reference*. 

---

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update-parameter-group

The following code example shows how to use update-parameter-group.

AWS CLI

To update a parameter group

The following `update-parameter-group` updates a parameter group.

```
aws memorydb update-parameter-group \
    --parameter-group-name my-parameter-group \
    --parameter-name-values "ParameterName=activedefrag, ParameterValue=no"
```

Output:

```
{
    "ParameterGroup": {
        "Name": "my-parameter-group",
        "Family": "memorydb_redis6",
        "Description": "my parameter group",
        "ARN": "arn:aws:memorydb:us-east-1:49165xxxxxx:parametergroup/my-parameter-group"
    }
}
```

For more information, see [Modifying a parameter group](#) in the MemoryDB User Guide.

- For API details, see [UpdateParameterGroup](#) in AWS CLI Command Reference.

update-subnet-group

The following code example shows how to use update-subnet-group.

AWS CLI

To update a subnet group

The following `update-subnet-group` updates a subnet group's subnet ID.

```
aws memorydb update-subnet-group \
    --subnet-group-name my-sg \
    --subnet-ids subnet-01f29d458f3xxxxx
```
Output:

```
{
    "SubnetGroup": {
        "Name": "my-sg-1",
        "Description": "my-sg",
        "VpcId": "vpc-09d2cfc01xxxxxxxx",
        "Subnets": [
            {
                "Identifier": "subnet-01f29d458fxxxxxx",
                "AvailabilityZone": {
                    "Name": "us-east-1a"
                }
            }
        ],
        "ARN": "arn:aws:memorydb:us-east-1:491658xxxxxx:subnetgroup/my-sg"
    }
}
```

For more information, see [Subnets and subnet groups](#) in the MemoryDB User Guide.

- For API details, see [UpdateSubnetGroup](#) in AWS CLI Command Reference.

**update-user**

The following code example shows how to use `update-user`.

**AWS CLI**

**To update a user**

The following `update-user` modifies a user's access string.

```
aws memorydb update-user \
    --user-name my-user \
    --access-string "off ~objects:* ~items:* ~public:* resetchannels -@all"
```

Output:

```
{
    "User": {
        "Name": "my-user",
        "Status": "modifying",
    }
}
```
For more information, see [Authenticating users with Access Control Lists](#) in the MemoryDB User Guide.

- For API details, see [UpdateUser](#) in AWS CLI Command Reference.

Amazon MSK examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon MSK.

**Actions** are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

**Scenarios** are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- [Actions](#)

**Actions**

**create-cluster**

The following code example shows how to use create-cluster.
AWS CLI

To create an Amazon MSK cluster

The following create-cluster example creates an MSK cluster named MessagingCluster with three broker nodes. A JSON file named brokernodegroupinfo.json specifies the three subnets over which you want Amazon MSK to distribute the broker nodes. This example doesn't specify the monitoring level, so the cluster gets the DEFAULT level.

```
aws kafka create-cluster \
   --cluster-name "MessagingCluster" \
   --broker-node-group-info file://brokernodegroupinfo.json \
   --kafka-version "2.2.1" \
   --number-of-broker-nodes 3
```

Contents of brokernodegroupinfo.json:

```
{
   "InstanceType": "kafka.m5.xlarge",
   "BrokerAZDistribution": "DEFAULT",
   "ClientSubnets": [
      "subnet-0123456789111abcd",
      "subnet-0123456789222abcd",
      "subnet-0123456789333abcd"
   ]
}
```

Output:

```
{
   "ClusterArn": "arn:aws:kafka:us-west-2:123456789012:cluster/MessagingCluster/a1b2c3d4-5678-90ab-cdef-11111EXAMPLE-2",
   "ClusterName": "MessagingCluster",
   "State": "CREATING"
}
```

For more information, see Create an Amazon MSK Cluster in the Amazon Managed Streaming for Apache Kafka.

- For API details, see CreateCluster in AWS CLI Command Reference.
create-configuration

The following code example shows how to use create-configuration.

AWS CLI

To create a custom Amazon MSK configuration

The following create-configuration example creates a custom MSK configuration with the server properties that are specified in the input file.

aws kafka create-configuration \
   --name "CustomConfiguration" \
   --description "Topic autocreation enabled; Apache ZooKeeper timeout 2000 ms; Log rolling 604800000 ms." \
   --kafka-versions "2.2.1" \
   --server-properties file://configuration.txt

Contents of configuration.txt:

auto.create.topics.enable = true
zookeeper.connection.timeout.ms = 2000
log.roll.ms = 604800000

This command produces no output. Output:

{
   "Arn": "arn:aws:kafka:us-west-2:123456789012:configuration/CustomConfiguration/a1b2c3d4-5678-90ab-cdef-11111EXAMPLE-2",
   "CreationTime": "2019-10-09T15:26:05.548Z",
   "LatestRevision":
      {
         "CreationTime": "2019-10-09T15:26:05.548Z",
         "Description": "Topic autocreation enabled; Apache ZooKeeper timeout 2000 ms; Log rolling 604800000 ms.",
         "Revision": 1
      },
   "Name": "CustomConfiguration"
}

For more information, see Amazon MSK Configuration Operations in the Amazon Managed Streaming for Apache Kafka Developer Guide.
For API details, see CreateConfiguration in AWS CLI Command Reference.

describe-cluster

The following code example shows how to use describe-cluster.

AWS CLI

To describe a cluster

The following describe-cluster example describes an Amazon MSK cluster.

```bash
aws kafka describe-cluster \
    --cluster-arn arn:aws:kafka:us-east-1:123456789012:cluster/demo-cluster-1/6357e0b2-0e6a-4b86-a0b4-70df934c2e31-5
```

Output:

```
{
    "ClusterInfo": {
        "BrokerNodeGroupInfo": {
            "BrokerAZDistribution": "DEFAULT",
            "ClientSubnets": [
                "subnet-cbfff283",
                "subnet-6746046b"
            ],
            "InstanceType": "kafka.m5.large",
            "SecurityGroups": [
                "sg-f839b688"
            ],
            "StorageInfo": {
                "EbsStorageInfo": {
                    "VolumeSize": 100
                }
            }
        }
    },
    "ClusterArn": "arn:aws:kafka:us-east-1:123456789012:cluster/demo-cluster-1/6357e0b2-0e6a-4b86-a0b4-70df934c2e31-5",
    "ClusterName": "demo-cluster-1",
    "CreationTime": "2020-07-09T02:31:36.223000+00:00",
    "CurrentBrokerSoftwareInfo": {}
}
```

Actions and scenarios
For more information, see [Listing Amazon MSK Clusters](#) in the *Amazon Managed Streaming for Apache Kafka Developer Guide*.

- For API details, see [DescribeCluster](#) in *AWS CLI Command Reference*.

**get-bootstrap-brokers**

The following code example shows how to use `get-bootstrap-brokers`.
AWS CLI

To get bootstrap brokers

The following get-bootstrap-brokers example retrieves the bootstrap broker information for an Amazon MSK cluster.

```bash
aws kafka get-bootstrap-brokers \
   --cluster-arn arn:aws:kafka:us-east-1:123456789012:cluster/demo-cluster-1/6357e0b2-0e6a-4b86-a0b4-70df934c2e31-5
```

Output:

```json
{
   "BootstrapBrokerString": "b-1.demo-cluster-1.xuy0sb.c5.kafka.us-east-1.amazonaws.com:9092,b-2.demo-cluster-1.xuy0sb.c5.kafka.us-east-1.amazonaws.com:9092",
   "BootstrapBrokerStringTls": "b-1.demo-cluster-1.xuy0sb.c5.kafka.us-east-1.amazonaws.com:9094,b-2.demo-cluster-1.xuy0sb.c5.kafka.us-east-1.amazonaws.com:9094"
}
```

For more information, see [Getting the Bootstrap Brokers](https://docs.aws.amazon.com/AmazonMSK/latest/DeveloperGuide/get-bootstrap-brokers.html) in the Amazon Managed Streaming for Apache Kafka Developer Guide.


list-clusters

The following code example shows how to use list-clusters.

AWS CLI

To list the available clusters

The following list-clusters example lists the Amazon MSK clusters in your AWS account.

```bash
aws kafka list-clusters
```

Output:

```json
{
```

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"ClusterInfoList": [
    {
        "BrokerNodeGroupInfo": {
            "BrokerAZDistribution": "DEFAULT",
            "ClientSubnets": [
                "subnet-cbfff283",
                "subnet-6746046b"
            ],
            "InstanceType": "kafka.m5.large",
            "SecurityGroups": [
                "sg-f839b688"
            ],
            "StorageInfo": {
                "EbsStorageInfo": {
                    "VolumeSize": 100
                }
            }
        },
        "ClusterArn": "arn:aws:kafka:us-east-1:123456789012:cluster/demo-cluster-1/6357e0b2-0e6a-4b86-a0b4-70df934c2e31-5",
        "ClusterName": "demo-cluster-1",
        "CreationTime": "2020-07-09T02:31:36.223000+00:00",
        "CurrentBrokerSoftwareInfo": {
            "KafkaVersion": "2.2.1"
        },
        "CurrentVersion": "K3AEGXETSR30VB",
        "EncryptionInfo": {
            "EncryptionAtRest": {
                "DataVolumeKMSKeyId": "arn:aws:kms:us-east-1:123456789012:key/a7ca56d5-0768-4b64-a670-339a9fbeb81c"
            },
            "EncryptionInTransit": {
                "ClientBroker": "TLS_PLAINTEXT",
                "InCluster": true
            }
        },
        "EnhancedMonitoring": "DEFAULT",
        "OpenMonitoring": {
            "Prometheus": {
                "JmxExporter": {
                    "EnabledInBroker": false
                },
                "NodeExporter": {
                    "EnabledInBroker": false
                }
            }
        }
    }
]
The following code example shows how to use `update-broker-storage`.

**AWS CLI**

To update the EBS storage for brokers

The following `update-broker-storage` example updates the amount of EBS storage for all the brokers in the cluster. Amazon MSK sets the target storage amount for each broker to the amount specified in the example. You can get the current version of the cluster by describing the cluster or by listing all of the clusters.

```bash
aws kafka update-broker-storage \
   --cluster-arn "arn:aws:kafka:us-west-2:123456789012:cluster/MessagingCluster/\n   a1b2c3d4-5678-90ab-cdef-11111EXAMPLE-2" \
   --current-version "K21V3IB1VIZYYH" \
   --target-broker-ebs-volume-info "KafkaBrokerNodeId=ALL,VolumeSizeGB=1100"
```

The output returns an ARN for this `update-broker-storage` operation. To determine if this operation is complete, use the `describe-cluster-operation` command with this ARN as input.
For more information, see [Update the EBS Storage for Brokers](#) in the *Amazon Managed Streaming for Apache Kafka Developer Guide*.

- For API details, see [UpdateBrokerStorage](#) in *AWS CLI Command Reference*.

### update-cluster-configuration

The following code example shows how to use `update-cluster-configuration`.

**AWS CLI**

**To update the configuration of an Amazon MSK cluster**

The following `update-cluster-configuration` example updates the configuration of the specified existing MSK cluster. It uses a custom MSK configuration.

```bash
aws kafka update-cluster-configuration \
  --cluster-arn "arn:aws:kafka:us-west-2:123456789012:cluster/MessagingCluster/\na1b2c3d4-5678-90ab-cdef-11111EXAMPLE-2" \
  --configuration-info file://configuration-info.json \
  --current-version "K21V3IB1VIZYYH"
```

**Contents of configuration-info.json:**

```json
{
    "Arn": "arn:aws:kafka:us-west-2:123456789012:configuration/CustomConfiguration/\na1b2c3d4-5678-90ab-cdef-11111EXAMPLE-2",
    "Revision": 1
}
```

The output returns an ARN for this `update-cluster-configuration` operation. To determine if this operation is complete, use the `describe-cluster-operation` command with this ARN as input.
For more information, see Update the Configuration of an Amazon MSK Cluster in the Amazon Managed Streaming for Apache Kafka Developer Guide.

- For API details, see UpdateClusterConfiguration in AWS CLI Command Reference.

Network Manager examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Network Manager.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics
- Actions

Actions

associate-customer-gateway

The following code example shows how to use associate-customer-gateway.

AWS CLI

To associate a customer gateway
The following `associate-customer-gateway` example associates customer gateway `cgw-11223344556677889` in the specified global network with device `device-07f6fd08867abc123`.

```bash
aws networkmanager associate-customer-gateway
    --global-network-id global-network-01231231231231231
    --device-id device-07f6fd08867abc123
    --region us-west-2
```

Output:

```
{
    "CustomerGatewayAssociation": {
        "GlobalNetworkId": "global-network-01231231231231231",
        "DeviceId": "device-07f6fd08867abc123",
        "State": "PENDING"
    }
}
```

For more information, see [Customer Gateway Associations](#) in the *Transit Gateway Network Manager Guide*.

- For API details, see [AssociateCustomerGateway](#) in *AWS CLI Command Reference*.

**associate-link**

The following code example shows how to use `associate-link`.

**AWS CLI**

**To associate a link**

The following `associate-link` example associates link `link-11112222aaaabbbb1` with device `device-07f6fd08867abc123`. The link and device are in the specified global network.

```bash
aws networkmanager associate-link \
```
--global-network-id global-network-01231231231231231 \ 
--device-id device-07f6fd08867abc123 \ 
--link-id link-11112222aaaabbb1 \ 
--region us-west-2

Output:

```json
{
    "LinkAssociation": {
        "GlobalNetworkId": "global-network-01231231231231231",
        "DeviceId": "device-07f6fd08867abc123",
        "LinkId": "link-11112222aaaabbb1",
        "LinkAssociationState": "PENDING"
    }
}
```

For more information, see [Device and Link Associations](http://example.com) in the *Transit Gateway Network Manager Guide*.

- For API details, see [AssociateLink](http://example.com) in *AWS CLI Command Reference*.

**create-core-network**

The following code example shows how to use `create-core-network`.

**AWS CLI**

To create a core network

The following `create-core-network` example creates a core network using an optional description and tags within an AWS Cloud WAN global network.

```bash
aws networkmanager create-core-network \ 
    --global-network-id global-network-0d59060f16a73bc41\ 
    --description "Main headquarters location"\ 
    --tags Key=Name,Value="New York City office"
```

Output:

```json
{
}
```
"CoreNetwork": {
    "GlobalNetworkId": "global-network-0d5060f16a73bc41",
    "CoreNetworkId": "core-network-0fab62fe438d94db6",
    "CoreNetworkArn": "arn:aws:networkmanager::987654321012:core-network/core-network-0fab62fe438d94db6",
    "Description": "Main headquarters location",
    "CreatedAt": "2022-01-10T19:53:59+00:00",
    "State": "AVAILABLE",
    "Tags": [
        {
            "Key": "Name",
            "Value": "New York City office"
        }
    ]
}

For more information, see Core networks in the AWS Cloud WAN User Guide.

- For API details, see CreateCoreNetwork in AWS CLI Command Reference.

create-device

The following code example shows how to use create-device.

AWS CLI

To create a device

The following create-device example creates a device in the specified global network. The device details include a description, the type, vendor, model, and serial number.

```
aws networkmanager create-device
    --global-network-id global-network-01231231231231231 \
    --description "New York office device" \
    --type "office device" \
    --vendor "anycompany" \
    --model "abcabc" \
    --serial-number "1234" \
    --region us-west-2
```

Output:
For more information, see Working with Devices in the Transit Gateway Network Manager Guide.

- For API details, see CreateDevice in AWS CLI Command Reference.

### create-global-network

The following code example shows how to use create-global-network.

**AWS CLI**

**To create a global network**

The following create-global-network examples creates a new global network. The initial state upon creation is PENDING.

```bash
aws networkmanager create-global-network
```

**Output:**

```json
{
   "GlobalNetwork": {
      "GlobalNetworkId": "global-network-00a77fc0f722dae74",
      "GlobalNetworkArn": "arn:aws:networkmanager::987654321012:global-network/global-network-00a77fc0f722dae74",
      "CreatedAt": "2022-03-14T20:31:56+00:00",
      "State": "PENDING"
   }
}
```
For API details, see CreateGlobalNetwork in AWS CLI Command Reference.

**create-link**

The following code example shows how to use create-link.

**AWS CLI**

**To create a link**

The following create-link example creates a link in the specified global network. The link includes a description and details about the link type, bandwidth, and provider. The site ID indicates the site to which the link is associated.

```bash
aws networkmanager create-link \\
    --global-network-id global-network-01231231231231231 \\
    --description "VPN Link" \\
    --type "broadband" \\
    --bandwidth UploadSpeed=10,DownloadSpeed=20 \\
    --provider "AnyCompany" \\
    --site-id site-444555aaabbb11223 \\
    --region us-west-2
```

**Output:**

```json
{
    "Link": {
        "LinkId": "link-11112222aaaabbb1",
        "LinkArn": "arn:aws:networkmanager::123456789012:link/global-network-01231231231231231/link-11112222aaaabbb1",
        "GlobalNetworkId": "global-network-01231231231231231",
        "SiteId": "site-444555aaabbb11223",
        "Description": "VPN Link",
        "Type": "broadband",
        "Bandwidth": {
            "UploadSpeed": 10,
            "DownloadSpeed": 20
        }
    }
}
```
For more information, see Working with Links in the Transit Gateway Network Manager Guide.

- For API details, see CreateLink in AWS CLI Command Reference.

create-site

The following code example shows how to use create-site.

AWS CLI

To create a site

The following create-site example creates a site in the specified global network. The site details include a description and the location information.

```
aws networkmanager create-site \
  --global-network-id global-network-01231231231231231 \
  --description "New York head office" \
  --location Latitude=40.7128,Longitude=-74.0060 \
  --region us-west-2
```

Output:

```
{
  "Site": {
    "SiteId": "site-444555aaabbb11223",
    "SiteArn": "arn:aws:networkmanager::123456789012:site/global-network-01231231231231231/site-444555aaabbb11223",
    "GlobalNetworkId": "global-network-01231231231231231",
    "Description": "New York head office",
    "Location": {
      "Latitude": "40.7128",
      "Longitude": "-74.0060"
    },
    "CreatedAt": 1575554300.0,
  }
}
```
For more information, see Working with Sites in the Transit Gateway Network Manager Guide.

- For API details, see CreateSite in AWS CLI Command Reference.

**create-vpc-attachment**

The following code example shows how to use create-vpc-attachment.

**AWS CLI**

**To create a VPC attachment**

The following create-vpc-attachment example creates a VPC attachment with IPv6 support in a core network.

```
aws networkmanager create-vpc-attachment \
  --core-network-id core-network-0fab62fe438d94db6 \
  --vpc-arn arn:aws:ec2:us-east-1:987654321012:vpc/vpc-09f37f69e2786eeb8 \
  --subnet-arns arn:aws:ec2:us-east-1:987654321012:subnet/subnet-04ca4e010857e7bb7 \
  --Ipv6Support=true
```

Output:

```
{
    "VpcAttachment": {
        "Attachment": {
            "CoreNetworkId": "core-network-0fab62fe438d94db6",
            "AttachmentId": "attachment-05e1da6eba87a06e6",
            "OwnerAccountId": "987654321012",
            "AttachmentType": "VPC",
            "State": "CREATING",
            "EdgeLocation": "us-east-1",
            "ResourceArn": "arn:aws:ec2:us-east-1:987654321012:vpc/vpc-09f37f69e2786eeb8",
            "Tags": [],
            "CreatedAt": "2022-03-10T20:59:14+00:00",
            "UpdatedAt": "2022-03-10T20:59:14+00:00"
        }
    }
}
```
For more information, see Create an attachment in the Cloud WAN User Guide.

- For API details, see CreateVpcAttachment in AWS CLI Command Reference.

**delete-attachment**

The following code example shows how to use delete-attachment.

**AWS CLI**

**To delete an attachment**

The following delete-attachment example deletes a Connect attachment.

```bash
aws networkmanager delete-attachment
--attachment-id attachment-01feddaae26ab68c
```

Output:

```json
{
   "Attachment": {
      "CoreNetworkId": "core-network-0f4b0a9d5ee7761d1",
      "AttachmentId": "attachment-01feddaae26ab68c",
      "OwnerAccountId": "987654321012",
      "AttachmentType": "CONNECT",
      "State": "DELETING",
      "EdgeLocation": "us-east-1",
      "ResourceArn": "arn:aws:networkmanager::987654321012:attachment/attachment-02c3964448fedf5aa",
      "CreatedAt": "2022-03-15T19:18:41+00:00",
      "UpdatedAt": "2022-03-15T19:28:59+00:00"
   }
}```
For more information, see [Delete attachments](#) in the *Cloud WAN User Guide*.

- For API details, see [DeleteAttachment](#) in *AWS CLI Command Reference*.

### delete-bucket-analytics-configuration

The following code example shows how to use `delete-bucket-analytics-configuration`.

**AWS CLI**

**To delete an analytics configuration for a bucket**

The following `delete-bucket-analytics-configuration` example removes the analytics configuration for the specified bucket and ID.

```bash
aws s3api delete-bucket-analytics-configuration 
    --bucket my-bucket 
    --id 1
```

This command produces no output.

- For API details, see [DeleteBucketAnalyticsConfiguration](#) in *AWS CLI Command Reference*.

### delete-bucket-metrics-configuration

The following code example shows how to use `delete-bucket-metrics-configuration`.

**AWS CLI**

**To delete a metrics configuration for a bucket**

The following `delete-bucket-metrics-configuration` example removes the metrics configuration for the specified bucket and ID.

```bash
aws s3api delete-bucket-metrics-configuration 
    --bucket my-bucket 
    --id 123
```

This command produces no output.
For API details, see `DeleteBucketMetricsConfiguration` in *AWS CLI Command Reference*.

**delete-core-network**

The following code example shows how to use `delete-core-network`.

**AWS CLI**

To delete a core network

The following `delete-core-network` example deletes a core network from a Cloud WAN global network.

```
aws networkmanager delete-core-network \
   --core-network-id core-network-0fab62fe438d94db6
```

Output:

```json
{
   "CoreNetwork": {
      "GlobalNetworkId": "global-network-0d59060f16a73bc41",
      "CoreNetworkId": "core-network-0fab62fe438d94db6",
      "Description": "Main headquarters location",
      "CreatedAt": "2021-12-09T18:31:11+00:00",
      "State": "DELETING",
      "Segments": [
         {
            "Name": "dev",
            "EdgeLocations": ["us-east-1"
         ],
            "SharedSegments": []
         }
      ],
      "Edges": ["us-east-1",
         {"Asn": 64512,
         "InsideCidrBlocks": []
      ]
   }
}```
The following code example shows how to use `delete-device`.

**AWS CLI**

**To delete a device**

The following `delete-device` example deletes the specified device from the specified global network.

```bash
aws networkmanager delete-device \
   --global-network-id global-network-01231231231231231 \
   --device-id device-07f6fd08867abc123 \
   --region us-west-2
```

**Output:**

```json
{
   "Device": {
      "DeviceId": "device-07f6fd08867abc123",
      "DeviceArn": "arn:aws:networkmanager::123456789012:device/global-network-01231231231231231/device-07f6fd08867abc123",
      "GlobalNetworkId": "global-network-01231231231231231",
      "Description": "New York office device",
      "Type": "office device",
      "Vendor": "anycompany",
      "Model": "abcabc",
      "SerialNumber": "1234",
      "SiteId": "site-444555aaabbb11223",
      "CreatedAt": 1575554005.0,
      "State": "DELETING"
   }
}
```

For more information, see [Working with Devices](#) in the *Transit Gateway Network Manager Guide*. 

For more information, see [Core networks](#) in the *Cloud WAN User Guide*. 

- For API details, see [DeleteCoreNetwork](#) in *AWS CLI Command Reference*. 

**Actions and scenarios**
• For API details, see \textit{DeleteDevice} in \textit{AWS CLI Command Reference}.

\textbf{delete-global-network}

The following code example shows how to use \textit{delete-global-network}.

\textbf{AWS CLI}

\textbf{To delete a global network}

The following \textit{delete-global-network} example deletes a global network.

```
aws networkmanager delete-global-network \\
--global-network-id global-network-052bedddccb193b6b
```

\textbf{Output:}

```
{
  "GlobalNetwork": {
    "GlobalNetworkId": "global-network-052bedddccb193b6b",
    "CreatedAt": "2021-12-09T18:19:12+00:00",
    "State": "DELETING"
  }
}
```

• For API details, see \textit{DeleteGlobalNetwork} in \textit{AWS CLI Command Reference}.

\textbf{delete-link}

The following code example shows how to use \textit{delete-link}.

\textbf{AWS CLI}

\textbf{To delete a link}

The following \textit{delete-link} example deletes the specified link from the specified global network.

```
aws networkmanager delete-link \\
```

Actions and scenarios
--global-network-id global-network-01231231231231231 \  
--link-id link-11112222aaaabbb1 \  
--region us-west-2

Output:

```json
{
  "Link": {
    "LinkId": "link-11112222aaaabbb1",
    "LinkArn": "arn:aws:networkmanager::123456789012:link/global-network-01231231231231231/link-11112222aaaabbb1",
    "GlobalNetworkId": "global-network-01231231231231231",
    "SiteId": "site-444555aaabbb1223",
    "Description": "VPN Link",
    "Type": "broadband",
    "Bandwidth": {
      "UploadSpeed": 20,
      "DownloadSpeed": 20
    },
    "Provider": "AnyCompany",
    "CreatedAt": 1575555811.0,
    "State": "DELETING"
  }
}
```

For more information, see [Working with Links](#) in the *Transit Gateway Network Manager Guide*.

- For API details, see [DeleteLink](#) in *AWS CLI Command Reference*.

---

**delete-public-access-block**

The following code example shows how to use `delete-public-access-block`.

**AWS CLI**

**To delete the block public access configuration for a bucket**

The following `delete-public-access-block` example removes the block public access configuration on the specified bucket.

```
aws s3api delete-public-access-block \
   --bucket my-bucket
```
This command produces no output.

- For API details, see `DeletePublicAccessBlock` in *AWS CLI Command Reference*.

### delete-site

The following code example shows how to use `delete-site`.

#### AWS CLI

**To delete a site**

The following `delete-site` example deletes the specified site (`site-444555aaabbb11223`) in the specified global network.

```bash
aws networkmanager delete-site \
  --global-network-id global-network-01231231231231231  \
  --site-id site-444555aaabbb11223 \
  --region us-west-2
```

**Output:**

```json
{
  "Site": {
    "SiteId": "site-444555aaabbb11223",
    "SiteArn": "arn:aws:networkmanager::123456789012:site/global-network-01231231231231231/site-444555aaabbb11223",
    "GlobalNetworkId": "global-network-01231231231231231",
    "Description": "New York head office",
    "Location": {
      "Latitude": "40.7128",
      "Longitude": "+74.0060"
    },
    "CreatedAt": 1575554300.0,
    "State": "DELETING"
  }
}
```

For more information, see [Working with Sites](#) in the *Transit Gateway Network Manager Guide*.

- For API details, see `DeleteSite` in *AWS CLI Command Reference*. 

---

**Actions and scenarios**

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deregister-transit-gateway

The following code example shows how to use deregister-transit-gateway.

AWS CLI

To deregister a transit gateway from a global network

The following deregister-transit-gateway example deregisters the specified transit gateway from the specified global network.

```bash
aws networkmanager deregister-transit-gateway \
  --global-network-id global-network-01231231231231231 \
  --transit-gateway-arn arn:aws:ec2:us-west-2:123456789012:transit-gateway/tgw-123abc05e04123abc \
  --region us-west-2
```

Output:

```json
{
  "TransitGatewayRegistration": {
    "GlobalNetworkId": "global-network-01231231231231231",
    "State": {
      "Code": "DELETING"
    }
  }
}
```

For more information, see Transit Gateway Registrations in the Transit Gateway Network Manager Guide.

- For API details, see DeregisterTransitGateway in AWS CLI Command Reference.

describe-global-networks

The following code example shows how to use describe-global-networks.

AWS CLI

To describe your global networks
The following describe-global-networks example describes all of your global networks in your account.

```bash
aws networkmanager describe-global-networks \
   --region us-west-2
```

Output:

```json
{
   "GlobalNetworks": [
      {
         "GlobalNetworkId": "global-network-01231231231231231",
         "Description": "Company 1 global network",
         "CreatedAt": 1575553525.0,
         "State": "AVAILABLE"
      }
   ]
}
```

- For API details, see [DescribeGlobalNetworks](#) in [AWS CLI Command Reference](#).

**disassociate-customer-gateway**

The following code example shows how to use disassociate-customer-gateway.

**AWS CLI**

**To disassociate a customer gateway**

The following disassociate-customer-gateway example disassociates the specified customer gateway (cgw-11223344556677889) from the specified global network.

```bash
aws networkmanager disassociate-customer-gateway \
   --global-network-id global-network-01231231231231231 \
   --region us-west-2
```

Output:
For more information, see [Customer Gateway Associations](#) in the *Transit Gateway Network Manager Guide*.

- For API details, see [DisassociateCustomerGateway](#) in *AWS CLI Command Reference*.

**disassociate-link**

The following code example shows how to use disassociate-link.

**AWS CLI**

**To disassociate a link**

The following disassociate-link example disassociates the specified link from device device-07f6fd08867abc123 in the specified global network.

```
aws networkmanager disassociate-link \
  --global-network-id global-network-01231231231231231 \
  --device-id device-07f6fd08867abc123 \
  --link-id link-11112222aaaabbb1 \
  --region us-west-2
```

Output:

```
{
  "LinkAssociation": {
    "GlobalNetworkId": "global-network-01231231231231231",
    "DeviceId": "device-07f6fd08867abc123",
    "LinkId": "link-11112222aaaabbb1",
    "LinkAssociationState": "DELETING"
  }
}
```
For more information, see Device and Link Associations in the Transit Gateway Network Manager Guide.

- For API details, see DisassociateLink in AWS CLI Command Reference.

get-bucket-analytics-configuration

The following code example shows how to use get-bucket-analytics-configuration.

AWS CLI

To retrieve the analytics configuration for a bucket with a specific ID

The following get-bucket-analytics-configuration example displays the analytics configuration for the specified bucket and ID.

```
aws s3api get-bucket-analytics-configuration \
    --bucket my-bucket \
    --id 1
```

Output:

```
{
    "AnalyticsConfiguration": {
        "StorageClassAnalysis": {},
        "Id": "1"
    }
}
```

- For API details, see GetBucketAnalyticsConfiguration in AWS CLI Command Reference.

get-bucket-metrics-configuration

The following code example shows how to use get-bucket-metrics-configuration.

AWS CLI

To retrieve the metrics configuration for a bucket with a specific ID

The following get-bucket-metrics-configuration example displays the metrics configuration for the specified bucket and ID.
aws s3api get-bucket-metrics-configuration \
   --bucket my-bucket \
   --id 123

Output:

```json
{
    "MetricsConfiguration": {
        "Filter": {
            "Prefix": "logs"
        },
        "Id": "123"
    }
}
```

- For API details, see [GetBucketMetricsConfiguration](#) in *AWS CLI Command Reference*.

### get-customer-gateway-associations

The following code example shows how to use `get-customer-gateway-associations`.

**AWS CLI**

**To get your customer gateway associations**

The following `get-customer-gateway-associations` example gets the customer gateway associations for the specified global network.

```bash
aws networkmanager get-customer-gateway-associations \
   --global-network-id global-network-01231231231231231 \
   --region us-west-2
```

Output:

```json
{
    "CustomerGatewayAssociations": [
        {
            "GlobalNetworkId": "global-network-01231231231231231",
            "DeviceId": "device-07f6fd08867abc123",
```
get-devices

The following code example shows how to use get-devices.

AWS CLI

To get your devices

The following get-devices example gets the devices in the specified global network.

```bash
aws networkmanager get-devices \
  --global-network-id global-network-01231231231231231 \
  --region us-west-2
```

Output:

```json
{
  "Devices": [
    {
      "DeviceId": "device-07f6fd08867abc123",
      "DeviceArn": "arn:aws:networkmanager::123456789012:device/global-network-01231231231231231/device-07f6fd08867abc123",
      "GlobalNetworkId": "global-network-01231231231231231",
      "Description": "NY office device",
      "Type": "office device",
      "Vendor": "anycompany",
      "Model": "abcabc",
      "SerialNumber": "1234",
      "CreatedAt": 1575554005.0,
      "State": "AVAILABLE"
    }
  ]
}
```

- For API details, see [GetCustomerGatewayAssociations](https://docs.aws.amazon.com/cli/latest/reference/networkmanager/get-customer-gateway-associations.html) in *AWS CLI Command Reference*.

- For API details, see [GetDevices](https://docs.aws.amazon.com/cli/latest/reference/networkmanager/get-devices.html) in *AWS CLI Command Reference*.
get-link-associations

The following code example shows how to use get-link-associations.

AWS CLI

To get your link associations

The following get-link-associations example gets the link associations in the specified global network.

```bash
aws networkmanager get-link-associations \
    --global-network-id global-network-01231231231231231 \
    --region us-west-2
```

Output:

```json
{
    "LinkAssociations": [
        {
            "GlobalNetworkId": "global-network-01231231231231231",
            "DeviceId": "device-07f6fd08867abc123",
            "LinkId": "link-11112222aaaabbbb1",
            "LinkAssociationState": "AVAILABLE"
        }
    ]
}
```

- For API details, see [GetLinkAssociations](https://docs.aws.amazon.com/AWSCommandReference/) in *AWS CLI Command Reference*.

get-links

The following code example shows how to use get-links.

AWS CLI

To get your links

The following get-links example gets the links in the specified global network.

```bash
aws networkmanager get-links \
    --global-network-id global-network-01231231231231231 \
```
Output:

```json
{
   "Links": [
       {
           "LinkId": "link-11112222aaaabbbb1",
           "LinkArn": "arn:aws:networkmanager::123456789012:link/global-network-01231231231231231/link-11112222aaaabbbb1",
           "GlobalNetworkId": "global-network-01231231231231231",
           "SiteId": "site-444555aaabbb11223",
           "Description": "VPN Link",
           "Type": "broadband",
           "Bandwidth": {
               "UploadSpeed": 10,
               "DownloadSpeed": 20
           },
           "Provider": "AnyCompany",
           "CreatedAt": 1575555811.0,
           "State": "AVAILABLE"
       }
   ]
}
```

- For API details, see [GetLinks](https://awscli.amazonaws.com/v2/documentation/api/index.html) in *AWS CLI Command Reference*.

### get-object-retention

The following code example shows how to use `get-object-retention`.

#### AWS CLI

To retrieve the object retention configuration for an object

The following `get-object-retention` example retrieves the object retention configuration for the specified object.

```bash
aws s3api get-object-retention \
   --bucket my-bucket-with-object-lock \
   --key doc1.rtf
```
### Output:

```json
{
   "Retention": {
      "Mode": "GOVERNANCE",
      "RetainUntilDate": "2025-01-01T00:00:00.000Z"
   }
}
```

- For API details, see [GetObjectRetention](#) in *AWS CLI Command Reference*.

#### get-public-access-block

The following code example shows how to use **get-public-access-block**.

**AWS CLI**

**To set or modify the block public access configuration for a bucket**

The following **get-public-access-block** example displays the block public access configuration for the specified bucket.

```
aws s3api get-public-access-block --bucket my-bucket
```

**Output:**

```json
{
   "PublicAccessBlockConfiguration": {
      "IgnorePublicAcls": true,
      "BlockPublicPolicy": true,
      "BlockPublicAcls": true,
      "RestrictPublicBuckets": true
   }
}
```

- For API details, see [GetPublicAccessBlock](#) in *AWS CLI Command Reference*.

#### get-sites

The following code example shows how to use **get-sites**.
AWS CLI

To get your sites

The following get-sites example gets the sites in the specified global network.

```
aws networkmanager get-sites \
    --global-network-id global-network-01231231231231231 \
    --region us-west-2
```

Output:

```json
{
    "Sites": [
        {
            "SiteId": "site-444555aaabbb11223",
            "SiteArn": "arn:aws:networkmanager::123456789012:site/global-network-01231231231231231/site-444555aaabbb11223",
            "GlobalNetworkId": "global-network-01231231231231231",
            "Description": "NY head office",
            "Location": {
                "Latitude": "40.7128",
                "Longitude": "-74.0060"
            },
            "CreatedAt": 1575554528.0,
            "State": "AVAILABLE"
        }
    ]
}
```

- For API details, see [GetSites](#) in AWS CLI Command Reference.

get-transit-gateway-registrations

The following code example shows how to use get-transit-gateway-registrations.

AWS CLI

To get your transit gateway registrations

The following get-transit-gateway-registrations example gets the transit gateways that are registered to the specified global network.
aws networkmanager get-transit-gateway-registrations \
   --global-network-id global-network-01231231231231231 \
   --region us-west-2

Output:

```json
{
   "TransitGatewayRegistrations": [
      {
         "GlobalNetworkId": "global-network-01231231231231231",
         "State": {
            "Code": "AVAILABLE"
         }
      }
   ]
}
```


get-vpc-attachment

The following code example shows how to use `get-vpc-attachment`.

AWS CLI

**To get an a VPC attachment**

The following get-vpc-attachment example returns information about a VPC attachment.

```bash
aws networkmanager get-vpc-attachment \
   --attachment-id attachment-03b7ea450134787da
```

Output:

```json
{
   "VpcAttachment": {
      "Attachment": {
         "CoreNetworkId": "core-network-0522de1b226a5d7b3",
         "AttachmentId": "attachment-03b7ea450134787da",
```

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"OwnerAccountId": "987654321012",
"AttachmentType": "VPC",
"State": "CREATING",
"EdgeLocation": "us-east-1",
"ResourceArn": "arn:aws:ec2:us-east-1:987654321012:vpc/vpc-a7c4bbda",
"Tags": [
  {
    "Key": "Name",
    "Value": "DevVPC"
  }
],
"CreatedAt": "2022-03-11T17:48:58+00:00",
"UpdatedAt": "2022-03-11T17:48:58+00:00"
},
"SubnetArns": [
  "arn:aws:ec2:us-east-1:987654321012:subnet/subnet-2387ae02",
  "arn:aws:ec2:us-east-1:987654321012:subnet/subnet-cda9dffc"
],
"Options": {
  "Ipv6Support": false
}
"

For more information, see Attachments in the Cloud WAN User Guide.

- For API details, see GetVpcAttachment in AWS CLI Command Reference.

list-bucket-analytics-configurations

The following code example shows how to use list-bucket-analytics-configurations.

AWS CLI

To retrieve a list of analytics configurations for a bucket

The following list-bucket-analytics-configurations retrieves a list of analytics configurations for the specified bucket.

aws s3api list-bucket-analytics-configurations \\  --bucket my-bucket
Output:

```json
{
  "AnalyticsConfigurationList": [
    {
      "StorageClassAnalysis": {},
      "Id": "1"
    }
  ],
  "IsTruncated": false
}
```

- For API details, see [ListBucketAnalyticsConfigurations](https://docs.aws.amazon.com/cli/latest/reference/s3api/list-bucket-analytics-configurations.html) in *AWS CLI Command Reference*.

**list-bucket-metrics-configurations**

The following code example shows how to use `list-bucket-metrics-configurations`.

**AWS CLI**

To retrieve a list of metrics configurations for a bucket

The following `list-bucket-metrics-configurations` example retrieves a list of metrics configurations for the specified bucket.

```bash
aws s3api list-bucket-metrics-configurations \  
--bucket my-bucket
```

Output:

```json
{
  "IsTruncated": false,
  "MetricsConfigurationList": [
    {
      "Filter": {
        "Prefix": "logs"
      },
      "Id": "123"
    },
    {
      "Filter": {
```

Actions and scenarios
list-tags-for-resource

The following code example shows how to use list-tags-for-resource.

AWS CLI

To list the tags for a resource

The following list-tags-for-resource example lists the tags for the specified device resource (device-07f6fd08867abc123).

```
aws networkmanager list-tags-for-resource \
    --resource-arn arn:aws:networkmanager::123456789012:device/global-network-01231231231231231/device-07f6fd08867abc123 \
    --region us-west-2
```

Output:

```
{
    "TagList": [
        {
            "Key": "Network",
            "Value": "Northeast"
        }
    ]
}
```

• For API details, see ListTagsForResource in AWS CLI Command Reference.

put-bucket-metrics-configuration

The following code example shows how to use put-bucket-metrics-configuration.
AWS CLI

To set a metrics configuration for a bucket

The following put-bucket-metrics-configuration example sets a metric configuration with ID 123 for the specified bucket.

```bash
aws s3api put-bucket-metrics-configuration \
   --bucket my-bucket \
   --id 123 \
   --metrics-configuration '{"Id": "123", "Filter": {"Prefix": "logs"}}'
```

This command produces no output.

- For API details, see `PutBucketMetricsConfiguration` in AWS CLI Command Reference.

put-object-retention

The following code example shows how to use put-object-retention.

AWS CLI

To set an object retention configuration for an object

The following put-object-retention example sets an object retention configuration for the specified object until 2025-01-01.

```bash
aws s3api put-object-retention \
   --bucket my-bucket-with-object-lock \
   --key doc1.rtf \
   --retention '{ "Mode": "GOVERNANCE", "RetainUntilDate": "2025-01-01T00:00:00" }'
```

This command produces no output.

- For API details, see `PutObjectRetention` in AWS CLI Command Reference.

put-public-access-block

The following code example shows how to use put-public-access-block.

AWS CLI

To set the block public access configuration for a bucket
The following put-public-access-block example sets a restrictive block public access configuration for the specified bucket.

```bash
aws s3api put-public-access-block \
  --bucket my-bucket \
  --public-access-block-configuration
  "BlockPublicAcls=true,IgnorePublicAcls=true,BlockPublicPolicy=true,RestrictPublicBuckets=true"
```

This command produces no output.

- For API details, see PutPublicAccessBlock in AWS CLI Command Reference.

register-transit-gateway

The following code example shows how to use register-transit-gateway.

**AWS CLI**

**To register a transit gateway in a global network**

The following register-transit-gateway example registers transit gateway tgw-123abc05e04123abc in the specified global network.

```bash
aws networkmanager register-transit-gateway \
  --global-network-id global-network-01231231231231231 \
  --transit-gateway-arn arn:aws:ec2:us-west-2:123456789012:transit-gateway/tgw-123abc05e04123abc \
  --region us-west-2
```

Output:

```json
{
  "TransitGatewayRegistration": {
    "GlobalNetworkId": "global-network-01231231231231231",
    "State": {
      "Code": "PENDING"
    }
  }
}
```
For more information, see Transit Gateway Registrations in the Transit Gateway Network Manager Guide.

- For API details, see RegisterTransitGateway in AWS CLI Command Reference.

reject-attachment

The following code example shows how to use reject-attachment.

AWS CLI

To reject an attachment

The following reject-attachment example rejects a VPC attachment request.

```bash
aws networkmanager reject-attachment \
   --attachment-id attachment-03b7ea450134787da
```

Output:

```json
{
   "Attachment": {
      "CoreNetworkId": "core-network-0522de1b226a5d7b3",
      "AttachmentId": "attachment-03b7ea450134787da",
      "OwnerAccountId": "987654321012",
      "AttachmentType": "VPC",
      "State": "AVAILABLE",
      "EdgeLocation": "us-east-1",
      "ResourceArn": "arn:aws:ec2:us-east-1:987654321012:vpc/vpc-a7c4bbda",
      "CreatedAt": "2022-03-11T17:48:58+00:00",
      "UpdatedAt": "2022-03-11T17:51:25+00:00"
   }
}
```

For more information, see Attachment acceptance in the Cloud WAN User Guide.

- For API details, see RejectAttachment in AWS CLI Command Reference.

start-route-analysis

The following code example shows how to use start-route-analysis.
**AWS CLI**

**To start route analysis**

The following `start-route-analysis` example starts the analysis between a source and destination, including the optional `include-return-path`.

```bash
aws networkmanager start-route-analysis \
  --global-network-id global-network-00aa0aaa0b0aaa000 \
  --source TransitGatewayAttachmentArn=arn:aws:ec2:us-east-1:503089527312:transit-gateway-attachment/tgw-attach-0d4a2d491bf68c093,IpAddress=10.0.0.0 \
  --destination TransitGatewayAttachmentArn=arn:aws:ec2:us-west-1:503089527312:transit-gateway-attachment/tgw-attach-002577f30bb181742,IpAddress=11.0.0.0 \
  --include-return-path
```

**Output:**

```
{
    "RouteAnalysis": {
        "GlobalNetworkId": "global-network-00aa0aaa0b0aaa000",
        "OwnerAccountId": "1111222233333",
        "RouteAnalysisId": "a1873de1-273c-470c-1a2bc2345678",
        "StartTimestamp": 1695760154.0,
        "Status": "RUNNING",
        "Source": {
            "IpAddress": "10.0.0.0"
        },
        "Destination": {
            "IpAddress": "11.0.0.0"
        },
        "IncludeReturnPath": true,
        "UseMiddleboxes": false
    }
}
```
For more information, see Route Analyzer in the AWS Global Networks for Transit Gateways User Guide.

- For API details, see StartRouteAnalysis in AWS CLI Command Reference.

tag-resource

The following code example shows how to use tag-resource.

AWS CLI

**To apply tags to a resource**

The following tag-resource example applies the tag Network=Northeast to the device device-07f6fd08867abc123.

```bash
aws networkmanager tag-resource \
  --resource-arn arn:aws:networkmanager::123456789012:device/global-network-01231231231231231/device-07f6fd08867abc123 \
  --tags Key=Network,Value=Northeast \
  --region us-west-2
```

This command produces no output.

- For API details, see TagResource in AWS CLI Command Reference.

untag-resource

The following code example shows how to use untag-resource.

AWS CLI

**To remove tags from a resource**

The following untag-resource example removes the tag with the key Network from the device device-07f6fd08867abc123.

```bash
aws networkmanager untag-resource \
  --resource-arn arn:aws:networkmanager::123456789012:device/global-network-01231231231231231/device-07f6fd08867abc123 \
  --tag-keys Network \
  --region us-west-2
```
This command produces no output.

- For API details, see `UntagResource` in *AWS CLI Command Reference*.

**update-device**

The following code example shows how to use update-device.

**AWS CLI**

**To update a device**

The following `update-device` example updates device `device-07f6fd08867abc123` by specifying a site ID for the device.

```bash
aws networkmanager update-device \
    --global-network-id global-network-01231231231231231 \
    --device-id device-07f6fd08867abc123 \
    --site-id site-444555aaabb11223 \
    --region us-west-2
```

Output:

```json
{
    "Device": {
        "DeviceId": "device-07f6fd08867abc123",
        "DeviceArn": "arn:aws:networkmanager::123456789012:device/global-network-01231231231231231/device-07f6fd08867abc123",
        "GlobalNetworkId": "global-network-01231231231231231",
        "Description": "NY office device",
        "Type": "Office device",
        "Vendor": "anycompany",
        "Model": "abcabc",
        "SerialNumber": "1234",
        "SiteId": "site-444555aaabb11223",
        "CreatedAt": 1575554005.0,
        "State": "UPDATING"
    }
}
```

For more information, see *Working with Devices* in the *Transit Gateway Network Manager Guide*.

- For API details, see `UpdateDevice` in *AWS CLI Command Reference*. 
update-global-network

The following code example shows how to use update-global-network.

**AWS CLI**

**To update a global network**

The following update-global-network example updates the description for global network global-network-01231231231231231.

```
aws networkmanager update-global-network \\
   --global-network-id global-network-01231231231231231 \\
   --description "Head offices" \\
   --region us-west-2
```

Output:

```
{
   "GlobalNetwork": {
      "GlobalNetworkId": "global-network-01231231231231231",
      "Description": "Head offices",
      "CreatedAt": 1575553525.0,
      "State": "UPDATING"
   }
}
```

For more information, see [Global Networks](#) in the *Transit Gateway Network Manager Guide*.

- For API details, see [UpdateGlobalNetwork](#) in *AWS CLI Command Reference*.

update-link

The following code example shows how to use update-link.

**AWS CLI**

**To update a link**

The following update-link example updates the bandwidth information for link link-11112222aaaabbbb1.
aws networkmanager update-link \
    --global-network-id global-network-01231231231231231 \
    --link-id link-11112222aaaabbbb1 \
    --bandwidth UploadSpeed=20,DownloadSpeed=20 \
    --region us-west-2

Output:

```json
{
    "Link": {
        "LinkId": "link-11112222aaaabbbb1",
        "LinkArn": "arn:aws:networkmanager::123456789012:link/global-network-01231231231231231/link-11112222aaaabbbb1",
        "GlobalNetworkId": "global-network-01231231231231231",
        "SiteId": "site-444555aaabbb11223",
        "Description": "VPN Link",
        "Type": "broadband",
        "Bandwidth": {
            "UploadSpeed": 20,
            "DownloadSpeed": 20
        },
        "Provider": "AnyCompany",
        "CreatedAt": 1575555811.0,
        "State": "UPDATING"
    }
}
```

For more information, see [Working with Links](#) in the [Transit Gateway Network Manager Guide](#).

- For API details, see [UpdateLink](#) in [AWS CLI Command Reference](#).

**update-site**

The following code example shows how to use update-site.

AWS CLI

**To update a site**

The following update-site example updates the description for site site-444555aaabbb11223 in the specified global network.
aws networkmanager update-site \
  --global-network-id global-network-01231231231231231 \
  --site-id 444555aaaabb11223 \
  --description "New York Office site" \
  --region us-west-2

Output:

```
{
  "Site": {
    "SiteId": "site-444555aaaabb11223",
    "SiteArn": "arn:aws:networkmanager::123456789012:site/global-network-01231231231231231/site-444555aaaabb11223",
    "GlobalNetworkId": "global-network-01231231231231231",
    "Description": "New York Office site",
    "Location": {
      "Latitude": "40.7128",
      "Longitude": "-74.0060"
    },
    "CreatedAt": 1575554528.0,
    "State": "UPDATING"
  }
}
```

For more information, see [Working with Sites](#) in the *Transit Gateway Network Manager Guide*.

- For API details, see [UpdateSite](#) in *AWS CLI Command Reference*.

### Nimble Studio examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Nimble Studio.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.
Topics

- **Actions**

Actions

get-eula

The following code example shows how to use `get-eula`.

AWS CLI

**To get information about your studio**

The following `get-eula` example lists the information about an EULA.

```bash
aws nimble get-eula \
 --eula-id "EULAid"
```

Output:

```
{
    "eula": {
        "content": "https://www.mozilla.org/en-US/MPL/2.0/",
        "createdAt": "2021-04-20T16:45:23+00:00",
        "eulaId": "gJZLygd-Srq_5NNb5fiaLg",
        "name": "Mozilla-FireFox",
        "updatedAt": "2021-04-20T16:45:23+00:00"
    }
}
```

For more information, see [Accept the EULA](#) in the [Amazon Nimble Studio User Guide](#).

- For API details, see [GetEula](#) in [AWS CLI Command Reference](#).

get-launch-profile

The following code example shows how to use `get-launch-profile`.

AWS CLI

**To list the available widgets**
The following `get-launch-profile` example lists information about a launch profile.

```bash
aws nimble get-launch-profile \
  --studio-id "StudioID" \
  --launch-profile-id "LaunchProfileID"
```

Output:

```json
{
  "launchProfile": {
    "arn": "arn:aws:nimble:us-west-2:123456789012:launch-profile/yeG7lDwNQEiwNTRT7DrV7Q",
    "createdAt": "2022-01-27T21:18:59+00:00",
    "createdBy": "AROA3OO2NEHCCYRNDDIFT:i-EXAMPLE1111",
    "description": "The Launch Profile for the Render workers created by StudioBuilder.",
    "ec2SubnetIds": [
      "subnet-EXAMPLE1111"
    ],
    "launchProfileId": "yeG7lDwNQEiwNTRT7DrV7Q",
    "launchProfileProtocolVersions": [
      "2021-03-31"
    ],
    "name": "RenderWorker-Default",
    "state": "READY",
    "statusCode": "LAUNCH_PROFILE_CREATED",
    "statusMessage": "Launch Profile has been created",
    "streamConfiguration": {
      "clipboardMode": "ENABLED",
      "ec2InstanceTypes": [
        "g4dn.4xlarge",
        "g4dn.8xlarge"
      ],
      "maxSessionLengthInMinutes": 690,
      "maxStoppedSessionLengthInMinutes": 0,
      "streamingImageIds": [
        "Cw_jXnp1QcSSXhE2hkNRoQ",
        "YGXAqgoWTnCNSV8VP20sHQ"
      ]
    },
    "studioComponentIds": [
      "_hR_-RaAResOjAnLakbX7Q",
      "vQsw_TbIRayPkAZgcbyYRA"
    ]
  }
}
```
For more information, see [Creating launch profiles](https://docs.aws.amazon.com/nimblestudio/latest/userguide/creating_launch_profiles.html) in the *Amazon Nimble Studio User Guide*.

- For API details, see [GetLaunchProfile](https://docs.aws.amazon.com/cli/latest/reference/nimble/get-launch-profile.html) in *AWS CLI Command Reference*.

### get-launch-profile-details

The following code example shows how to use `get-launch-profile-details`.

```bash
get-launch-profile-details
```
AWS CLI

To list the available widgets

The following `get-launch-profile-details` example lists the details about a launch profile.

```
aws nimble get-launch-profile-details \
    --studio-id "StudioID" \
    --launch-profile-id "LaunchProfileID"
```

Output:

```
{
    "launchProfile": {
        "arn": "arn:aws:nimble:us-west-2:123456789012:launch-profile/yeG71DwNQEiwNTRT7DrV7Q",
        "createdAt": "2022-01-27T21:18:59+00:00",
        "createdBy": "AROA3OO2NEHCCYRNDDIFT:i-EXAMPLE11111",
        "description": "The Launch Profile for the Render workers created by StudioBuilder.",
        "ec2SubnetIds": [
            "subnet-EXAMPLE11111"
        ],
        "launchProfileId": "yeG71DwNQEiwNTRT7DrV7Q",
        "launchProfileProtocolVersions": [
            "2021-03-31"
        ],
        "name": "RenderWorker-Default",
        "state": "READY",
        "statusCode": "LAUNCH_PROFILE_CREATED",
        "statusMessage": "Launch Profile has been created",
        "streamConfiguration": {
            "clipboardMode": "ENABLED",
            "ec2InstanceTypes": [
                "g4dn.4xlarge",
                "g4dn.8xlarge"
            ],
            "maxSessionLengthInMinutes": 690,
            "maxStoppedSessionLengthInMinutes": 0,
            "streamingImageIds": [
                "Cw_jXnp1QcSSXhE2hkNRoQ",
                "YGXAqgoWtCN5V8VP20sHQ"
            ]
        }
    }
}
```
"arn": "arn:aws:nimble:us-west-2:123456789012:streaming-image/Cw_jXnp1QcSSXhE2hkNRoQ",
"description": "Base windows image for NimbleStudio",
"ec2ImageId": "ami-EXAMPLE1111",
"eulaIds": [
   "gJZLygd-Srq_5NNbSfiaLg",
   "ggK2eIw6RQyt8PIee01D3g",
   "a-D9Wc0VQCKUfxAinCDxaw",
   "RvoNnmVXiSrS4LhLTb6ybkw",
   "wtp85BcSta2NZeNRnMKdJw",
   "Rl-J0fM5Sl2hyIiwWIV6hw"
],
"name": "NimbleStudioWindowsStreamImage",
"owner": "amazon",
"platform": "WINDOWS",
"state": "READY",
"streamingImageId": "Cw_jXnp1QcSSXhE2hkNRoQ",
"tags": {
   "resourceArn": "arn:aws:nimble:us-west-2:123456789012:streaming-image/Cw_jXnp1QcSSXhE2hkNRoQ"
}
},
{
   "arn": "arn:aws:nimble:us-west-2:123456789012:streaming-image/YGXAqg0WTnCNSV8VP20sHQ",
   "description": "Base linux image for NimbleStudio",
   "ec2ImageId": "ami-EXAMPLE1111",
   "eulaIds": [
      "gJZLygd-Srq_5NNbSfiaLg",
      "ggK2eIw6RQyt8PIee01D3g",
      "a-D9Wc0VQCKUfxAinCDxaw",
      "RvoNnmVXiSrS4LhLTb6ybkw",
      "wtp85BcSta2NZeNRnMKdJw",
      "Rl-J0fM5Sl2hyIiwWIV6hw"
   ],
   "name": "NimbleStudioLinuxStreamImage",
   "owner": "amazon",
   "platform": "LINUX",
   "state": "READY",
   "streamingImageId": "YGXAqg0WTnCNSV8VP20sHQ",
   "tags": {
      "resourceArn": "arn:aws:nimble:us-west-2:123456789012:streaming-image/YGXAqg0WTnCNSV8VP20sHQ"
   }
}
For more information, see Creating launch profiles in the Amazon Nimble Studio User Guide.

- For API details, see GetLaunchProfileDetails in AWS CLI Command Reference.

get-studio

The following code example shows how to use get-studio.

AWS CLI

To get information about your studio
The following get-studio example lists the studios in your AWS account.

```bash
aws nimble get-studio \
   --studio-id "StudioID"
```

Output:

```
{
   "studio": {
      "adminRoleArn": "arn:aws:iam::123456789012:role/studio-admin-role",
      "createdAt": "2022-01-27T20:29:35+00:00",
      "displayName": "studio-name",
      "homeRegion": "us-west-2",
      "ssoClientId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
      "state": "READY",
      "statusCode": "STUDIO_CREATED",
      "statusMessage": "The studio has been created successfully",
      "studioEncryptionConfiguration": {
         "keyType": "AWS_OWNED_KEY"
      },
      "studioId": "us-west-2:stid-EXAMPLE11111",
      "studioName": "studio-name",
      "studioUrl": "https://studio-name.nimblestudio.us-west-2.amazonaws.com",
      "tags": {},
      "updatedAt": "2022-01-27T20:29:37+00:00",
      "userRoleArn": "arn:aws:iam::123456789012:role/studio-user-role"
   }
}
```

For more information, see [What is Amazon Nimble Studio?](https://docs.aws.amazon.com/nimblestudio/latest/userguide/what-is-nimble-studio.html) in the *Amazon Nimble Studio User Guide*.

- For API details, see [GetStudio](https://docs.aws.amazon.com/cli/latest/reference/nimble/get-studio.html) in *AWS CLI Command Reference*.

### list-eula-acceptances

The following code example shows how to use list-eula-acceptances.

**AWS CLI**

To list the available widgets
The following list-eula-acceptances example lists the accepted EULAs in your AWS account.

```bash
aws nimble list-eula-acceptances
  --studio-id "StudioID"
```

Output:

```json
{
  "eulaAcceptances": [
    {
      "acceptedAt": "2022-01-28T17:44:35+00:00",
      "acceptedBy": "92677b4b19-e9fd012a-94ad-4f16-9866-c69a63ab6486",
      "accepteeId": "us-west-2:std-nyoqq12fteqy1x48",
      "eulaAcceptanceId": "V0JlpZQaSx6yHcUuX0qfQw",
      "eulaId": "Rl-J0fM5S12hyIiwWIV6hw"
    },
    {
      "acceptedAt": "2022-01-28T17:44:35+00:00",
      "acceptedBy": "92677b4b19-e9fd012a-94ad-4f16-9866-c69a63ab6486",
      "accepteeId": "us-west-2:std-nyoqq12fteqy1x48",
      "eulaAcceptanceId": "YY_uDFW-SVibc627qbug0Q",
      "eulaId": "RvONmVXisS58LhLTb6ybkw"
    },
    {
      "acceptedAt": "2022-01-28T17:44:35+00:00",
      "acceptedBy": "92677b4b19-e9fd012a-94ad-4f16-9866-c69a63ab6486",
      "accepteeId": "us-west-2:std-nyoqq12fteqy1x48",
      "eulaAcceptanceId": "ovO87PnhQ4-MpttiL5uN6Q",
      "eulaId": "a-D9Wc0VQCKUFxAinCDxaw"
    },
    {
      "acceptedAt": "2022-01-28T17:44:35+00:00",
      "acceptedBy": "92677b4b19-e9fd012a-94ad-4f16-9866-c69a63ab6486",
      "accepteeId": "us-west-2:std-nyoqq12fteqy1x48",
      "eulaAcceptanceId": "5YeXje4yROamuTESGvqIAQ",
      "eulaId": "gJZLygd-Srq_5NNbSfiaLg"
    },
    {
      "acceptedAt": "2022-01-28T17:44:35+00:00",
      "acceptedBy": "92677b4b19-e9fd012a-94ad-4f16-9866-c69a63ab6486",
      "accepteeId": "us-west-2:std-nyoqq12fteqy1x48",
      "eulaAcceptanceId": "W1sIn8PtScqeJEn8sxxhgw",
      "eulaId": "OyVQOSTLgNmgcUa62p9fQw"
    }
  ]
}
```
For more information, see [Accept the EULA](http://example.com) in the *Amazon Nimble Studio User Guide*.

- For API details, see [ListEulaAcceptances](http://example.com) in *AWS CLI Command Reference*.

### list-eulas

The following code example shows how to use `list-eulas`.

**AWS CLI**

### To list the available widgets

The following `list-eulas` example lists the EULAs in your AWS account.

```bash
aws nimble list-eulas
```

**Output:**

```json
{
   "eulas": [
      {
         "content": "https://www.mozilla.org/en-US/MPL/2.0/",
         "createdAt": "2021-04-20T16:45:23+00:00",
         "eulaId": "gJZLygd-Srq_5NNbSfiaLg",
         "name": "Mozilla-FireFox",
         "updatedAt": "2021-04-20T16:45:23+00:00"
      },
      {
         "content": "https://www.awsthinkbox.com/end-user-license-agreement",
         "createdAt": "2021-04-20T16:45:24+00:00",
         "eulaId": "RvoNmVXiSrS4LhLTb6ybkw",
      }
   ]
}
```
"name": "Thinkbox-Deadline",
"updatedAt": "2021-04-20T16:45:24+00:00"
},
{
  "content": "https://www.videolan.org/legal.html",
  "createdAt": "2021-04-20T16:45:24+00:00",
  "eulaId": "Rl-J0fM5Sl2hyIiwWIV6hw",
  "name": "Videolan-VLC",
  "updatedAt": "2021-04-20T16:45:24+00:00"
},
{
  "content": "https://code.visualstudio.com/license",
  "createdAt": "2021-04-20T16:45:23+00:00",
  "eulaId": "ggK2eIw6RQyt8PIee01D3g",
  "name": "Microsoft-VSCode",
  "updatedAt": "2021-04-20T16:45:23+00:00"
},
{
  "content": "https://darbyjohnston.github.io/DJV/legal.html#License",
  "createdAt": "2021-04-20T16:45:23+00:00",
  "eulaId": "wtp85BcSTa2NZeNrnMKdjw",
  "name": "DJV-DJV",
  "updatedAt": "2021-04-20T16:45:23+00:00"
},
{
  "content": "https://www.sidefx.com/legal/license-agreement/",
  "createdAt": "2021-04-20T16:45:24+00:00",
  "eulaId": "uu2VDLo-QJeIGWWLbae_UA",
  "name": "SideFX-Houdini",
  "updatedAt": "2021-04-20T16:45:24+00:00"
},
{
  "content": "https://www.chaosgroup.com/eula",
  "createdAt": "2021-04-20T16:45:23+00:00",
  "eulaId": "L0HS4P3CRYKXc2J2LO7Vw",
  "name": "ChaosGroup-Vray",
  "updatedAt": "2021-04-20T16:45:23+00:00"
},
{
  "content": "https://www.foundry.com/eula",
  "createdAt": "2021-04-20T16:45:23+00:00",
  "eulaId": "SAuhfHmvSAeUuq3wsMiMlw",
  "name": "Foundry-Nuke",
  "updatedAt": "2021-04-20T16:45:23+00:00"
For more information, see Accept the EULA in the Amazon Nimble Studio User Guide.

- For API details, see ListEulas in AWS CLI Command Reference.

### list-launch-profiles

The following code example shows how to use list-launch-profiles.

**AWS CLI**

To list the available widgets

The following list-launch-profiles example lists the launch profiles in your AWS account.

```
aws nimble list-launch-profiles \
  --studio-id "StudioID"
```

Output:

```
{
   "launchProfiles": [
   {
   "arn": "arn:aws:nimble:us-west-2:123456789012:launch-profile/yeG7lDwNQEiwNTRT7DrV7Q",
   "createdAt": "2022-01-27T21:18:59+00:00",
   "createdBy": "AROA3OO2NEHCCYRNDDIFT:i-EXAMPLE11111",
   "description": "The Launch Profile for the Render workers created by StudioBuilder.",
   "ec2SubnetIds": [
   "subnet-EXAMPLE11111"
   ],
   "launchProfileId": "yeG7lDwNQEiwNTRT7DrV7Q",
```
"launchProfileProtocolVersions": [
   "2021-03-31"
],
"name": "RenderWorker-Default",
"state": "READY",
"statusCode": "LAUNCH_PROFILE_CREATED",
"statusMessage": "Launch Profile has been created",
"streamConfiguration": {
   "clipboardMode": "ENABLED",
   "ec2InstanceTypes": [
      "g4dn.4xlarge",
      "g4dn.8xlarge"
   ],
   "maxSessionLengthInMinutes": 690,
   "maxStoppedSessionLengthInMinutes": 0,
   "streamingImageIds": [
      "Cw_jXnp1QcSSXhE2hkNROQ",
      "YGXAqgoWTnCNSV8VP20sHQ"
   ]
},
"studioComponentIds": [
   "_hR_-RaARE5OjAnLakbX7Q",
   "vQ5w_TbIRayPkaZgcbyYRA",
   "ZQuMxN99Qfa_Js6ma9TwdA",
   "45KjOSPPRzzK20yvPCuQ6qw"
],
"tags": {},
"updatedAt": "2022-01-27T21:19:13+00:00",
"updatedBy": "AROA3OO2NEHCCYRNDDIFT:i-EXAMPLE11111",
"validationResults": [
   {
      "state": "VALIDATION_SUCCESS",
      "statusCode": "VALIDATION_SUCCESS",
      "statusMessage": "The validation succeeded.",
      "type": "VALIDATE_ACTIVE_DIRECTORY_STUDIO_COMPONENT"
   },
   {
      "state": "VALIDATION_SUCCESS",
      "statusCode": "VALIDATION_SUCCESS",
      "statusMessage": "The validation succeeded.",
      "type": "VALIDATE_SUBNET_ASSOCIATION"
   },
   {
      "state": "VALIDATION_SUCCESS",
      "statusCode": "VALIDATION_SUCCESS",
      "statusMessage": "The validation succeeded.",
      "type": "VALIDATE_SUBNET_ASSOCIATION"
   }
]}
"statusCode": "VALIDATION_SUCCESS",
"statusMessage": "The validation succeeded.",
"type": "VALIDATE_NETWORK_ACL_ASSOCIATION"
},
{
"state": "VALIDATION_SUCCESS",
"statusCode": "VALIDATION_SUCCESS",
"statusMessage": "The validation succeeded.",
"type": "VALIDATE_SECURITY_GROUP_ASSOCIATION"
}
],
"arn": "arn:aws:nimble:us-west-2:123456789012:launch-profile/jDCIm1jRSaa9e44PZ3w7gg",
"createdAt": "2022-01-27T21:19:26+00:00",
"createdBy": "AROA3OO2NEHCCYRNDDIFT:i-EXAMPLE11111",
"description": "This Workstation Launch Profile was created by StudioBuilder",
"ec2SubnetIds": [
  "subnet-046f4205ae535b2cc"
],
"launchProfileId": "jDCIm1jRSaa9e44PZ3w7gg",
"launchProfileProtocolVersions": [
  "2021-03-31"
],
"name": "Workstation-Default",
"state": "READY",
"statusCode": "LAUNCH_PROFILE_CREATED",
"statusMessage": "Launch Profile has been created",
"streamConfiguration": {
  "clipboardMode": "ENABLED",
  "ec2InstanceTypes": [
    "g4dn.4xlarge",
    "g4dn.8xlarge"
  ],
  "maxSessionLengthInMinutes": 690,
  "maxStoppedSessionLengthInMinutes": 0,
  "streamingImageIds": [
    "Cw_jXnp1QcSSXhE2hkNROQ",
    "YGXAqgoWtCNSV8VP20sHQ"
  ]
},
"studioComponentIds": ["4615"]
For more information, see [Creating launch profiles](#) in the [Amazon Nimble Studio User Guide](#).

- For API details, see [ListLaunchProfiles](#) in [AWS CLI Command Reference](#).
list-studio-components

The following code example shows how to use list-studio-components.

AWS CLI

To list the available widgets

The following list-studio-components example lists the studio components in your AWS account.

```bash
aws nimble list-studio-components --studio-id "StudioID"
```

Output:

```json
{
   "studioComponents": [
      {
         "arn": "arn:aws:nimble:us-west-2:123456789012:studio-component/ZQuMxN99Qfa_Js6ma9TwdA",
         "configuration": {
            "sharedFileSystemConfiguration": {
               "fileSystemId": "fs-EXAMPLE11111",
               "linuxMountPoint": "/mnt/fsxshare",
               "shareName": "share",
               "windowsMountDrive": "Z"
            }
         },
         "createdAt": "2022-01-27T21:15:34+00:00",
         "createdBy": "AROA3OO2NEHCCYRNDDIFT:i-EXAMPLE11111",
         "description": "FSx for Windows",
         "ec2SecurityGroupIds": [
            "sg-EXAMPLE11111"
         ],
         "name": "FSxWindows",
         "state": "READY",
         "statusCode": "STUDIO_COMPONENT_CREATED",
         "statusMessage": "Studio Component has been created",
         "studioComponentId": "ZQuMxN99Qfa_Js6ma9TwdA",
         "subtype": "AMAZON_FSX_FOR_WINDOWS",
         "tags": {},
         "type": "SHARED_FILE_SYSTEM"
      }
   ]
}```
For more information, see [How StudioBuilder works with Amazon Nimble Studio](https://docs.aws.amazon.com/nimblestudio/latest/user-guide/how-studiobuilder-works-with-amazon-nimble-studio.html) in the *Amazon Nimble Studio User Guide*.

- For API details, see [ListStudioComponents](https://docs.aws.amazon.com/cli/latest/reference/nimble/list-studio-components.html) in *AWS CLI Command Reference*.

**list-studio-members**

The following code example shows how to use `list-studio-members`.

**AWS CLI**

**To list the available widgets**

The following `list-studio-members` example lists the available studio members in your AWS account.

```bash
aws nimble list-studio-members 
  --studio-id "StudioID"
```

**Output:**

```json
{
  "members": [
    {
      "identityStoreId": "d-EXAMPLE11111",
      "persona": "ADMINISTRATOR",
      "principalId": "EXAMPLE11111-e9fd012a-94ad-4f16-9866-c69a63ab6486"
    }
  ]
}
```

For more information, see [Adding studio users](https://docs.aws.amazon.com/nimblestudio/latest/user-guide/adding-studio-users.html) in the *Amazon Nimble Studio User Guide*.

- For API details, see [ListStudioMembers](https://docs.aws.amazon.com/cli/latest/reference/nimble/list-studio-members.html) in *AWS CLI Command Reference*. 
**list-studios**

The following code example shows how to use list-studios.

**AWS CLI**

**To list your studios**

The following list-studios example lists the studios in your AWS account.

```bash
aws nimble list-studios
```

Output:

```json
{
    "studios": [
        {
            "adminRoleArn": "arn:aws:iam::123456789012:role/studio-admin-role",
            "createdAt": "2022-01-27T20:29:35+00:00",
            "displayName": "studio-name",
            "homeRegion": "us-west-2",
            "ssoClientId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
            "state": "READY",
            "statusCode": "STUDIO_CREATED",
            "statusMessage": "The studio has been created successfully",
            "studioEncryptionConfiguration": {
                "keyType": "AWS_OWNED_KEY"
            },
            "studioId": "us-west-2:studio-id",
            "studioName": "studio-name",
            "studioUrl": "https://studio-name.nimblestudio.us-west-2.amazonaws.com",
            "tags": {},
            "updatedAt": "2022-01-27T20:29:37+00:00",
            "userRoleArn": "arn:aws:iam::123456789012:role/studio-user-role"
        }
    ]
}
```

For more information, see [What is Amazon Nimble Studio?](https://docs.aws.amazon.com/nimblestudio/latest/userguide/) in the *Amazon Nimble Studio User Guide*.

- For API details, see [ListStudios](https://docs.aws.amazon.com/cli/latest/reference/nimble/list-studios.html) in *AWS CLI Command Reference*. 
OpenSearch Service examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with OpenSearch Service.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics

- Actions

Actions

create-elasticsearch-domain

The following code example shows how to use create-elasticsearch-domain.

AWS CLI

To create an Amazon Elasticsearch Service domain

The following create-elasticsearch-domain command creates a new Amazon Elasticsearch Service domain within a VPC and restricts access to a single user. Amazon ES infers the VPC ID from the specified subnet and security group IDs.

```bash
aws es create-elasticsearch-domain
  --domain-name vpc-cli-example
  --elasticsearch-version 6.2
  --elasticsearch-cluster-config
  InstanceType=m4.large.elasticsearch,InstanceCount=1
  --ebs-options EBSEnabled=true,VolumeType=standard,VolumeSize=10
```
Output:

```json
{
    "DomainStatus": {
        "ElasticsearchClusterConfig": {
            "DedicatedMasterEnabled": false,
            "InstanceCount": 1,
            "ZoneAwarenessEnabled": false,
            "InstanceType": "m4.large.elasticsearch"
        },
        "DomainId": "123456789012/vpc-cli-example",
        "CognitoOptions": {
            "Enabled": false
        },
        "VPCOptions": {
            "SubnetIds": [
                "subnet-1a2a3a4a"
            ],
            "VPCId": "vpc-3a4a5a6a",
            "SecurityGroupIds": [
                "sg-2a3a4a5a"
            ],
            "AvailabilityZones": [
                "us-west-1c"
            ]
        },
        "Created": true,
        "Deleted": false,
        "EBSOptions": {
            "VolumeSize": 10,
            "VolumeType": "standard",
            "EBSEnabled": true
        },
        "Processing": true,
        "DomainName": "vpc-cli-example",
        "SnapshotOptions": {
            "AutomatedSnapshotStartHour": 0
        },
        "ElasticsearchVersion": "6.2",
```
For more information, see Creating and Managing Amazon Elasticsearch Service Domains in the Amazon Elasticsearch Service Developer Guide.

- For API details, see CreateElasticsearchDomain in AWS CLI Command Reference.

describe-elasticsearch-domain

The following code example shows how to use describe-elasticsearch-domain.

AWS CLI

To get details for a single domain

The following describe-elasticsearch-domain example provides configuration details for a given domain.

aws es describe-elasticsearch-domain
   --domain-name cli-example

Output:

{  
   "DomainStatus": {  
      "DomainId": "123456789012/cli-example",
      "DomainName": "cli-example",
      "ARN": "arn:aws:es:us-east-1:123456789012:domain/cli-example",
      "Created": true,
      "Deleted": false,
      "Endpoint": "search-cli-example-1a2a3a4a5a6a7a8a9a0a.us-east-1.es.amazonaws.com",
      "Processing": false,
   }  
}  

Actions and scenarios
"UpgradeProcessing": false,
"ElasticsearchVersion": "7.4",
"ElasticsearchClusterConfig": {
   "InstanceType": "c5.large.elasticsearch",
   "InstanceCount": 1,
   "DedicatedMasterEnabled": true,
   "ZoneAwarenessEnabled": false,
   "DedicatedMasterType": "c5.large.elasticsearch",
   "DedicatedMasterCount": 3,
   "WarmEnabled": true,
   "WarmType": "ultrawarm1.medium.elasticsearch",
   "WarmCount": 2
},
"EBSOptions": {
   "EBSEnabled": true,
   "VolumeType": "gp2",
   "VolumeSize": 10
},
"SnapshotOptions": {
   "AutomatedSnapshotStartHour": 0
},
"CognitoOptions": {
   "Enabled": false
},
"EncryptionAtRestOptions": {
   "Enabled": true,
   "KmsKeyId": "arn:aws:kms:us-east-1:123456789012:key/1a2a3a4a-1a2a-1a2a-1a2a-1a2a3a4a5a6a"
},
"NodeToNodeEncryptionOptions": {
   "Enabled": true
},
"AdvancedOptions": {
   "rest.action.multi.allow_explicit_index": "true"
},
"ServiceSoftwareOptions": {
   "CurrentVersion": "R20200522",
   "NewVersion": ",",
   "UpdateAvailable": false,
   "Cancellable": false,
   "UpdateStatus": "COMPLETED",
}
For more information, see Creating and Managing Amazon Elasticsearch Service Domains in the Amazon Elasticsearch Service Developer Guide.

• For API details, see DescribeElasticsearchDomain in AWS CLI Command Reference.

**describe-elasticsearch-domain-config**

The following code example shows how to use describe-elasticsearch-domain-config.

**AWS CLI**

**To get domain configuration details**

The following describe-elasticsearch-domain-config example provides configuration details for a given domain, along with status information for each individual domain component.

```bash
aws es describe-elasticsearch-domain-config \
   --domain-name cli-example
```

**Output:**

```json
{
   "DomainConfig": {
      "ElasticsearchVersion": {
         "Options": "7.4",
         "Status": {
            "CreationDate": 1589395034.946,
            "UpdateDate": 1589395827.325,
```````
"UpdateVersion": 8,
"State": "Active",
"PendingDeletion": false
},
"ElasticsearchClusterConfig": {
  "Options": {
    "InstanceType": "c5.large.elasticsearch",
    "InstanceCount": 1,
    "DedicatedMasterEnabled": true,
    "ZoneAwarenessEnabled": false,
    "DedicatedMasterType": "c5.large.elasticsearch",
    "DedicatedMasterCount": 3,
    "WarmEnabled": true,
    "WarmType": "ultrawarm1.medium.elasticsearch",
    "WarmCount": 2
  },
  "Status": {
    "CreationDate": 1589395034.946,
    "UpdateDate": 1589395827.325,
    "UpdateVersion": 8,
    "State": "Active",
    "PendingDeletion": false
  }
},
"EBSOptions": {
  "Options": {
    "EBSEnabled": true,
    "VolumeType": "gp2",
    "VolumeSize": 10
  },
  "Status": {
    "CreationDate": 1589395034.946,
    "UpdateDate": 1589395827.325,
    "UpdateVersion": 8,
    "State": "Active",
    "PendingDeletion": false
  }
},
"AccessPolicies": {
  "Status": {

"CreationDate": 1589395034.946,
"UpdateDate": 1589395827.325,
"UpdateVersion": 8,
"State": "Active",
"PendingDeletion": false
},
"SnapshotOptions": {
  "Options": {
    "AutomatedSnapshotStartHour": 0
  },
  "Status": {
    "CreationDate": 1589395034.946,
    "UpdateDate": 1589395827.325,
    "UpdateVersion": 8,
    "State": "Active",
    "PendingDeletion": false
  }
},
"VPCOptions": {
  "Options": {},
  "Status": {
    "CreationDate": 1591210426.162,
    "UpdateDate": 1591210426.162,
    "UpdateVersion": 18,
    "State": "Active",
    "PendingDeletion": false
  }
},
"CognitoOptions": {
  "Options": {
    "Enabled": false
  },
  "Status": {
    "CreationDate": 1591210426.163,
    "UpdateDate": 1591210426.163,
    "UpdateVersion": 18,
    "State": "Active",
    "PendingDeletion": false
  }
},
"EncryptionAtRestOptions": {
  "Options": {
    "Enabled": true,
"KmsKeyId": "arn:aws:kms:us-east-1:123456789012:key/1a2a3a4a-1a2a-1a2a-1a2a-1a2a3a4a5a6a",
"Status": {
    "CreationDate": 1589395034.946,
    "UpdateDate": 1589395827.325,
    "UpdateVersion": 8,
    "State": "Active",
    "PendingDeletion": false
}
},
"NodeToNodeEncryptionOptions": {
    "Options": {
        "Enabled": true
    },
    "Status": {
        "CreationDate": 1589395034.946,
        "UpdateDate": 1589395827.325,
        "UpdateVersion": 8,
        "State": "Active",
        "PendingDeletion": false
    }
},
"AdvancedOptions": {
    "Options": {
        "rest.action.multi.allow_explicit_index": "true"
    },
    "Status": {
        "CreationDate": 1589395034.946,
        "UpdateDate": 1589395827.325,
        "UpdateVersion": 8,
        "State": "Active",
        "PendingDeletion": false
    }
},
"LogPublishingOptions": {
    "Options": {},
    "Status": {
        "CreationDate": 1591210426.164,
        "UpdateDate": 1591210426.164,
        "UpdateVersion": 18,
        "State": "Active",
        "PendingDeletion": false
    }
}
For more information, see Creating and Managing Amazon Elasticsearch Service Domains in the Amazon Elasticsearch Service Developer Guide.

- For API details, see DescribeElasticsearchDomainConfig in AWS CLI Command Reference.

**describe-elasticsearch-domains**

The following code example shows how to use `describe-elasticsearch-domains`.

**AWS CLI**

To get details for one or more domains
The following `describe-elasticsearch-domains` example provides configuration details for one or more domains.

```
aws es describe-elasticsearch-domains \
   --domain-names cli-example-1 cli-example-2
```

Output:

```
{
   "DomainStatusList": [
      {
         "DomainId": "123456789012/cli-example-1",
         "DomainName": "cli-example-1",
         "ARN": "arn:aws:es:us-east-1:123456789012:domain/cli-example-1",
         "Created": true,
         "Deleted": false,
         "Endpoint": "search-cli-example-1-1a2a3a4a5a6a7a8a9a0a.us-east-1.es.amazonaws.com",
         "Processing": false,
         "UpgradeProcessing": false,
         "ElasticsearchVersion": "7.4",
         "ElasticsearchClusterConfig": {
            "InstanceType": "c5.large.elasticsearch",
            "InstanceCount": 1,
            "DedicatedMasterEnabled": true,
            "ZoneAwarenessEnabled": false,
            "DedicatedMasterType": "c5.large.elasticsearch",
            "DedicatedMasterCount": 3,
            "WarmEnabled": true,
            "WarmType": "ultrawarm1.medium.elasticsearch",
            "WarmCount": 2
         },
         "EBSOptions": {
            "EBSEnabled": true,
            "VolumeType": "gp2",
            "VolumeSize": 10
         },
         "SnapshotOptions": {
            "AutomatedSnapshotStartHour": 0
         },
         "CognitoOptions": {
```
"Enabled": false
},
"EncryptionAtRestOptions": {
   "Enabled": true,
   "KmsKeyId": "arn:aws:kms:us-east-1:123456789012:key/1a2a3a4a-1a2a-1a2a-1a2a-1a2a3a4a5a6a"
},
"NodeToNodeEncryptionOptions": {
   "Enabled": true
},
"AdvancedOptions": {
   "rest.action.multi.allow_explicit_index": "true"
},
"ServiceSoftwareOptions": {
   "CurrentVersion": "R20200522",
   "NewVersion": "",
   "UpdateAvailable": false,
   "Cancellable": false,
   "UpdateStatus": "COMPLETED",
   "Description": "There is no software update available for this domain."
},
   "AutomatedUpdateDate": 0.0
},
"DomainEndpointOptions": {
   "EnforceHTTPS": true,
   "TLSSecurityPolicy": "Policy-Min-TLS-1-0-2019-07"
},
"AdvancedSecurityOptions": {
   "Enabled": true,
   "InternalUserDatabaseEnabled": true
}
},
{
   "DomainId": "123456789012/cli-example-2",
   "DomainName": "cli-example-2",
   "ARN": "arn:aws:es:us-east-1:123456789012:domain/cli-example-2",
   "Created": true,
   "Deleted": false,
   "Processing": true,
   "UpgradeProcessing": false,
   "ElasticsearchVersion": "7.4",
   "ElasticsearchClusterConfig": {
      "InstanceType": "r5.large.elasticsearch",
      "InstanceCount": 1,
"DedicatedMasterEnabled": false,
"ZoneAwarenessEnabled": false,
"WarmEnabled": false
},
"EBSOptions": {
  "EBSEnabled": true,
  "VolumeType": "gp2",
  "VolumeSize": 10
},
  "AutomatedSnapshotOptions": {
    "AutomatedSnapshotStartHour": 0
  },
  "CognitoOptions": {
    "Enabled": false
  },
  "EncryptionAtRestOptions": {
    "Enabled": false
  },
  "NodeToNodeEncryptionOptions": {
    "Enabled": false
  },
  "AdvancedOptions": {
    "rest.action.multi.allow_explicit_index": "true"
  },
  "ServiceSoftwareOptions": {
    "CurrentVersion": "",
    "NewVersion": "",
    "UpdateAvailable": false,
    "Cancelatable": false,
    "UpdateStatus": "COMPLETED",
    "Description": "There is no software update available for this domain."
  },
  "AutomatedUpdateDate": 0.0
},
"DomainEndpointOptions": {
  "EnforceHTTPS": false,
  "TLSSecurityPolicy": "Policy-Min-TLS-1-0-2019-07"
},
"AdvancedSecurityOptions": {
  "Enabled": false,
  "InternalUserDatabaseEnabled": false
}
For more information, see Creating and Managing Amazon Elasticsearch Service Domains in the Amazon Elasticsearch Service Developer Guide.

- For API details, see DescribeElasticsearchDomains in AWS CLI Command Reference.

describe-reserved-elasticsearch-instances

The following code example shows how to use describe-reserved-elasticsearch-instances.

AWS CLI

**To view all reserved instances**

The following describe-elasticsearch-domains example provides a summary of all instances you have reserved in a region.

```
aws es describe-reserved-elasticsearch-instances
```

Output:

```json
{
    "ReservedElasticsearchInstances": [{
        "ReservedElasticsearchInstanceId": "9a8a7a6a-5a4a-3a2a-1a0a-9a8a7a6a5a4a",
        "RecurringCharges": [{
            "RecurringChargeAmount": 0.603,
            "RecurringChargeFrequency": "Hourly"
        }],
        "State": "payment-pending",
        "StartTime": 1522872571.229,
        "FixedPrice": 100.0,
        "ReservedElasticsearchInstanceOfferingId": "1a2a3a4a5-1a2a-3a4a-5a6a-1a2a3a4a5a6a",
        "ReservationName": "my-reservation",
        "PaymentOption": "PARTIAL_UPFRONT",
        "UsagePrice": 0.0,
        "ReservedElasticsearchInstanceIds": "9a8a7a6a-5a4a-3a2a-1a0a-9a8a7a6a5a4a"
    }]
}
```
For more information, see Reserved Instances in the Amazon Elasticsearch Service Developer Guide.

- For API details, see DescribeReservedElasticsearchInstances in AWS CLI Command Reference.

list-domain-names

The following code example shows how to use list-domain-names.

AWS CLI

To list all domains

The following list-domain-names example provides a quick summary of all domains in the region.

```
aws es list-domain-names
```

Output:

```
{
   "DomainNames": [{
      "DomainName": "cli-example-1"
   },
   {
      "DomainName": "cli-example-2"
   }
]
}
```

For more information, see Creating and Managing Amazon Elasticsearch Service Domains in the Amazon Elasticsearch Service Developer Guide.

- For API details, see ListDomainNames in AWS CLI Command Reference.
AWS OpsWorks examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS OpsWorks.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics
- Actions

Actions

assign-instance

The following code example shows how to use assign-instance.

AWS CLI

To assign a registered instance to a layer

The following example assigns a registered instance to a custom layer.

```
aws opsworks --region us-east-1 assign-instance --instance-id 4d6d1710-ded9-42a1-b08e-b043ad7af1e2 --layer-ids 26cf1d32-6876-42fa-bbf1-9cadc0bff938
```

Output: None.

More Information

For more information, see Assigning a Registered Instance to a Layer in the AWS OpsWorks User Guide.
assign-volume

The following code example shows how to use assign-volume.

AWS CLI

To assign a registered volume to an instance

The following example assigns a registered Amazon Elastic Block Store (Amazon EBS) volume to an instance. The volume is identified by its volume ID, which is the GUID that AWS OpsWorks assigns when you register the volume with a stack, not the Amazon Elastic Compute Cloud (Amazon EC2) volume ID. Before you run assign-volume, you must first run update-volume to assign a mount point to the volume.

```
aws opsworks --region us-east-1 assign-volume --instance-id 4d6d1710-ded9-42a1-b08eb043ad7af1e2 --volume-id 26cf1d32-6876-42fa-bbf1-9cadc0bff938
```

Output: None.

More Information

For more information, see Assigning Amazon EBS Volumes to an Instance in the AWS OpsWorks User Guide.

• For API details, see AssignVolume in AWS CLI Command Reference.

associate-elastic-ip

The following code example shows how to use associate-elastic-ip.

AWS CLI

To associate an Elastic IP address with an instance

The following example associates an Elastic IP address with a specified instance.

```
aws opsworks --region us-east-1 associate-elastic-ip --instance-id dfe18b02-5327-493d-91a4-c5c0c448927f --elastic-ip 54.148.130.96
```
Output: None.

More Information

For more information, see Resource Management in the AWS OpsWorks User Guide.

- For API details, see AssociateElasticIp in AWS CLI Command Reference.

attach-elastic-load-balancer

The following code example shows how to use attach-elastic-load-balancer.

AWS CLI

To attach a load balancer to a layer

The following example attaches a load balancer, identified by its name, to a specified layer.

```
aws opsworks --region us-east-1 attach-elastic-load-balancer --elastic-load-balancer-name Java-LB --layer-id 888c5645-09a5-4d0e-95a8-812ef1db76a4
```

Output: None.

More Information

For more information, see Elastic Load Balancing in the AWS OpsWorks User Guide.

- For API details, see AttachElasticLoadBalancer in AWS CLI Command Reference.

create-app

The following code example shows how to use create-app.

AWS CLI

Example 1: To create an app

The following example creates a PHP app named SimplePHPApp from code stored in a GitHub repository. The command uses the shorthand form of the application source definition.

```
aws opsworks create-app \  
  --region us-east-1 \  
```
Example 2: To create an app with an attached database

The following example creates a JSP app from code stored in .zip archive in a public S3 bucket. It attaches an RDS DB instance to serve as the app's data store. The application and database sources are defined in separate JSON files that are in the directory from which you run the command.

```
aws opsworks create-app \
  --region us-east-1 \
  --stack-id 8c428b08-a1a1-46ce-a5f8-feddc43771b8 \
  --name SimpleJSP \
  --type java \
  --app-source file://appsource.json \
  --data-sources file://datasource.json
```

The application source information is in `appsource.json` and contains the following.

```
{
  "Type": "archive",
  "Url": "https://s3.amazonaws.com/opsworks-demo-assets/simplejsp.zip"
}
```

The database source information is in `datasource.json` and contains the following.

```
[
  {
    "Type": "RdsDbInstance",
  }
]"
"DatabaseName": "mydb"
]

**Note:** For an RDS DB instance, you must first use `register-ids-db-instance` to register the instance with the stack. For MySQL App Server instances, set `Type` to `OpsworksMysqlInstance`. These instances are created by AWS OpsWorks, so they do not have to be registered.

Output:

```json
{
  "AppId": "26a61ead-d201-47e3-b55c-2a7c666942f8"
}
```

For more information, see Adding Apps in the *AWS OpsWorks User Guide*.

- For API details, see `CreateApp` in *AWS CLI Command Reference*.

### create-deployment

The following code example shows how to use `create-deployment`.

**AWS CLI**

**Example 1: To deploy apps and run stack commands**

The following examples show how to use the `create-deployment` command to deploy apps and run stack commands. Notice that the quote ("`) characters in the JSON object that specifies the command are all preceded by escape characters (\). Without the escape characters, the command might return an invalid JSON error.

The following `create-deployment` example deploys an app to a specified stack.

```
aws opsworks create-deployment \
  --stack-id cfb7e082-ad1d-4599-8e81-de1c39ab45bf \n  --app-id 307be5c8-d55d-47b5-bd6e-7bd417c6c7eb \n  --command "{"Name":"deploy"}"
```

Output:
Example 2: To deploy a Rails App and Migrate the Database

The following `create-deployment` command deploys a Ruby on Rails app to a specified stack and migrates the database.

```bash
aws opsworks create-deployment \
    --stack-id cfb7e082-ad1d-4599-8e81-de1c39ab45bf \
    --app-id 307be5c8-d55d-47b5-bd6e-7bd417c6c7eb \
    --command "{"Name":"deploy", "Args":{"migrate":["true"]}}"
```

Output:

```json
{
    "DeploymentId": "5746c781-df7f-4c87-84a7-65a119880560"
}
```

For more information on deployment, see [Deploying Apps](https://aws.amazon.com/opworks) in the [AWS OpsWorks User Guide](https://aws.amazon.com/opworks).

Example 3: Run a Recipe

The following `create-deployment` command runs a custom recipe, `phpapp::appsetup`, on the instances in a specified stack.

```bash
aws opsworks create-deployment \
    --stack-id 935450cc-61e0-4b03-a3e0-160ac817d2bb \
    --command "{"Name":"execute_recipes", "Args":{"recipes":
        ["phpapp::appsetup"]}}"
```

Output:

```json
{
    "DeploymentId": "5cbaa7b9-4e09-4e53-aa1b-314fbd106038"
}
```

For more information, see [Run Stack Commands](https://aws.amazon.com/opworks) in the [AWS OpsWorks User Guide](https://aws.amazon.com/opworks).
### Example 4: Install Dependencies

The following `create-deployment` command installs dependencies, such as packages or Ruby gems, on the instances in a specified stack.

```
aws opsworks create-deployment \
    --stack-id 935450cc-61e0-4b03-a3e0-160ac817d2bb \
    --command "{"Name":"install_dependencies"}"
```

Output:

```
{
    "DeploymentId": "aef5b255-8604-4928-81b3-9b0187f962ff"
}
```

For more information, see [Run Stack Commands](aws.amazon.com/opsworks/userguide) in the *AWS OpsWorks User Guide*.

- For API details, see [CreateDeployment](https://docs.aws.amazon.com/cli/latest/reference/opsworks/create-deployment.html) in *AWS CLI Command Reference*.

### create-instance

The following code example shows how to use `create-instance`.

**AWS CLI**

**To create an instance**

The following `create-instance` command creates an m1.large Amazon Linux instance named `myinstance1` in a specified stack. The instance is assigned to one layer.

```
aws opsworks --region us-east-1 create-instance --stack-id 935450cc-61e0-4b03-a3e0-160ac817d2bb --layer-ids 5c8c272a-f2d5-42e3-8245-5bf3927cb65b --hostname myinstance1 --instance-type m1.large --os "Amazon Linux"
```

To use an autogenerated name, call `get-hostname-suggestion`, which generates a hostname based on the theme that you specified when you created the stack. Then pass that name to the `hostname` argument.

**Output:**
More Information

For more information, see Adding an Instance to a Layer in the *AWS OpsWorks User Guide*.

- For API details, see [CreateInstance](#) in *AWS CLI Command Reference*.

### `create-layer`

The following code example shows how to use `create-layer`.

**AWS CLI**

**To create a layer**

The following `create-layer` command creates a PHP App Server layer named MyPHPLayer in a specified stack.

```bash
aws opsworks create-layer --region us-east-1 --stack-id f6673d70-32e6-4425-8999-265dd002fec7 --type php-app --name MyPHPLayer --shortname myphplayer
```

_output_

```json
{
   "LayerId": "0b212672-6b4b-40e4-8a34-5a943cf2e07a"
}
```

More Information

For more information, see How to Create a Layer in the *AWS OpsWorks User Guide*.

- For API details, see [CreateLayer](#) in *AWS CLI Command Reference*.

### `create-server`

The following code example shows how to use `create-server`.

Actions and scenarios
To create a server

The following `create-server` example creates a new Chef Automate server named `automate-06` in your default region. Note that defaults are used for most other settings, such as number of backups to retain, and maintenance and backup start times. Before you run a `create-server` command, complete prerequisites in [Getting Started with AWS OpsWorks for Chef Automate](https://docs.aws.amazon.com/opsworks/latest/cmuserguide/chef-automate-getting-started.html) in the [AWS Opsworks for Chef Automate User Guide](https://docs.aws.amazon.com/opsworks/latest/cmuserguide/chef-automate-user-guide.html).

```bash
aws opsworks-cm create-server \
  --engine "ChefAutomate" \
  --instance-profile-arn "arn:aws:iam::012345678901:instance-profile/aws-opsworks-cm-ec2-role" \
  --instance-type "t2.medium" \
  --server-name "automate-06" \
  --service-role-arn "arn:aws:iam::012345678901:role/aws-opsworks-cm-service-role"
```

Output:

```json
{
  "Server": {
    "AssociatePublicIpAddress": true,
    "BackupRetentionCount": 10,
    "CreatedAt": 2019-12-29T13:38:47.520Z,
    "DisableAutomatedBackup": FALSE,
    "Endpoint": "https://opsworks-cm.us-east-1.amazonaws.com",
    "Engine": "ChefAutomate",
    "EngineAttributes": [
      {
        "Name": "CHEF_AUTOMATE_ADMIN_PASSWORD",
        "Value": "1Example1"
      }
    ],
    "EngineModel": "Single",
    "EngineVersion": "2019-08",
    "InstanceProfileArn": "arn:aws:iam::012345678901:instance-profile/aws-opsworks-cm-ec2-role",
    "InstanceType": "t2.medium",
    "PreferredBackupWindow": "Sun:02:00",
    "PreferredMaintenanceWindow": "00:00",
    "SecurityGroupIds": [ "sg-12345678"
  ]
}
```
For more information, see CreateServer in the **AWS OpsWorks for Chef Automate API Reference**.

- For API details, see CreateServer in **AWS CLI Command Reference**.

### create-stack

The following code example shows how to use create-stack.

**AWS CLI**

**To create a stack**

The following create-stack command creates a stack named CLI Stack.

```
```

The **service-role-arn** and **default-instance-profile-arn** parameters are required. You typically use the ones that AWS OpsWorks creates for you when you create your first stack. To get the Amazon Resource Names (ARNs) for your account, go to the IAM console, choose Roles in the navigation panel, choose the role or profile, and choose the Summary tab.

**Output:**

```
{
  "StackId": "f6673d70-32e6-4425-8999-265dd002fec7"
}
```

**More Information**

For more information, see Create a New Stack in the **AWS OpsWorks User Guide**.
create-user-profile

The following code example shows how to use create-user-profile.

AWS CLI

To create a user profile

You import an AWS Identity and Access Manager (IAM) user into AWS OpsWorks by calling create-user-profile to create a user profile. The following example creates a user profile for the cli-user-test IAM user, who is identified by Amazon Resource Name (ARN). The example assigns the user an SSH username of myusername and enables self management, which allows the user to specify an SSH public key.

```bash
aws opsworks --region us-east-1 create-user-profile --iam-user-arn arn:aws:iam::123456789102:user/cli-user-test --ssh-username myusername --allow-self-management
```

**Output**:

```
{
    "IamUserArn": "arn:aws:iam::123456789102:user/cli-user-test"
}
```

**Tip**: This command imports an IAM user into AWS OpsWorks, but only with the permissions that are granted by the attached policies. You can grant per-stack AWS OpsWorks permissions by using the set-permissions command.

**More Information**

For more information, see Importing Users into AWS OpsWorks in the AWS OpsWorks User Guide.

- For API details, see CreateUserProfile in AWS CLI Command Reference.

delete-app

The following code example shows how to use delete-app.
AWS CLI

To delete an app

The following example deletes a specified app, which is identified by its app ID. You can obtain an app ID by going to the app's details page on the AWS OpsWorks console or by running the describe-apps command.

```
aws opsworks delete-app --region us-east-1 --app-id 577943b9-2ec1-4baf-a7bf-1d347601edc5
```

*Output:* None.

More Information

For more information, see Apps in the *AWS OpsWorks User Guide*.

- For API details, see [DeleteApp](https://docs.aws.amazon.com/cli/latest/reference/opsworks/delete-app.html) in *AWS CLI Command Reference*.

delete-instance

The following code example shows how to use delete-instance.

AWS CLI

To delete an instance

The following delete-instance example deletes a specified instance, which is identified by its instance ID. You can find an instance ID by opening the instance's details page in the AWS OpsWorks console, or by running the describe-instances command.

If the instance is online, you must first stop the instance by calling stop-instance, and then you must wait until the instance has stopped. Run describe-instances to check the instance status.

To remove the instance's Amazon EBS volumes or Elastic IP addresses, add the `--delete-volumes` or `--delete-elastic-ip` arguments, respectively.

```
aws opsworks delete-instance \
   --region us-east-1 \
```
This command produces no output.

For more information, see Deleting AWS OpsWorks Instances in the AWS OpsWorks User Guide.

- For API details, see DeleteInstance in AWS CLI Command Reference.

delete-layer

The following code example shows how to use delete-layer.

AWS CLI

To delete a layer

The following example deletes a specified layer, which is identified by its layer ID. You can obtain a layer ID by going to the layer's details page on the AWS OpsWorks console or by running the describe-layers command.

Note: Before deleting a layer, you must use delete-instance to delete all of the layer's instances.

aws opsworks delete-layer --region us-east-1 --layer-id a919454e-b816-4598-b29a-5796afb498ed

Output: None.

More Information

For more information, see Deleting AWS OpsWorks Instances in the AWS OpsWorks User Guide.

- For API details, see DeleteLayer in AWS CLI Command Reference.

delete-stack

The following code example shows how to use delete-stack.

AWS CLI

To delete a stack
The following example deletes a specified stack, which is identified by its stack ID. You can obtain a stack ID by clicking **Stack Settings** on the AWS OpsWorks console or by running the `describe-stacks` command.

**Note:** Before deleting a layer, you must use `delete-app`, `delete-instance`, and `delete-layer` to delete all of the stack's apps, instances, and layers.

```bash
aws opsworks delete-stack --region us-east-1 --stack-id 154a9d89-7e9e-433b-8de8-617e53756c84
```

**Output:** None.

**More Information**

For more information, see Shut Down a Stack in the *AWS OpsWorks User Guide*.

- For API details, see `DeleteStack` in *AWS CLI Command Reference*.

---

**delete-user-profile**

The following code example shows how to use `delete-user-profile`.

**AWS CLI**

**To delete a user profile and remove an IAM user from AWS OpsWorks**

The following example deletes the user profile for a specified AWS Identity and Access Management (IAM) user, who is identified by Amazon Resource Name (ARN). The operation removes the user from AWS OpsWorks, but does not delete the IAM user. You must use the IAM console, CLI, or API for that task.

```bash
aws opsworks --region us-east-1 delete-user-profile --iam-user-arn arn:aws:iam::123456789102:user/cli-user-test
```

**Output:** None.

**More Information**

For more information, see Importing Users into AWS OpsWorks in the *AWS OpsWorks User Guide*.

- For API details, see `DeleteUserProfile` in *AWS CLI Command Reference*. 

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**Actions and scenarios**

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**deregister-elastic-ip**

The following code example shows how to use `deregister-elastic-ip`.

**AWS CLI**

**To deregister an Elastic IP address from a stack**

The following example deregisters an Elastic IP address, identified by its IP address, from its stack.

```
aws opsworks deregister-elastic-ip --region us-east-1 --elastic-ip 54.148.130.96
```

*Output: None.*

**More Information**

For more information, see Deregistering Elastic IP Addresses in the *AWS OpsWorks User Guide.*

- For API details, see `DeregisterElasticIp` in *AWS CLI Command Reference.*

**deregister-instance**

The following code example shows how to use `deregister-instance`.

**AWS CLI**

**To deregister a registered instance from a stack**

The following `deregister-instance` command deregisters a registered instance from its stack.

```
aws opsworks --region us-east-1 deregister-instance --instance-id 4d6d1710-ded9-42a1-b08e-b043ad7af1e2
```

*Output: None.*

**More Information**

For more information, see Deregistering a Registered Instance in the *AWS OpsWorks User Guide.*

- For API details, see `DeregisterInstance` in *AWS CLI Command Reference.*
**deregister-rds-db-instance**

The following code example shows how to use `deregister-rds-db-instance`.

**AWS CLI**

To deregister an Amazon RDS DB instance from a stack

The following example deregisters an RDS DB instance, identified by its ARN, from its stack.

```
```

*Output:* None.

**More Information**

For more information, see Deregistering Amazon RDS Instances in the *AWS OpsWorks User Guide*.

```
```

- For API details, see [DeregisterRdsDbInstance](https://docs.aws.amazon.com/cli/latest/reference/opsworks/deregister-rds-db-instance.html) in *AWS CLI Command Reference*.

**deregister-volume**

The following code example shows how to use `deregister-volume`.

**AWS CLI**

To deregister an Amazon EBS volume

The following example deregisters an EBS volume from its stack. The volume is identified by its volume ID, which is the GUID that AWS OpsWorks assigned when you registered the volume with the stack, not the EC2 volume ID.

```
aws opsworks deregister-volume --region us-east-1 --volume-id 5c48ef52-3144-4bf5-beaa-fda4deb23d4d
```

*Output:* None.
More Information

For more information, see Deregistering Amazon EBS Volumes in the AWS OpsWorks User Guide.
- For API details, see DeregisterVolume in AWS CLI Command Reference.

describe-apps

The following code example shows how to use describe-apps.

AWS CLI

To describe apps

The following describe-apps command describes the apps in a specified stack.

```
aws opsworks describe-apps \
   --stack-id 38ee91e2-abdc-4208-a107-0b7168b3cc7a \
   --region us-east-1
```

Output:

```
{
   "Apps": [
      {
         "StackId": "38ee91e2-abdc-4208-a107-0b7168b3cc7a",
         "AppSource": {
            "Url": "https://s3-us-west-2.amazonaws.com/opsworks-demo-assets/simplejsp.zip",
            "Type": "archive"
         },
         "Name": "SimpleJSP",
         "EnableSsl": false,
         "SslConfiguration": {},
         "AppId": "da1decc1-0dff-43ea-ad7c-bb667cd87c8b",
         "Attributes": {
            "RailsEnv": null,
            "AutoBundleOnDeploy": "true",
            "DocumentRoot": "ROOT"
         },
         "Shortname": "simplejsp",
         "Type": "other",
         "CreatedAt": "2013-08-01T21:46:54+00:00"
      }
   ]
}
```
For more information, see Apps in the *AWS OpsWorks User Guide*.

- For API details, see [DescribeApps](#) in *AWS CLI Command Reference*.

**describe-commands**

The following code example shows how to use `describe-commands`.

**AWS CLI**

**To describe commands**

The following `describe-commands` command describes the commands in a specified instance.

```bash/aws opsworks describe-commands \
   --instance-id 8c2673b9-3fe5-420d-9cfa-78d875ee7687 \
   --region us-east-1
```

**Output:**

```json
{
   "Commands": [
      {
         "Status": "successful",
         "CompletedAt": "2013-07-25T18:57:47+00:00",
         "InstanceId": "8c2673b9-3fe5-420d-9cfa-78d875ee7687",
         "DeploymentId": "6ed0df4c-9ef7-4812-8dac-d54a05be1029",
         "AcknowledgedAt": "2013-07-25T18:57:41+00:00",
         "LogUrl": "https://s3.amazonaws.com/<bucket-name>/logs/008c1a91-ec59-4d51-971d-3adff54b00cc?AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE&Expires=1375394373&Signature=HkXil6UuNfxTCC37EPQAA462E1E%3D&response-cache-control=private&response-content-encoding=gzip&response-content-type=text%2Fplain",
         "Type": "undeploy",
         "CommandId": "008c1a91-ec59-4d51-971d-3adff54b00cc",
         "CreatedAt": "2013-07-25T18:57:34+00:00",
         "ExitCode": 0
      }
   ]
}
```
For more information, see AWS OpsWorks Lifecycle Events in the AWS OpsWorks User Guide.

- For API details, see `DescribeCommands` in AWS CLI Command Reference.

**describe-deployments**

The following code example shows how to use `describe-deployments`.

**AWS CLI**

**To describe deployments**

The following `describe-deployments` command describes the deployments in a specified stack.

```bash
aws opsworks --region us-east-1 describe-deployments --stack-id 38ee91e2-abdc-4208-a107-0b7168b3cc7a
```

**Output:**

```json
{
   "Deployments": [
   {
   "StackId": "38ee91e2-abdc-4208-a107-0b7168b3cc7a",
   ...
   }
   ]
}
```
"Status": "successful",
"CompletedAt": "2013-07-25T18:57:49+00:00",
"DeploymentId": "6ed0df4c-9ef7-4812-8dac-d54a05be1029",
"Command": {
    "Args": {},
    "Name": "undeploy"
},
"CreatedAt": "2013-07-25T18:57:34+00:00",
"Duration": 15,
"InstanceIds": [
    "8c2673b9-3fe5-420d-9cfa-78d875ee7687",
    "9e588a25-35b2-4804-bd43-488f85ebe5b7"
],

},
{
"StackId": "38ee91e2-abdc-4208-a107-0b7168b3cc7a",
"Status": "successful",
"CompletedAt": "2013-07-25T18:56:41+00:00",
"IamUserArn": "arn:aws:iam::123456789012:user/someuser",
"DeploymentId": "19d3121e-d949-4ff2-9f9d-94eac087862a",
"Command": {
    "Args": {},
    "Name": "deploy"
},
"InstanceIds": [
    "8c2673b9-3fe5-420d-9cfa-78d875ee7687",
    "9e588a25-35b2-4804-bd43-488f85ebe5b7"
],
"Duration": 72,
"CreatedAt": "2013-07-25T18:55:29+00:00"
}
]
}

More Information

For more information, see Deploying Apps in the AWS OpsWorks User Guide.

- For API details, see [DescribeDeployments](https://docs.aws.amazon.com/cli/latest/reference/opsworks/describe-deployments) in AWS CLI Command Reference.

describe-elastic-ips

The following code example shows how to use describe-elastic-ips.
AWS CLI

To describe Elastic IP instances

The following describe-elastic-ips command describes the Elastic IP addresses in a specified instance.

```bash
aws opsworks --region us-east-1 describe-elastic-ips --instance-id b62f3e04-e9eb-436c-a91f-d9e9a396b7b0
```

Output:

```json
{
  "ElasticIps": [
    {
      "Ip": "192.0.2.0",
      "Domain": "standard",
      "Region": "us-west-2"
    }
  ]
}
```

More Information

For more information, see Instances in the AWS OpsWorks User Guide.

- For API details, see DescribeElasticIps in AWS CLI Command Reference.

describe-elastic-load-balancers

The following code example shows how to use describe-elastic-load-balancers.

AWS CLI

To describe a stack’s elastic load balancers

The following describe-elastic-load-balancers command describes a specified stack’s load balancers.

```bash
aws opsworks --region us-west-2 describe-elastic-load-balancers --stack-id 6f4660e5-37a6-4e42-bfa0-1358ebd9c182
```
Output: This particular stack has one load balancer.

```
{
   "ElasticLoadBalancers": [
   {
      "SubnetIds": [
         "subnet-60e4ea04",
         "subnet-66e1c110"
      ],
      "Ec2InstanceIds": [],
      "ElasticLoadBalancerName": "my-balancer",
      "Region": "us-west-2",
      "LayerId": "344973cb-bf2b-4cd0-8d93-51cd819bab04",
      "AvailabilityZones": [
         "us-west-2a",
         "us-west-2b"
      ],
      "VpcId": "vpc-b319f9d4",
      "StackId": "6f4660e5-37a6-4e42-bfa0-1358ebd9c182",
      "DnsName": "my-balancer-2094040179.us-west-2.elb.amazonaws.com"
   }
   ]
}
```

More Information

For more information, see Apps in the *AWS OpsWorks User Guide*.

- For API details, see [DescribeElasticLoadBalancers](https://docs.aws.amazon.com/cli/latest/reference/opsworks/describe-load-balancers.html) in *AWS CLI Command Reference*.

describe-instances

The following code example shows how to use describe-instances.

**AWS CLI**

To describe instances

The following `describe-instances` command describes the instances in a specified stack:

```
aws opsworks --region us-east-1 describe-instances --stack-id 8c428b08-a1a1-46ce-a5f8-feddc43771b8
```
Output: The following output example is for a stack with two instances. The first is a registered EC2 instance, and the second was created by AWS OpsWorks.

```json
{
  "Instances": [
    {
      "StackId": "71c7ca72-55ae-4b6a-8ee1-a8dced3fa0f",
      "PrivateDns": "ip-10-31-39-66.us-west-2.compute.internal",
      "LayerIds": [
        "26cf1d32-6976-42fa-bbf1-9cadc0b2f938"
      ],
      "EbsOptimized": false,
      "ReportedOs": {
        "Version": "14.04",
        "Name": "ubuntu",
        "Family": "debian"
      },
      "Status": "online",
      "InstanceId": "4d6d1710-ded9-42a1-b08e-b043ad7af1e2",
      "SshKeyName": "US-West-2",
      "InfrastructureClass": "ec2",
      "RootDeviceVolumeId": "vol-d08ec6c1",
      "SubnetId": "subnet-b8de0ddd",
      "InstanceType": "t1.micro",
      "CreatedAt": "2015-02-24T20:52:49+00:00",
      "AmiId": "ami-35501205",
      "Hostname": "ip-192-0-2-0",
      "Ec2InstanceId": "i-5cd23551",
      "PublicDns": "ec2-192-0-2-0.us-west-2.compute.amazonaws.com",
      "SecurityGroupIds": [
        "sg-c4d3f0a1"
      ],
      "Architecture": "x86_64",
      "RootDeviceType": "ebs",
      "InstallUpdatesOnBoot": true,
      "Os": "Custom",
      "VirtualizationType": "paravirtual",
      "AvailabilityZone": "us-west-2a",
      "PrivateIp": "10.31.39.66",
      "PublicIp": "192.0.2.06",
      "RegisteredBy": "arn:aws:iam::123456789102:user/AWS/OpsWorks/OpsWorks-EC2Register-i-5cd23551"
    }
  ]
}
```
More Information

For more information, see Instances in the AWS OpsWorks User Guide.
describe-layers

The following code example shows how to use describe-layers.

AWS CLI

To describe a stack's layers

The following describe-layers command describes the layers in a specified stack:

```bash
aws opsworks --region us-east-1 describe-layers --stack-id 38ee91e2-abdc-4208-a107-0b7168b3cc7a
```

Output:

```json
{
   "Layers": [
      {
         "StackId": "38ee91e2-abdc-4208-a107-0b7168b3cc7a",
         "Type": "db-master",
         "DefaultSecurityGroupNames": [
            "AWS-OpsWorks-DB-Master-Server"
         ],
         "Name": "MySQL",
         "Packages": [],
         "DefaultRecipes": {
            "Undeploy": [],
            "Setup": [
               "opsworks_initial_setup",
               "ssh_host_keys",
               "ssh_users",
               "mysql::client",
               "dependencies",
               "ebs",
               "opsworks_ganglia::client",
               "mysql::server",
               "dependencies",
               "deploy::mysql"
            ],
            "Configure": [
               "opsworks_ganglia::configure-client",
               "opsworks_ganglia::configure-client"
            ]
         }
      }
   ]
}
```
"ssh_users",
"agent_version",
"deploy::mysql"
],
"Shutdown": [
"opsworks_shutdown::default",
"mysql::stop"
],
"Deploy": [
"deploy::default",
"deploy::mysql"
]
},
"CustomRecipes": {
"Undeploy": [],
"Setup": [],
"Configure": [],
"Shutdown": [],
"Deploy": []
},
"EnableAutoHealing": false,
"LayerId": "41a20847-d594-4325-8447-171821916b73",
"Attributes": {
"MysqlRootPasswordUbiquitous": "true",
"RubygemsVersion": null,
"RailsStack": null,
"HaproxyHealthCheckMethod": null,
"RubyVersion": null,
"BundlerVersion": null,
"HaproxyStatsPassword": null,
"PassengerVersion": null,
"MemcachedMemory": null,
"EnableHaproxyStats": null,
"ManageBundler": null,
"NodejsVersion": null,
"HaproxyHealthCheckUrl": null,
"MysqlRootPassword": "*****FILTERED*****",
"GangliaPassword": null,
"GangliaUser": null,
"HaproxyStatsUrl": null,
"GangliaUrl": null,
"HaproxyStatsUser": null
},
"Shortname": "db-master"
"AutoAssignElasticIps": false,
"CustomSecurityGroupIds": [],
"CreatedAt": "2013-07-25T18:11:19+00:00",
"VolumeConfigurations": [
  {
    "MountPoint": "/vol/mysql",
    "Size": 10,
    "NumberOfDisks": 1
  }
],
{
    "StackId": "38ee91e2-abdc-4208-a107-0b7168b3cc7a",
    "Type": "custom",
    "DefaultSecurityGroupNames": [
      "AWS-OpsWorks-Custom-Server"
    ],
    "Name": "TomCustom",
    "Packages": [],
    "DefaultRecipes": {
      "Undeploy": [],
      "Setup": [
        "opsworks_initial_setup",
        "ssh_host_keys",
        "ssh_users",
        "mysql::client",
        "dependencies",
        "ebs",
        "opsworks_ganglia::client"
      ],
      "Configure": [
        "opsworks_ganglia::configure-client",
        "ssh_users",
        "agent_version"
      ],
      "Shutdown": [
        "opsworks_shutdown::default"
      ],
      "Deploy": [
        "deploy::default"
      ]
    },
    "CustomRecipes": {
      "Undeploy": []
    }
}
"Setup": [  
  "tomcat::setup"
],
"Configure": [  
  "tomcat::configure"
],
"Shutdown": [],
"Deploy": [  
  "tomcat::deploy"
],
"EnableAutoHealing": true,
"LayerId": "e6cbcd29-d223-40fc-8243-2eb213377440",
"Attributes": {
  "MysqlRootPasswordUbiquitous": null,
  "RubygemsVersion": null,
  "RailsStack": null,
  "HaproxyHealthCheckMethod": null,
  "RubyVersion": null,
  "BundlerVersion": null,
  "HaproxyStatsPassword": null,
  "PassengerVersion": null,
  "MemcachedMemory": null,
  "EnableHaproxyStats": null,
  "ManageBundler": null,
  "NodejsVersion": null,
  "HaproxyHealthCheckUrl": null,
  "MysqlRootPassword": null,
  "GangliaPassword": null,
  "GangliaUser": null,
  "HaproxyStatsUrl": null,
  "GangliaUrl": null,
  "HaproxyStatsUser": null
},
"Shortname": "tomcustom",
"AutoAssignElasticIps": false,
"CustomSecurityGroupIds": [],
"CreatedAt": "2013-07-25T18:12:53+00:00",
"VolumeConfigurations": []
}
More Information

For more information, see Layers in the AWS OpsWorks User Guide.

- For API details, see DescribeLayers in AWS CLI Command Reference.

describe-load-based-auto-scaling

The following code example shows how to use describe-load-based-auto-scaling.

AWS CLI

To describe a layer's load-based scaling configuration

The following example describes a specified layer's load-based scaling configuration. The layer is identified by its layer ID, which you can find on the layer's details page or by running describe-layers.

```bash
aws opsworks describe-load-based-auto-scaling --region us-east-1 --layer-ids 6bec29c9-c866-41a0-aba5-fa3e374ce2a1
```

Output: The example layer has a single load-based instance.

```json
{
    "LoadBasedAutoScalingConfigurations": [
        {
            "DownScaling": {
                "IgnoreMetricsTime": 10,
                "ThresholdsWaitTime": 10,
                "InstanceCount": 1,
                "CpuThreshold": 30.0
            },
            "Enable": true,
            "UpScaling": {
                "IgnoreMetricsTime": 5,
                "ThresholdsWaitTime": 5,
                "InstanceCount": 1,
                "CpuThreshold": 80.0
            },
            "LayerId": "6bec29c9-c866-41a0-aba5-fa3e374ce2a1"
        }
    ]
}
```
More Information

For more information, see How Automatic Load-based Scaling Works in the AWS OpsWorks User Guide.

- For API details, see DescribeLoadBasedAutoScaling in AWS CLI Command Reference.

describe-my-user-profile

The following code example shows how to use describe-my-user-profile.

AWS CLI

To obtain a user's profile

The following example shows how to obtain the profile of the AWS Identity and Access Management (IAM) user that is running the command.

```
aws opsworks --region us-east-1 describe-my-user-profile
```

Output: For brevity, most of the user's SSH public key is replaced by an ellipsis (...).

```
{
  "UserProfile": {
    "IamUserArn": "arn:aws:iam::123456789012:user/myusername",
    "SshPublicKey": "ssh-rsa AAAAB3NzaC1yc2EAAAABJQ...3LQ4aXjpQw== rsa-key-20141104",
    "Name": "myusername",
    "SshUsername": "myusername"
  }
}
```

More Information

For more information, see Importing Users into AWS OpsWorks in the AWS OpsWorks User Guide.

- For API details, see DescribeMyUserProfile in AWS CLI Command Reference.

describe-permissions

The following code example shows how to use describe-permissions.
AWS CLI

To obtain a user's per-stack AWS OpsWorks permission level

The following example shows how to obtain an AWS Identity and Access Management (IAM) user's permission level on a specified stack.

```
aws opsworks --region us-east-1 describe-permissions --iam-user-arn arn:aws:iam::123456789012:user/cli-user-test --stack-id d72553d4-8727-448c-9b00-f024f0ba1b06
```

**Output:**

```json
{
   "Permissions": [
      {
         "StackId": "d72553d4-8727-448c-9b00-f024f0ba1b06",
         "IamUserArn": "arn:aws:iam::123456789012:user/cli-user-test",
         "Level": "manage",
         "AllowSudo": true,
         "AllowSsh": true
      }
   ]
}
```

More Information

For more information, see Granting Per-Stack Permissions Levels in the AWS OpsWorks User Guide.

- For API details, see DescribePermissions in AWS CLI Command Reference.

**describe-raid-arrays**

The following code example shows how to use describe-raid-arrays.

AWS CLI

To describe RAID arrays

The following example describes the RAID arrays attached to the instances in a specified stack.
aws opsworks --region us-east-1 describe-raid-arrays --stack-id d72553d4-8727-448c-9b00-f024f0ba1b06

**Output:** The following is the output for a stack with one RAID array.

```json
{
  "RaidArrays": [
    {
      "StackId": "d72553d4-8727-448c-9b00-f024f0ba1b06",
      "AvailabilityZone": "us-west-2a",
      "Name": "Created for php-app1",
      "NumberOfDisks": 2,
      "InstanceId": "9f14adbc-ced5-43b6-bf01-e7d0db6cf2f7",
      "RaidLevel": 0,
      "VolumeType": "standard",
      "RaidArrayId": "f2d4e470-5972-4676-b1b8-bae41ec3e51c",
      "Device": "/dev/md0",
      "MountPoint": "/mnt/workspace",
      "CreatedAt": "2015-02-26T23:53:09+00:00",
      "Size": 100
    }
  ]
}
```

For more information, see EBS Volumes in the *AWS OpsWorks User Guide*.

- For API details, see [DescribeRaidArrays](#) in *AWS CLI Command Reference*.

### describe-rds-db-instances

The following code example shows how to use describe-rds-db-instances.

**AWS CLI**

**To describe a stack’s registered Amazon RDS instances**

The following example describes the Amazon RDS instances registered with a specified stack.

aws opsworks --region us-east-1 describe-rds-db-instances --stack-id d72553d4-8727-448c-9b00-f024f0ba1b06

**Output:** The following is the output for a stack with one registered RDS instance.
For more information, see Resource Management in the AWS OpsWorks User Guide.

- For API details, see `DescribeRdsDbInstances` in AWS CLI Command Reference.

**describe-stack-provisioning-parameters**

The following code example shows how to use `describe-stack-provisioning-parameters`.

**AWS CLI**

**To return the provisioning parameters for a stack**

The following `describe-stack-provisioning-parameters` example returns the provisioning parameters for a specified stack. Provisioning parameters include settings such as the agent installation location and public key that OpsWorks uses to manage the agent on instances in a stack.

```bash
aws opsworks describe-stack-provisioning-parameters \
  --stack-id 62744d97-6faf-4ecb-969b-a086fEXAMPLE
```

**Output:**

```json
{
    "AgentPublicKey": "-----BEGIN RSA PUBLIC KEY-----
...

For more information, see Resource Management in the AWS OpsWorks User Guide.

- For API details, see `DescribeRdsDbInstances` in AWS CLI Command Reference.

**describe-stack-provisioning-parameters**

The following code example shows how to use `describe-stack-provisioning-parameters`.

**AWS CLI**

**To return the provisioning parameters for a stack**

The following `describe-stack-provisioning-parameters` example returns the provisioning parameters for a specified stack. Provisioning parameters include settings such as the agent installation location and public key that OpsWorks uses to manage the agent on instances in a stack.

```bash
aws opsworks describe-stack-provisioning-parameters \
  --stack-id 62744d97-6faf-4ecb-969b-a086fEXAMPLE
```

**Output:**

```json
{
    "AgentPublicKey": "-----BEGIN RSA PUBLIC KEY-----
...
```
"Parameters": {
  "agent_installer_tgz": "opsworks-agent-installer.tgz",
  "assets_download_bucket": "opsworks-instance-assets-us-west-2.s3.amazonaws.com",
  "charlie_public_key": "-----BEGIN PUBLIC KEY-----PUBLIC_KEY_EXAMPLE
-----END PUBLIC KEY-----",
  "instance_service_endpoint": "opsworks-instance-service.us-west-2.amazonaws.com",
  "instance_service_port": "443",
  "instance_service_region": "us-west-2",
  "instance_service_ssl_verify_peer": "true",
  "instance_service_use_ssl": "true",
  "ops_works_endpoint": "opsworks.us-west-2.amazonaws.com",
  "ops_works_port": "443",
  "ops_works_region": "us-west-2",
  "ops_works_ssl_verify_peer": "true",
  "ops_works_use_ssl": "true",
  "verbose": "false",
  "wait_between_runs": "30"
}

For more information, see Run Stack Commands in the AWS OpsWorks User Guide.

- For API details, see DescribeStackProvisioningParameters in AWS CLI Command Reference.

describe-stack-summary

The following code example shows how to use describe-stack-summary.

AWS CLI

To describe a stack's configuration

The following describe-stack-summary command returns a summary of the specified stack's configuration.

```
aws opsworks --region us-east-1 describe-stack-summary --stack-id 8c428b08-a1a1-46ce-a5f8-feddc43771b8
```

Output:
More Information

For more information, see Stacks in the AWS OpsWorks User Guide.

- For API details, see DescribeStackSummary in AWS CLI Command Reference.

**describe-stacks**

The following code example shows how to use describe-stacks.

**AWS CLI**

**To describe stacks**

The following describe-stacks command describes an account's stacks.

```bash
aws opsworks --region us-east-1 describe-stacks
```

**Output:**

```json
{
  "Stacks": [ 
    {
      "ServiceRoleArn": "arn:aws:iam::444455556666:role/aws-opsworks-service-role",
      "StackId": "aeb7523e-7c8b-49d4-b866-03aae9d4fbc8",
      "DefaultRootDeviceType": "instance-store",
      "Name": "TomStack-sd",
      "ConfigurationManager": { 
        "Version": "11.4",
```
"Name": "Chef",
"UseCustomCookbooks": true,
"CustomJson": "{\n  "tomcat": {\n    "base_version": 7,\n    "java_opts": "-Djava.awt.headless=true -Xmx256m"\n  },\n  "datasources": {\n    "ROOT": "jdbc/mydb"\n  }\n},
"Region": "us-east-1",
"DefaultInstanceProfileArn": "arn:aws:iam::44445556666:instance-profile/aws-opsworks-ec2-role",
"CustomCookbooksSource": {"Url": "git://github.com/example-repo/tomcustom.git",
"Type": "git"},
"DefaultAvailabilityZone": "us-east-1a",
"HostnameTheme": "Layer_Dependent",
"Attributes": {"Color": "rgb(45, 114, 184)"},
"DefaultOs": "Amazon Linux",
"CreatedAt": "2013-08-01T22:53:42+00:00"},
{
  "ServiceRoleArn": "arn:aws:iam::44445556666:role/aws-opsworks-service-role",
  "StackId": "40738975-da59-4c5b-9789-3e422f2cf099",
  "DefaultRootDeviceType": "instance-store",
  "Name": "MyStack",
  "ConfigurationManager": {
    "Version": "11.4",
    "Name": "Chef"
  },
  "UseCustomCookbooks": false,
  "Region": "us-east-1",
  "DefaultInstanceProfileArn": "arn:aws:iam::44445556666:instance-profile/aws-opsworks-ec2-role",
  "CustomCookbooksSource": {},
  "DefaultAvailabilityZone": "us-east-1a",
  "HostnameTheme": "Layer_Dependent",
  "Attributes": {
    "Color": "rgb(45, 114, 184)"
  },
  "DefaultOs": "Amazon Linux",
  "CreatedAt": "2013-10-25T19:24:30+00:00"
}
describe-timebased-auto-scaling

The following code example shows how to use describe-timebased-auto-scaling.

AWS CLI

To describe the time-based scaling configuration of an instance

The following example describes a specified instance's time-based scaling configuration. The instance is identified by its instance ID, which you can find on the instances's details page or by running describe-instances.

```
aws opsworks describe-time-based-auto-scaling --region us-east-1 --instance-ids 701f2ffe-5d8e-4187-b140-77b75f55de8d
```

Output: The example has a single time-based instance.

```json
{
   "TimeBasedAutoScalingConfigurations": [
      {
         "InstanceId": "701f2ffe-5d8e-4187-b140-77b75f55de8d",
         "AutoScalingSchedule": {
            "Monday": {
               "11": "on",
               "10": "on",
               "13": "on",
               "12": "on"
            },
            "Tuesday": {
               "11": "on",
               "10": "on",
               "13": "on",
               "12": "on"
            }
         }
      }
   ]
}
```
More Information

For more information, see How Automatic Time-based Scaling Works in the *AWS OpsWorks User Guide*.

- For API details, see [DescribeTimebasedAutoScaling](#) in *AWS CLI Command Reference*.

**describe-user-profiles**

The following code example shows how to use describe-user-profiles.

**AWS CLI**

**To describe user profiles**

The following describe-user-profiles command describes the account's user profiles.

```bash
aws opsworks --region us-east-1 describe-user-profiles
```

**Output**:

```json
{
"UserProfiles": [
{
  "IamUserArn": "arn:aws:iam::123456789012:user/someuser",
  "SshPublicKey": "ssh-rsa AAAAB3NzaC1yc2EAAAABJQAAAQEAk0uP7i80q3Cko...",
  "AllowSelfManagement": true,
  "Name": "someuser",
  "SshUsername": "someuser"
},
{
  "IamUserArn": "arn:aws:iam::123456789012:user/cli-user-test",
  "AllowSelfManagement": true,
  "Name": "cli-user-test",
  "SshUsername": "myusername"
}
]
```

More Information

For more information, see Managing AWS OpsWorks Users in the **AWS OpsWorks User Guide**.

- For API details, see [DescribeUserProfiles](#) in **AWS CLI Command Reference**.

describe-volumes

The following code example shows how to use `describe-volumes`.

**AWS CLI**

**To describe a stack's volumes**

The following example describes a stack's EBS volumes.

```bash
aws opsworks --region us-east-1 describe-volumes --stack-id 8c428b08-a1a1-46ce-a5f8-feddc43771b8
```

**Output**:

```json
{
    "Volumes": [
    {
        "Status": "in-use",
        "AvailabilityZone": "us-west-2a",
        "Name": "CLITest",
        "InstanceId": "dfe18b02-5327-493d-91a4-c5c0c448927f",
        "VolumeType": "standard",
        "VolumeId": "56b66fbd-e1a1-4aff-9227-70f77118d4c5",
        "Device": "/dev/sdi",
        "Ec2VolumeId": "vol-295c1638",
        "MountPoint": "/mnt/myvolume",
        "Size": 1
    }
    ]
}
```

More Information
For more information, see Resource Management in the *AWS OpsWorks User Guide*.

- For API details, see [DescribeVolumes](#) in *AWS CLI Command Reference*.

**detach-elastic-load-balancer**

The following code example shows how to use `detach-elastic-load-balancer`.

**AWS CLI**

**To detach a load balancer from its layer**

The following example detaches a load balancer, identified by its name, from its layer.

```sh
aws opsworks --region us-east-1 detach-elastic-load-balancer --elastic-load-balancer-name Java-LB --layer-id 888c5645-09a5-4d0e-95a8-812ef1db76a4
```

*Output:* None.

**More Information**

For more information, see Elastic Load Balancing in the *AWS OpsWorks User Guide*.

- For API details, see [DetachElasticLoadBalancer](#) in *AWS CLI Command Reference*.

**disassociate-elastic-ip**

The following code example shows how to use `disassociate-elastic-ip`.

**AWS CLI**

**To disassociate an Elastic IP address from an instance**

The following example disassociates an Elastic IP address from a specified instance.

```sh
aws opsworks --region us-east-1 disassociate-elastic-ip --elastic-ip 54.148.130.96
```

*Output:* None.

**More Information**
For more information, see Resource Management in the AWS OpsWorks User Guide.

- For API details, see DisassociateElasticIp in AWS CLI Command Reference.

get-hostname-suggestion

The following code example shows how to use get-hostname-suggestion.

AWS CLI

To get the next hostname for a layer

The following example gets the next generated hostname for a specified layer. The layer used for this example is a Java Application Server layer with one instance. The stack's hostname theme is the default, Layer_Dependent.

```
aws opsworks --region us-east-1 get-hostname-suggestion --layer-id 888c5645-09a5-4d0e-95a8-812ef1db76a4
```

Output:

```
{
  "Hostname": "java-app2",
  "LayerId": "888c5645-09a5-4d0e-95a8-812ef1db76a4"
}
```

More Information

For more information, see Create a New Stack in the AWS OpsWorks User Guide.

- For API details, see GetHostnameSuggestion in AWS CLI Command Reference.

reboot-instance

The following code example shows how to use reboot-instance.

AWS CLI

To reboot an instance

The following example reboots an instance.
aws opsworks --region us-east-1 reboot-instance --instance-id dfe18b02-5327-493d-91a4-c5c0c448927f

Output: None.

More Information

For more information, see Rebooting an Instance in the AWS OpsWorks User Guide.

- For API details, see RebootInstance in AWS CLI Command Reference.

register

The following code example shows how to use register.

AWS CLI

To register instances with a stack

The following examples show a variety of ways to register instances with a stack that were created outside of AWS Opsworks. You can run register from the instance to be registered, or from a separate workstation. For more information, see Registering Amazon EC2 and On-premises Instances in the AWS OpsWorks User Guide.

Note: For brevity, the examples omit the region argument.

To register an Amazon EC2 instance

To indicate that you are registering an EC2 instance, set the --infrastructure-class argument to ec2.

The following example registers an EC2 instance with the specified stack from a separate workstation. The instance is identified by its EC2 ID, i-12345678. The example uses the workstation's default SSH username and attempts to log in to the instance using authentication techniques that do not require a password, such as a default private SSH key. If that fails, register queries for the password.

aws opsworks register --infrastructure-class=ec2 --stack-id 935450cc-61e0-4b03-a3e0-160ac817d2bb i-12345678
The following example registers an EC2 instance with the specified stack from a separate
workstation. It uses the --ssh-username and --ssh-private-key arguments to explicitly
specify the SSH username and private key file that the command uses to log into the instance.
ec2-user is the standard username for Amazon Linux instances. Use ubuntu for Ubuntu
instances.

```
aws opsworks register --infrastructure-class=ec2 --stack-id 935450cc-61e0-4b03-a3e0-160ac817d2bb --ssh-username ec2-user --ssh-private-key ssh_private_key i-12345678
```

The following example registers the EC2 instance that is running the register command.
Log in to the instance with SSH and run `register` with the --local argument instead of an
instance ID or hostname.

```
aws opsworks register --infrastructure-class ec2 --stack-id 935450cc-61e0-4b03-a3e0-160ac817d2bb --local
```

**To register an on-premises instance**

To indicate that you are registering an on-premises instance, set the --infrastructure-
class argument to on-premises.

The following example registers an existing on-premises instance with a specified stack from
a separate workstation. The instance is identified by its IP address, 192.0.2.3. The example
uses the workstation's default SSH username and attempts to log in to the instance using
authentication techniques that do not require a password, such as a default private SSH key. If
that fails, `register` queries for the password.

```
aws opsworks register --infrastructure-class on-premises --stack-id 935450cc-61e0-4b03-a3e0-160ac817d2bb 192.0.2.3
```

The following example registers an on-premises instance with a specified stack from a separate
workstation. The instance is identified by its hostname, host1. The --override-... arguments
direct AWS OpsWorks to display webserver1 as the host name and 192.0.2.3 and 10.0.0.2 as the instance's public and private IP addresses, respectively.

```
aws opsworks register --infrastructure-class on-premises --stack-id 935450cc-61e0-4b03-a3e0-160ac817d2bb --override-hostname webserver1 --override-public-ip 192.0.2.3 --override-private-ip 10.0.0.2 host1
```
The following example registers an on-premises instance with a specified stack from a separate workstation. The instance is identified by its IP address. `register` logs into the instance using the specified SSH username and private key file.

```
aws opsworks register --infrastructure-class on-premises --stack-id 935450cc-61e0-4b03-a3e0-160ac817d2bb --ssh-username admin --ssh-private-key ssh_private_key 192.0.2.3
```

The following example registers an existing on-premises instance with a specified stack from a separate workstation. The command logs into the instance using a custom SSH command string that specifies the SSH password and the instance's IP address.

```
aws opsworks register --infrastructure-class on-premises --stack-id 935450cc-61e0-4b03-a3e0-160ac817d2bb --override-ssh "sshpass -p 'mypassword' ssh your-user@192.0.2.3"
```

The following example registers the on-premises instance that is running the `register` command. Log in to the instance with SSH and run `register` with the `--local` argument instead of an instance ID or hostname.

```
aws opsworks register --infrastructure-class on-premises --stack-id 935450cc-61e0-4b03-a3e0-160ac817d2bb --local
```

**Output:** The following is typical output for registering an EC2 instance.

```
Warning: Permanently added '52.11.41.206' (ECDSA) to the list of known hosts.
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
Dload  Upload   Total   Spent    Left  Speed
100 6403k  100 6403k    0     0  2121k      0  0:00:03  0:00:03 --:--:-- 2121k
[Tue, 24 Feb 2015 20:48:37 +0000] opsworks-init: Checking if OS is supported
[Tue, 24 Feb 2015 20:48:37 +0000] opsworks-init: Running on supported OS
```

**Actions and scenarios**
More Information

For more information, see Registering an Instance with an AWS OpsWorks Stack in the AWS OpsWorks User Guide.

- For API details, see Register in AWS CLI Command Reference.

register-elastic-ip

The following code example shows how to use register-elastic-ip.

AWS CLI

To register an Elastic IP address with a stack

The following example registers an Elastic IP address, identified by its IP address, with a specified stack.

**Note:** The Elastic IP address must be in the same region as the stack.

```bash
code here
d2e535d4-8727-448c-9b00-f024f0ba1b06 --stack-id d72553d4-8727-448c-9b00-f024f0ba1b06 --elastic-ip 54.148.130.96
```

**Output**

```json
dict here
"ElasticIp": "54.148.130.96"
```
More Information

For more information, see Registering Elastic IP Addresses with a Stack in the *OpsWorks User Guide*.

- For API details, see `RegisterElasticIp` in *AWS CLI Command Reference*.

`register-rds-db-instance`

The following code example shows how to use `register-rds-db-instance`.

**AWS CLI**

**To register an Amazon RDS instance with a stack**

The following example registers an Amazon RDS DB instance, identified by its Amazon Resource Name (ARN), with a specified stack. It also specifies the instance's master username and password. Note that AWS OpsWorks does not validate either of these values. If either one is incorrect, your application will not be able to connect to the database.

```
aws opsworks register-rds-db-instance --region us-east-1 --stack-id d72553d4-8727-448c-9b00-f024f0ba1b06 --rds-db-instance-arn arn:aws:rds:us-west-2:123456789012:db:clitestdb --db-user cliuser --db-password some23!pwd
```

*Output*: None.

**More Information**

For more information, see Registering Amazon RDS Instances with a Stack in the *AWS OpsWorks User Guide*.

- For API details, see `RegisterRdsDbInstance` in *AWS CLI Command Reference*.

`register-volume`

The following code example shows how to use `register-volume`.

**AWS CLI**

**To register an Amazon EBS volume with a stack**
The following example registers an Amazon EBS volume, identified by its volume ID, with a specified stack.

```
aws opsworks register-volume --region us-east-1 --stack-id d72553d4-8727-448c-9b00-f024f0ba1b06 --ec-2-volume-id vol-295c1638
```

**Output:**

```
{
    "VolumeId": "ee08039c-7cb7-469f-be10-40fb7f0c05e8"
}
```

**More Information**

For more information, see Registering Amazon EBS Volumes with a Stack in the *AWS OpsWorks User Guide*.

- For API details, see [RegisterVolume](#) in *AWS CLI Command Reference*.

### set-load-based-auto-scaling

The following code example shows how to use set-load-based-auto-scaling.

**AWS CLI**

#### To set the load-based scaling configuration for a layer

The following example enables load-based scaling for a specified layer and sets the configuration for that layer. You must use `create-instance` to add load-based instances to the layer.

```
```

The example puts the upscaling threshold settings in a separate file in the working directory named `upscale.json`, which contains the following.

```
{
    "InstanceCount": 2,
    "ThresholdsWaitTime": 3,
}
```
The example puts the downscaling threshold settings in a separate file in the working directory named `downscale.json`, which contains the following.

```json
{
    "InstanceCount": 2,
    "ThresholdsWaitTime": 3,
    "IgnoreMetricsTime": 3,
    "CpuThreshold": 35,
    "MemoryThreshold": 30,
    "LoadThreshold": 30
}
```

**Output**: None.

**More Information**

For more information, see Using Automatic Load-based Scaling in the *AWS OpsWorks User Guide*.

- For API details, see [SetLoadBasedAutoScaling](https://docs.aws.amazon.com/cli/latest/reference/awscli/set-permission.html) in *AWS CLI Command Reference*.

**set-permission**

The following code example shows how to use `set-permission`.

**AWS CLI**

**To grant per-stack AWS OpsWorks permission levels**

When you import an AWS Identity and Access Management (IAM) user into AWS OpsWorks by calling `create-user-profile`, the user has only those permissions that are granted by the attached IAM policies. You can grant AWS OpsWorks permissions by modifying a user's policies. However, it is often easier to import a user and then use the `set-permission` command to grant the user one of the standard permission levels for each stack to which the user will need access.
The following example grants permission for the specified stack for a user, who is identified by Amazon Resource Name (ARN). The example grants the user a Manage permissions level, with sudo and SSH privileges on the stack's instances.

```bash
aws opsworks set-permission --region us-east-1 --stack-id 71c7ca72-55ae-4b6a-8ee1-a8dcdead3fa0f --level manage --iam-user-arn arn:aws:iam::123456789102:user/cli-user-test --allow-ssh --allow-sudo
```

**Output:** None.

**More Information**

For more information, see Granting AWS OpsWorks Users Per-Stack Permissions in the *AWS OpsWorks User Guide*.

- For API details, see [SetPermission](https://docs.aws.amazon.com/cli/latest/reference/opsworks/set-permission.html) in *AWS CLI Command Reference*.

### set-time-based-auto-scaling

The following code example shows how to use `set-time-based-auto-scaling`.

**AWS CLI**

**To set the time-based scaling configuration for a layer**

The following example sets the time-based configuration for a specified instance. You must first use `create-instance` to add the instance to the layer.

```bash
aws opsworks --region us-east-1 set-time-based-auto-scaling --instance-id 69b6237c-08c0-4ed89a6af-78f3d01cedf2 --auto-scaling-schedule file://schedule.json
```

The example puts the schedule in a separate file in the working directory named `schedule.json`. For this example, the instance is on for a few hours around midday UTC (Coordinated Universal Time) on Monday and Tuesday.

```json
{
    "Monday": {
        "10": "on",
        "11": "on",
        "12": "on",
        "13": "on"
    }
}
```
"Tuesday": {
    "10": "on",
    "11": "on",
    "12": "on",
    "13": "on"
  }
}

**Output:** None.

**More Information**

For more information, see Using Automatic Time-based Scaling in the *AWS OpsWorks User Guide*.

- For API details, see `SetTimeBasedAutoScaling` in *AWS CLI Command Reference*.

**start-instance**

The following code example shows how to use `start-instance`.

**AWS CLI**

**To start an instance**

The following `start-instance` command starts a specified 24/7 instance.

```bash
aws opsworks start-instance --instance-id f705ee48-9000-4890-8bd3-20eb05825aaf
```

**Output:** None. Use `describe-instances` to check the instance's status.

**Tip** You can start every offline instance in a stack with one command by calling `start-stack`.

**More Information**

For more information, see Manually Starting, Stopping, and Rebooting 24/7 Instances in the *AWS OpsWorks User Guide*.

- For API details, see `StartInstance` in *AWS CLI Command Reference*.

**start-stack**

The following code example shows how to use `start-stack`.
**AWS CLI**

**To start a stack's instances**

The following example starts all of a stack's 24/7 instances. To start a particular instance, use `start-instance`.

```
aws opsworks --region us-east-1 start-stack --stack-id 8c428b08-a1a1-46ce-a5f8-feddc43771b8
```

*Output*: None.

**More Information**

For more information, see Starting an Instance in the *AWS OpsWorks User Guide*.

- For API details, see [StartStack](#) in *AWS CLI Command Reference*.

**stop-instance**

The following code example shows how to use `stop-instance`.

**AWS CLI**

**To stop an instance**

The following example stops a specified instance, which is identified by its instance ID. You can obtain an instance ID by going to the instance's details page on the AWS OpsWorks console or by running the `describe-instances` command.

```
aws opsworks stop-instance --region us-east-1 --instance-id 3a21cfac-4a1f-4ce2-a921-b2cfba6f7771
```

You can restart a stopped instance by calling `start-instance` or by deleting the instance by calling `delete-instance`.

*Output*: None.

**More Information**

For more information, see Stopping an Instance in the *AWS OpsWorks User Guide*. 
- For API details, see `StopInstance` in *AWS CLI Command Reference*.

**stop-stack**

The following code example shows how to use `stop-stack`.

**AWS CLI**

**To stop a stack's instances**

The following example stops all of a stack's 24/7 instances. To stop a particular instance, use `stop-instance`.

```
aws opsworks --region us-east-1 stop-stack --stack-id 8c428b08-a1a1-46ce-a5f8-feddc4371b8
```

*Output*: No output.

**More Information**

For more information, see Stopping an Instance in the *AWS OpsWorks User Guide*.
- For API details, see `StopStack` in *AWS CLI Command Reference*.

**unassign-instance**

The following code example shows how to use `unassign-instance`.

**AWS CLI**

**To unassign a registered instance from its layers**

The following unassign-instance command unassigns an instance from its attached layers.

```
aws opsworks --region us-east-1 unassign-instance --instance-id 4d6d1710-ded9-42a1-b08e-b043ad7af1e2
```

*Output*: None.

**More Information**

For more information, see Unassigning a Registered Instance in the *AWS OpsWorks User Guide*. 
unassign-volume

The following code example shows how to use unassign-volume.

AWS CLI

To unassign a volume from its instance

The following example unassigns a registered Amazon Elastic Block Store (Amazon EBS) volume from its instance. The volume is identified by its volume ID, which is the GUID that AWS OpsWorks assigns when you register the volume with a stack, not the Amazon Elastic Compute Cloud (Amazon EC2) volume ID.

```
aws opsworks --region us-east-1 unassign-volume --volume-id 8430177d-52b7-4948-9c62-e195af4703df
```

Output: None.

More Information

For more information, see Unassigning Amazon EBS Volumes in the AWS OpsWorks User Guide.

update-app

The following code example shows how to use update-app.

AWS CLI

To update an app

The following example updates a specified app to change its name.

```
aws opsworks --region us-east-1 update-app --app-id 26a61ead-d201-47e3-b55c-2a7c666942f8 --name NewAppName
```

Output: None.
More Information

For more information, see Editing Apps in the AWS OpsWorks User Guide.

- For API details, see UpdateApp in AWS CLI Command Reference.

update-elastic-ip

The following code example shows how to use update-elastic-ip.

AWS CLI

To update an Elastic IP address name

The following example updates the name of a specified Elastic IP address.

```bash
aws opsworks --region us-east-1 update-elastic-ip --elastic-ip 54.148.130.96 --name NewIPName
```

Output: None.

More Information

For more information, see Resource Management in the AWS OpsWorks User Guide.

- For API details, see UpdateElasticIp in AWS CLI Command Reference.

update-instance

The following code example shows how to use update-instance.

AWS CLI

To update an instance

The following example updates a specified instance's type.

```bash
aws opsworks --region us-east-1 update-instance --instance-id dfe18b02-5327-493d-91a4-c5c0c448927f --instance-type c3.xlarge
```

Output: None.

More Information
For more information, see Editing the Instance Configuration in the *AWS OpsWorks User Guide*. 

- For API details, see [UpdateInstance](https://docs.aws.amazon.com/cli/latest/reference/opsworks/update-instance) in *AWS CLI Command Reference*.

**update-layer**

The following code example shows how to use `update-layer`.

**AWS CLI**

**To update a layer**

The following example updates a specified layer to use Amazon EBS-optimized instances.

```bash
aws opsworks --region us-east-1 update-layer --layer-id 888c5645-09a5-4d0e-95a8-812ef1db76a4 --use-ebs-optimized-instances
```

*Output:* None.

**More Information**

For more information, see Editing an OpsWorks Layer's Configuration in the *AWS OpsWorks User Guide*.

- For API details, see [UpdateLayer](https://docs.aws.amazon.com/cli/latest/reference/opsworks/update-layer) in *AWS CLI Command Reference*.

**update-my-user-profile**

The following code example shows how to use `update-my-user-profile`.

**AWS CLI**

**To update a user's profile**

The following example updates the development user's profile to use a specified SSH public key. The user's AWS credentials are represented by the development profile in the credentials file (~\aws\credentials), and the key is in a .pem file in the working directory.

```bash
aws opsworks --region us-east-1 --profile development update-my-user-profile --ssh-public-key file://development_key.pem
```

Actions and scenarios
update-rds-db-instance

The following code example shows how to use update-rds-db-instance.

**AWS CLI**

To update a registered Amazon RDS DB instance

The following example updates an Amazon RDS instance's master password value. Note that this command does not change the RDS instance's master password, just the password that you provide to AWS OpsWorks. If this password does not match the RDS instance's password, your application will not be able to connect to the database.

```
aws opsworks --region us-east-1 update-rds-db-instance --db-password 123456789
```

*Output:* None.

**More Information**

For more information, see Registering Amazon RDS Instances with a Stack in the *AWS OpsWorks User Guide*.

- For API details, see [UpdateRdsDbInstance](#) in *AWS CLI Command Reference*.

update-volume

The following code example shows how to use update-volume.

**AWS CLI**

To update a registered volume
The following example updates a registered Amazon Elastic Block Store (Amazon EBS) volume's mount point. The volume is identified by its volume ID, which is the GUID that AWS OpsWorks assigns to the volume when you register it with a stack, not the Amazon Elastic Compute Cloud (Amazon EC2) volume ID:

```
aws opsworks --region us-east-1 update-volume --volume-id 8430177d-52b7-4948-9c62-e195af4703df --mount-point /mnt/myvol
```

**Output:** None.

**More Information**

For more information, see Assigning Amazon EBS Volumes to an Instance in the *AWS OpsWorks User Guide*.

- For API details, see [UpdateVolume](https://docs.aws.amazon.com/cli/latest/reference/opsworks/update-volume.html) in *AWS CLI Command Reference*.

**AWS OpsWorks CM examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS OpsWorks CM.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- [Actions](#)

**Actions**

*associate-node*

The following code example shows how to use *associate-node*. 
AWS CLI

To associate nodes

The following associate-node command associates a node named i-44de882p with a Chef Automate server named automate-06, meaning that the automate-06 server manages the node, and communicates recipe commands to the node through chef-client agent software that is installed on the node by the associate-node command. Valid node names are EC2 instance IDs:

```
aws opsworks-cm associate-node --server-name "automate-06" --node-name "i-43de882p" --engine-attributes "Name=CHEF_ORGANIZATION,Value='MyOrganization' Name=CHEF_NODE_PUBLIC_KEY,Value='Public_key_contents'"
```

The output returned by the command resembles the following. Output:

```
{
   "NodeAssociationStatusToken": "AHUY8wFe4pdXtZC5DiJa55OLp5o14DH// rHRqHDWXxwVoNBxCey4V7R0NOFYmh7E/1HumOBPsemPQFE6dcGaiFk"
}
```

More Information

For more information, see Adding Nodes Automatically in AWS OpsWorks for Chef Automate in the AWS OpsWorks User Guide.

- For API details, see AssociateNode in AWS CLI Command Reference.

create-backup

The following code example shows how to use create-backup.

AWS CLI

To create backups

The following create-backup command starts a manual backup of a Chef Automate server named automate-06 in the us-east-1 region. The command adds a descriptive message to the backup in the --description parameter.

```
aws opsworks-cm create-backup \
```
--server-name 'automate-06' \
--description "state of my infrastructure at launch"

The output shows you information similar to the following about the new backup.

Output:

```
{
  "Backups": [
    {
      "BackupArn": "string",
      "BackupId": "automate-06-20160729133847520",
      "BackupType": "MANUAL",
      "CreatedAt": 2016-07-29T13:38:47.520Z,
      "Description": "state of my infrastructure at launch",
      "Engine": "Chef",
      "EngineModel": "Single",
      "EngineVersion": "12",
      "InstanceProfileArn": "arn:aws:iam::1019881987024:instance-profile/automate-06-1010V4UW2RM2",
      "InstanceType": "m4.large",
      "KeyPair": "",
      "PreferredBackupWindow": "",
      "PreferredMaintenanceWindow": "",
      "S3LogUrl": "https://s3.amazonaws.com/<bucket-name>/automate-06-20160729133847520",
      "SecurityGroupIds": [ "sg-1a24c270" ],
      "ServerName": "automate-06",
      "ServiceRoleArn": "arn:aws:iam::1019881987024:role/aws-opsworks-cm-service-role.1114810729735",
      "Status": "OK",
      "StatusDescription": "",
      "SubnetIds": [ "subnet-49436a18" ],
      "ToolsVersion": "string",
      "UserArn": "arn:aws:iam::1019881987024:user/opsworks-user"
    }
  ],
}
```

For more information, see Back Up and Restore an AWS OpsWorks for Chef Automate Server in the **AWS OpsWorks User Guide**.

- For API details, see [CreateBackup](#) in **AWS CLI Command Reference**.
create-server

The following code example shows how to use create-server.

AWS CLI

To create a server

The following create-server example creates a new Chef Automate server named automate-06 in your default region. Note that defaults are used for most other settings, such as number of backups to retain, and maintenance and backup start times. Before you run a create-server command, complete prerequisites in Getting Started with AWS OpsWorks for Chef Automate in the AWS Opsworks for Chef Automate User Guide.

```bash
aws opsworks-cm create-server \
   --engine "Chef" \
   --engine-model "Single" \
   --engine-version "12" \
   --server-name "automate-06" \
   --instance-profile-arn "arn:aws:iam::1019881987024:instance-profile/aws-opsworks-cm-ec2-role" \
   --instance-type "t2.medium" \
   --key-pair "amazon-test" \
   --service-role-arn "arn:aws:iam::044726508045:role/aws-opsworks-cm-service-role"
```

The output shows you information similar to the following about the new server:

```json
{
   "Server": {
      "BackupRetentionCount": 10,
      "CreatedAt": 2016-07-29T13:38:47.520Z,
      "DisableAutomatedBackup": FALSE,
      "Endpoint": "https://opsworks-cm.us-east-1.amazonaws.com",
      "Engine": "Chef",
      "EngineAttributes": [
         {
            "Name": "CHEF_DELIVERY_ADMIN_PASSWORD",
            "Value": "1Password1"
         }
      ],
      "EngineModel": "Single",
      "EngineVersion": "12",
```
"InstanceProfileArn": "arn:aws:iam::1019881987024:instance-profile/aws-opsworks-cm-ec2-role",
  "InstanceType": "t2.medium",
  "KeyPair": "amazon-test",
  "MaintenanceStatus": "",
  "PreferredBackupWindow": "Sun:02:00",
  "PreferredMaintenanceWindow": "00:00",
  "SecurityGroupIds": [ "sg-1a24c270" ],
  "ServerArn": "arn:aws:iam::1019881987024:instance/automate-06-1010V4UU2WRM2",
  "ServerName": "automate-06",
  "ServiceRoleArn": "arn:aws:iam::1019881987024:role/aws-opsworks-cm-service-role",
  "Status": "CREATING",
  "StatusReason": "",
  "SubnetIds": [ "subnet-49436a18" ]
}

For more information, see UpdateServer in the AWS OpsWorks for Chef Automate API Reference.

- For API details, see CreateServer in AWS CLI Command Reference.

**delete-backup**

The following code example shows how to use delete-backup.

**AWS CLI**

To delete backups

The following delete-backup command deletes a manual or automated backup of a Chef Automate server, identified by the backup ID. This command is useful when you are approaching the maximum number of backups that you can save, or you want to minimize your Amazon S3 storage costs.:

```bash
aws opsworks-cm delete-backup --backup-id "automate-06-2016-11-19T23:42:40.240Z"
```

The output shows whether the backup deletion succeeded.

**More Information**
For more information, see Back Up and Restore an AWS OpsWorks for Chef Automate Server in the *AWS OpsWorks User Guide*.

- For API details, see [DeleteBackup](#) in *AWS CLI Command Reference*.

**delete-server**

The following code example shows how to use `delete-server`.

**AWS CLI**

**To delete servers**

The following `delete-server` command deletes a Chef Automate server, identified by the server's name. After the server is deleted, it is no longer returned by `DescribeServer` requests:

```bash
aws opsworks-cm delete-server --server-name "automate-06"
```

The output shows whether the server deletion succeeded.

**More Information**

For more information, see Delete an AWS OpsWorks for Chef Automate Server in the *AWS OpsWorks User Guide*.

- For API details, see [DeleteServer](#) in *AWS CLI Command Reference*.

**describe-account-attributes**

The following code example shows how to use `describe-account-attributes`.

**AWS CLI**

**To describe account attributes**

The following `describe-account-attributes` command returns information about your account's usage of AWS OpsWorks for Chef Automate resources:

```bash
aws opsworks-cm describe-account-attributes
```
The output for each account attribute entry returned by the command resembles the following.

*Output:*

```json
{
  "Attributes": [
    {
      "Maximum": 5,
      "Name": "ServerLimit",
      "Used": 2
    }
  ]
}
```

**More Information**

For more information, see `DescribeAccountAttributes` in the *AWS OpsWorks for Chef Automate API Reference*.

- For API details, see `DescribeAccountAttributes` in *AWS CLI Command Reference*.

**describe-backups**

The following code example shows how to use `describe-backups`.

**AWS CLI**

**To describe backups**

The following `describe-backups` command returns information about all backups associated with your account in your default region.

```bash
aws opsworks-cm describe-backups
```

The output for each backup entry returned by the command resembles the following.

*Output:*

```json
{
  "Backups": [
    {
      "BackupArn": "string",
    }
  ]
}
```
For more information, see Back Up and Restore an AWS OpsWorks for Chef Automate Server in the AWS OpsWorks User Guide.

- For API details, see DescribeBackups in AWS CLI Command Reference.

**describe-events**

The following code example shows how to use describe-events.

**AWS CLI**

To describe events

The following describe-events example returns information about all events that are associated with the specified Chef Automate server.
aws opsworks-cm describe-events
   --server-name 'automate-06'

The output for each event entry returned by the command resembles the following example:

```
{
   "ServerEvents": [
       {
           "CreatedAt": "2016-07-29T13:38:47.520Z",
           "LogUrl": "https://s3.amazonaws.com/<bucket-name>/automate-06-20160729133847520",
           "Message": "Updates successfully installed.",
           "ServerName": "automate-06"
       }
   ]
}
```

For more information, see General Troubleshooting Tips in the AWS OpsWorks User Guide.

- For API details, see DescribeEvents in AWS CLI Command Reference.

describe-node-association-status

The following code example shows how to use describe-node-association-status.

AWS CLI

To describe node association status

The following describe-node-association-status command returns the status of a request to associate a node with a Chef Automate server named automate-06:

```
aws opsworks-cm describe-node-association-status --server-name "automate-06" --node-association-status-token "AflJKl+/
GoKLZJBdDQEx0O65CDi57blQe9nKM8jo5ok0pQ9xr8DqApBN9/106sLdSvlfDEKkEx+eoCHvjoWHaOs="
```

The output for each account attribute entry returned by the command resembles the following. Output:

```
{
   "NodeAssociationStatus": "IN_PROGRESS"
}````
More Information

For more information, see DescribeNodeAssociationStatus in the *AWS OpsWorks for Chef Automate API Reference*.

- For API details, see [DescribeNodeAssociationStatus](#) in *AWS CLI Command Reference*.

**describe-servers**

The following code example shows how to use `describe-servers`.

**AWS CLI**

**To describe servers**

The following `describe-servers` command returns information about all servers that are associated with your account, and in your default region:

```
aws opsworks-cm describe-servers
```

The output for each server entry returned by the command resembles the following. **Output:**

```
{
  "Servers": [
  {
    "BackupRetentionCount": 8,
    "CreatedAt": "2016-07-29T13:38:47.520Z",
    "DisableAutomatedBackup": FALSE,
    "Endpoint": "https://opsworks-cm.us-east-1.amazonaws.com",
    "Engine": "Chef",
    "EngineAttributes": [
    {
      "Name": "CHEF_DELIVERY_ADMIN_PASSWORD",
      "Value": "1Password1"
    }
    ],
    "EngineModel": "Single",
    "EngineVersion": "12",
    "InstanceProfileArn": "arn:aws:iam::1019881987024:instance-profile/automate-06-1010V4UU2WRM2",
```
"InstanceType": "m4.large",
"KeyPair": "",
"MaintenanceStatus": "SUCCESS",
"PreferredBackupWindow": "03:00",
"PreferredMaintenanceWindow": "Mon:09:00",
"SecurityGroupIds": [ "sg-1a24c270" ],
"ServerArn": "arn:aws:iam::1019881987024:instance/automate-06-1010V4UU2WRM2",
"ServerName": "automate-06",
"ServiceRoleArn": "arn:aws:iam::1019881987024:role/aws-opsworks-cm-service-role.1114810729735",
"Status": "HEALTHY",
"StatusReason": "",
"SubnetIds": [ "subnet-49436a18" ]
}
]
}

More Information

For more information, see DescribeServers in the AWS OpsWorks for Chef Automate API Guide.
- For API details, see DescribeServers in AWS CLI Command Reference.

**disassociate-node**

The following code example shows how to use disassociate-node.

**AWS CLI**

**To disassociate nodes**

The following disassociate-node command disassociates a node named i-44de882p, removing the node from management by a Chef Automate server named automate-06. Valid node names are EC2 instance IDs:

```
aws opsworks-cm disassociate-node --server-name "automate-06" --node-name "i-43de882p" --engine-attributes "Name=CHEF_ORGANIZATION,Value='MyOrganization' Name=CHEF_NODE_PUBLIC_KEY,Value='Public_key_contents'"
```

The output returned by the command resembles the following. **Output:**

```
{
```
More Information

For more information, see Delete an AWS OpsWorks for Chef Automate Server in the AWS OpsWorks User Guide.

- For API details, see DisassociateNode in AWS CLI Command Reference.

restore-server

The following code example shows how to use restore-server.

AWS CLI

To restore a server

The following restore-server command performs an in-place restoration of a Chef Automate server named automate-06 in your default region from a backup with an ID of automate-06-2016-11-22T16:13:27.998Z. Restoring a server restores connections to the nodes that the Chef Automate server was managing at the time that the specified backup was performed.

aws opsworks-cm restore-server --backup-id "automate-06-2016-11-22T16:13:27.998Z" --server-name "automate-06"

The output is the command ID only. Output:

(None)

More Information

For more information, see Restore a Failed AWS OpsWorks for Chef Automate Server in the AWS OpsWorks User Guide.

- For API details, see RestoreServer in AWS CLI Command Reference.

start-maintenance

The following code example shows how to use start-maintenance.
AWS CLI

To start maintenance

The following start-maintenance example manually starts maintenance on the specified Chef Automate or Puppet Enterprise server in your default region. This command is useful if an earlier, automated maintenance attempt failed, and the underlying cause of maintenance failure has been resolved.

```bash
aws opsworks-cm start-maintenance \
   --server-name 'automate-06'
```

Output:

```json
{
   "Server": {
      "AssociatePublicIpAddress": true,
      "BackupRetentionCount": 10,
      "ServerName": "automate-06",
      "CreatedAt": 1569229584.842,
      "CloudFormationStackArn": "arn:aws:cloudformation:us-west-2:123456789012:stack/aws-opsworks-cm-instance-automate-06-1606611794746/EXAMPLE0-31de-11eb-bdb0-0a5b0a1353b8",
      "DisableAutomatedBackup": false,
      "Endpoint": "automate-06-EXAMPLEvr8gjfk5f.us-west-2.opsworks-cm.io",
      "Engine": "ChefAutomate",
      "EngineModel": "Single",
      "EngineAttributes": [],
      "EngineVersion": "2020-07",
      "InstanceProfileArn": "arn:aws:iam::123456789012:instance-profile/aws-opsworks-cm-ec2-role",
      "InstanceType": "m5.large",
      "PreferredMaintenanceWindow": "Sun:01:00",
      "PreferredBackupWindow": "Sun:15:00",
      "SecurityGroupIds": ["sg-EXAMPLE"],
      "ServiceRoleArn": "arn:aws:iam::123456789012:role/service-role/aws-opsworks-cm-service-role",
      "Status": "UNDER_MAINTENANCE",
      "SubnetIds": ["subnet-EXAMPLE"]
   }
}
```
For more information, see System Maintenance (Puppet Enterprise servers) or System Maintenance (Chef Automate servers) in the AWS OpsWorks User Guide.

- For API details, see StartMaintenance in AWS CLI Command Reference.

**update-server**

The following code example shows how to use `update-server`.

**AWS CLI**

To update a server

The following `update-server` command updates the maintenance start time of the specified Chef Automate server in your default region. The `--preferred-maintenance-window` parameter is added to change the start day and time of server maintenance to Mondays at 9:15 a.m. UTC.:

```
aws opsworks-cm update-server 
  --server-name "automate-06" 
  --preferred-maintenance-window "Mon:09:15"
```

The output shows you information similar to the following about the updated server.

```json
{
  "Server": {
    "BackupRetentionCount": 8,
    "CreatedAt": 2016-07-29T13:38:47.520Z,
    "DisableAutomatedBackup": true,
    "Endpoint": "https://opsworks-cm.us-east-1.amazonaws.com",
    "Engine": "Chef",
    "EngineAttributes": [
      {
        "Name": "CHEF_DELIVERY_ADMIN_PASSWORD",
        "Value": "1Password1"
      }
    ]
  }
}
```
For more information, see UpdateServer in the AWS OpsWorks for Chef Automate API Reference.

- For API details, see UpdateServer in AWS CLI Command Reference.

update-server-engine-attributes

The following code example shows how to use update-server-engine-attributes.

AWS CLI

To update server engine attributes

The following update-server-engine-attributes command updates the value of the CHEF_PIVOTAL_KEY engine attribute for a Chef Automate server named automate-06. It is currently not possible to change the value of other engine attributes.

```
aws opsworks-cm update-server-engine-attributes \
   --attribute-name CHEF_PIVOTAL_KEY \n   --attribute-value "new key value"
```
The output shows you information similar to the following about the updated server.

```
{
    "Server": {
        "BackupRetentionCount": 2,
        "CreatedAt": 2016-07-29T13:38:47.520Z,
        "DisableAutomatedBackup": FALSE,
        "Endpoint": "https://opsworks-cm.us-east-1.amazonaws.com",
        "Engine": "Chef",
        "EngineAttributes": [
            {
                "Name": "CHEF_PIVOTAL_KEY",
                "Value": "new key value"
            }
        ],
        "EngineModel": "Single",
        "EngineVersion": "12",
        "InstanceProfileArn": "arn:aws:iam::1019881987024:instance-profile/automate-06-1010V4UU2WRM2",
        "InstanceType": "m4.large",
        "KeyPair": "",
        "MaintenanceStatus": "SUCCESS",
        "PreferredBackupWindow": "Mon:09:15",
        "PreferredMaintenanceWindow": "03:00",
        "SecurityGroupIds": [ "sg-1a24c270" ],
        "ServerArn": "arn:aws:iam::1019881987024:instance/automate-06-1010V4UU2WRM2",
        "ServerName": "automate-06",
        "ServiceRoleArn": "arn:aws:iam::1019881987024:role/aws-opsworks-cm-service-role.1114810729735",
        "Status": "HEALTHY",
        "StatusReason": "",
        "SubnetIds": [ "subnet-49436a18" ]
    }
}
```

For more information, see [UpdateServerEngineAttributes](#) in the *AWS OpsWorks for Chef Automate API Reference*.

- For API details, see [UpdateServerEngineAttributes](#) in *AWS CLI Command Reference*. 

---

**Actions and scenarios**

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Organizations examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Organizations.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics

• Actions

Actions

Attach a policy to a target

The following code example shows how to attach an Organizations policy to a target.

AWS CLI

To attach a policy to a root, OU, or account

Example 1

The following example shows how to attach a service control policy (SCP) to an OU:

```bash
aws organizations attach-policy
  --policy-id p-examplepolicyid111
  --target-id ou-examplerootid111-exampleouid111
```

Example 2

The following example shows how to attach a service control policy directly to an account:

```bash
aws organizations attach-policy
```
Create a policy

The following code example shows how to create an Organizations policy.

AWS CLI

Example 1: To create a policy with a text source file for the JSON policy

The following example shows you how to create an service control policy (SCP) named AllowAllS3Actions. The policy contents are taken from a file on the local computer called policy.json.

```
aws organizations create-policy --content file://policy.json --name AllowAllS3Actions, --type SERVICE_CONTROL_POLICY --description "Allows delegation of all S3 actions"
```

The output includes a policy object with details about the new policy:

```
{
    "Policy": {
        "Content": "{"Version":"2012-10-17","Statement":[{"Effect":"Allow","Action":["s3:*"],"Resource":[]}],
        "PolicySummary": {
            "Arn": "arn:aws:organizations::o-exampleorgid:policy/service_control_policy/p-examplepolicyid111",
            "Description": "Allows delegation of all S3 actions",
            "Name": "AllowAllS3Actions",
            "Type":"SERVICE_CONTROL_POLICY"
        }
    }
}
```

Example 2: To create a policy with a JSON policy as a parameter

The following example shows you how to create the same SCP, this time by embedding the policy contents as a JSON string in the parameter. The string must be escaped with backslashes.
before the double quotes to ensure that they are treated as literals in the parameter, which itself is surrounded by double quotes:

```bash
aws organizations create-policy --content "{"Version":"2012-10-17","Statement ":[{"Effect":"Allow","Action\: ["s3:*"],"Resource\: ["*" ]"]}" --name AllowAllS3Actions --type SERVICE_CONTROL_POLICY --description "Allows delegation of all S3 actions"
```

For more information about creating and using policies in your organization, see Managing Organization Policies in the *AWS Organizations User Guide*.

- For API details, see [CreatePolicy](AWS CLI Command Reference) in *AWS CLI User Guide*.

**Create an account**

The following code example shows how to create an Organizations account.

**AWS CLI**

**To create a member account that is automatically part of the organization**

The following example shows how to create a member account in an organization. The member account is configured with the name Production Account and the email address of susan@example.com. Organizations automatically creates an IAM role using the default name of OrganizationAccountAccessRole because the roleName parameter is not specified. Also, the setting that allows IAM users or roles with sufficient permissions to access account billing data is set to the default value of ALLOW because the IamUserAccessToBilling parameter is not specified. Organizations automatically sends Susan a "Welcome to AWS" email:

```bash
aws organizations create-account --email susan@example.com --account-name "Production Account"
```

The output includes a request object that shows that the status is now IN_PROGRESS:

```json
{
   "CreateAccountStatus": {
      "State": "IN_PROGRESS",
      "Id": "car-examplecreateaccountrequestid111"
   }
}
```
You can later query the current status of the request by providing the Id response value to the describe-create-account-status command as the value for the create-account-request-id parameter.

For more information, see Creating an AWS Account in Your Organization in the AWS Organizations Users Guide.

- For API details, see CreateAccount in AWS CLI Command Reference.

Create an organization

The following code example shows how to create an Organizations organization.

AWS CLI

Example 1: To create a new organization

Bill wants to create an organization using credentials from account 111111111111. The following example shows that the account becomes the master account in the new organization. Because he does not specify a features set, the new organization defaults to all features enabled and service control policies are enabled on the root.

```
aws organizations create-organization
```

The output includes an organization object with details about the new organization:

```json
{
    "Organization": {
        "AvailablePolicyTypes": [
            {
                "Status": "ENABLED",
                "Type": "SERVICE_CONTROL_POLICY"
            }
        ],
        "MasterAccountId": "111111111111",
        "MasterAccountArn": "arn:aws:organizations::111111111111:account/o-exampleorgid/111111111111",
        "MasterAccountEmail": "bill@example.com",
        "FeatureSet": "ALL",
        "Id": "o-exampleorgid",
        "Arn": "arn:aws:organizations::111111111111:organization/o-exampleorgid"
    }
}
```
Example 2: To create a new organization with only consolidated billing features enabled

The following example creates an organization that supports only the consolidated billing features:

```bash
aws organizations create-organization --feature-set CONSOLIDATED_BILLING
```

The output includes an organization object with details about the new organization:

```
{
  "Organization": {
    "Arn": "arn:aws:organizations::111111111111:organization/o-exampleorgid",
    "AvailablePolicyTypes": [],
    "Id": "o-exampleorgid",
    "MasterAccountArn": "arn:aws:organizations::111111111111:account/o-exampleorgid/111111111111",
    "MasterAccountEmail": "bill@example.com",
    "MasterAccountId": "111111111111",
    "FeatureSet": "CONSOLIDATED_BILLING"
  }
}
```

For more information, see Creating an Organization in the AWS Organizations Users Guide.

- For API details, see CreateOrganization in AWS CLI Command Reference.

Create an organizational unit

The following code example shows how to create an Organizations organizational unit.

**AWS CLI**

**To create an OU in a root or parent OU**

The following example shows how to create an OU that is named AccountingOU:

```bash
aws organizations create-organizational-unit --parent-id r-examplerootid111 --name AccountingOU
```
The output includes an organizationalUnit object with details about the new OU:

```json
{
    "OrganizationalUnit": {
        "Id": "ou-examplerootid111-exampleouid111",
        "Arn": "arn:aws:organizations::111111111111:ou/o-exampleorgid/ou-examplerootid111-exampleouid111",
        "Name": "AccountingOU"
    }
}
```

- For API details, see `CreateOrganizationalUnit` in *AWS CLI Command Reference*.

### Delete a policy

The following code example shows how to delete an Organizations policy.

**AWS CLI**

**To delete a policy**

The following example shows how to delete a policy from an organization. The example assumes that you previously detached the policy from all entities:

```bash
aws organizations delete-policy --policy-id p-examplepolicyid111
```

- For API details, see `DeletePolicy` in *AWS CLI Command Reference*.

### Delete an organization

The following code example shows how to delete an Organizations organization.

**AWS CLI**

**To delete an organization**

The following example shows how to delete an organization. To perform this operation, you must be an admin of the master account in the organization. The example assumes that you previously removed all the member accounts, OUs, and policies from the organization:

```bash
aws organizations delete-organization
```
Delete an organizational unit

The following code example shows how to delete an Organizations organizational unit.

AWS CLI

To delete an OU

The following example shows how to delete an OU. The example assumes that you previously removed all accounts and other OUs from the OU:

```bash
aws organizations delete-organizational-unit --organizational-unit-id ou-examplerootid111-exampleouid111
```

For API details, see `DeleteOrganizationalUnit` in `AWS CLI Command Reference`.

Describe a policy

The following code example shows how to describe an Organizations policy.

AWS CLI

To get information about a policy

The following example shows how to request information about a policy:

```bash
aws organizations describe-policy --policy-id p-examplepolicyid111
```

The output includes a policy object that contains details about the policy:

```json
{
    "Policy": {
        "Content": "{\n        "Version": "2012-10-17",\n        "Statement": [{\n            "Effect": "Allow",\n            "Action": "*",\n            "Resource": "*"}
        ]
    },
    "PolicySummary": {
        "Arn": "arn:aws:organizations::111111111111:policy/o-exampleorgid/service_control_policy/p-examplepolicyid111",
        "Type": "SERVICE_CONTROL_POLICY"
    }
}
```
For API details, see DescribePolicy in AWS CLI Command Reference.

### Detach a policy from a target

The following code example shows how to detach an Organizations policy from a target.

**AWS CLI**

**To detach a policy from a root, OU, or account**

The following example shows how to detach a policy from an OU:

```bash
aws organizations detach-policy --target-id ou-examplerootid111-exampleouid111 --policy-id p-examplepolicyid111
```

For API details, see DetachPolicy in AWS CLI Command Reference.

### List accounts

The following code example shows how to list accounts for an Organizations organization.

**AWS CLI**

**To retrieve a list of all of the accounts in an organization**

The following example shows you how to request a list of the accounts in an organization:

```bash
aws organizations list-accounts
```

The output includes a list of account summary objects.

```json
{
    "Accounts": [ ...
```
```
{
   "Arn": "arn:aws:organizations::1111111111:account/o-
   exampleorgid/1111111111",
   "JoinedMethod": "INVITED",
   "JoinedTimestamp": 1481830215.45,
   "Id": "1111111111",
   "Name": "Master Account",
   "Email": "bill@example.com",
   "Status": "ACTIVE"
},
{
   "Arn": "arn:aws:organizations::1111111111:account/o-
   exampleorgid/2222222222",
   "JoinedMethod": "INVITED",
   "JoinedTimestamp": 1481835741.044,
   "Id": "2222222222",
   "Name": "Production Account",
   "Email": "alice@example.com",
   "Status": "ACTIVE"
},
{
   "Arn": "arn:aws:organizations::1111111111:account/o-
   exampleorgid/3333333333",
   "JoinedMethod": "INVITED",
   "JoinedTimestamp": 1481835795.536,
   "Id": "3333333333",
   "Name": "Development Account",
   "Email": "juan@example.com",
   "Status": "ACTIVE"
},
{
   "Arn": "arn:aws:organizations::1111111111:account/o-
   exampleorgid/4444444444",
   "JoinedMethod": "INVITED",
   "JoinedTimestamp": 1481835812.143,
   "Id": "4444444444",
   "Name": "Test Account",
   "Email": "anika@example.com",
   "Status": "ACTIVE"
}
}
```

- For API details, see [ListAccounts](#) in *AWS CLI Command Reference*.
List policies

The following code example shows how to list Organizations policies.

AWS CLI

To retrieve a list of all policies in an organization of a certain type

The following example shows you how to get a list of SCPs, as specified by the filter parameter:

```sh
gs organizations list-policies --filter SERVICE_CONTROL_POLICY
```

The output includes a list of policies with summary information:

```json
{
    "Policies": [
        {
            "Type": "SERVICE_CONTROL_POLICY",
            "Name": "AllowAllS3Actions",
            "AwsManaged": false,
            "Id": "p-examplepolicyid111",
            "Arn": "arn:aws:organizations::111111111111:policy/service_control_policy/p-examplepolicyid111",
            "Description": "Enables account admins to delegate permissions for any S3 actions to users and roles in their accounts."
        },
        {
            "Type": "SERVICE_CONTROL_POLICY",
            "Name": "AllowAllEC2Actions",
            "AwsManaged": false,
            "Id": "p-examplepolicyid222",
            "Arn": "arn:aws:organizations::111111111111:policy/service_control_policy/p-examplepolicyid222",
            "Description": "Enables account admins to delegate permissions for any EC2 actions to users and roles in their accounts."
        },
        {
            "AwsManaged": true,
            "Description": "Allows access to every operation",
            "Type": "SERVICE_CONTROL_POLICY",
            "Id": "p-FullAWSAccess",
            "Arn": "arn:aws:organizations::aws:policy/service_control_policy/p-FullAWSAccess",
```

Actions and scenarios
accept-handshake

The following code example shows how to use `accept-handshake`.

AWS CLI

**To accept a handshake from another account**

Bill, the owner of an organization, has previously invited Juan's account to join his organization. The following example shows Juan's account accepting the handshake and thus agreeing to the invitation.

```bash
aws organizations accept-handshake --handshake-id h-examplehandshakeid111
```

The output shows the following:

```json
{
    "Handshake": {
        "Action": "INVITE",
        "Arn": "arn:aws:organizations::111111111111:handshake/o-exampleorgid/invite/h-examplehandshakeid111",
        "RequestedTimestamp": 1481656459.257,
        "ExpirationTimestamp": 1482952459.257,
        "Id": "h-examplehandshakeid111",
        "Parties": [
            {
                "Id": "o-exampleorgid",
                "Type": "ORGANIZATION"
            },
            {
                "Id": "juan@example.com",
                "Type": "EMAIL"
            }
        ],
        "Resources": [
```
For API details, see [AcceptHandshake](https://docs.aws.amazon.com/cli/latest/reference/organizations/accept-handshake.html) in *AWS CLI Command Reference*.

### cancel-handshake

The following code example shows how to use `cancel-handshake`.

**AWS CLI**

**To cancel a handshake sent from another account**

Bill previously sent an invitation to Susan's account to join his organization. He changes his mind and decides to cancel the invitation before Susan accepts it. The following example shows Bill's cancellation:

```bash
aws organizations cancel-handshake --handshake-id h-examplehandshakeid111
```
The output includes a handshake object that shows that the state is now CANCELED:

```json
{
   "Handshake": {
      "Id": "h-examplehandshakeid111",
      "State": "CANCELED",
      "Action": "INVITE",
      "Arn": "arn:aws:organizations::111111111111:handshake/o-exampleorgid/invite/h-examplehandshakeid111",
      "Parties": [
         {
            "Id": "o-exampleorgid",
            "Type": "ORGANIZATION"
         },
         {
            "Id": "susan@example.com",
            "Type": "EMAIL"
         }
      ],
      "Resources": [
         {
            "Type": "ORGANIZATION",
            "Value": "o-exampleorgid",
            "Resources": [
               {
                  "Type": "MASTER_EMAIL",
                  "Value": "bill@example.com"
               },
               {
                  "Type": "MASTER_NAME",
                  "Value": "Master Account"
               },
               {
                  "Type": "ORGANIZATION_FEATURE_SET",
                  "Value": "CONSOLIDATED_BILLING"
               }
            ]
         },
         {
            "Type": "EMAIL",
            "Value": "anika@example.com"
         },
         {
            "Type": "NOTES",
            "Value": "Anika Smith"
         }
      ],
      "Actions": [
         {
            "Id": "a-exampleactionid111",
            "State": "COMPLETED",
            "Arn": "arn:aws:organizations::111111111111:action/o-exampleorgid/action/a-exampleactionid111",
            "Parties": [
               {
                  "Id": "o-exampleorgid",
                  "Type": "ORGANIZATION"
               },
               {
                  "Id": "anika@example.com",
                  "Type": "EMAIL"
               }
            ],
            "Resources": [
               {
                  "Type": "ORGANIZATION",
                  "Value": "o-exampleorgid",
                  "Resources": [
                     {
                        "Type": "MASTER_EMAIL",
                        "Value": "bill@example.com"
                     },
                     {
                        "Type": "MASTER_NAME",
                        "Value": "Master Account"
                     }
                  ]
               },
               {
                  "Type": "EMAIL",
                  "Value": "anika@example.com"
               },
               {
                  "Type": "NOTES",
                  "Value": "Anika Smith"
               }
            ]
         }
      ],
      "CreatedAt": "2023-04-14T12:00:00Z",
      "UpdatedAt": "2023-04-14T12:00:00Z",
      "SequenceNumber": 1
   }
}
```
"Value": "This is a request for Susan's account to join Bob's organization."
  }
],
"RequestedTimestamp": 1.47008383521E9,
"ExpirationTimestamp": 1.47137983521E9
}
}

bullet For API details, see CancelHandshake in AWS CLI Command Reference.

decline-handshake

The following code example shows how to use decline-handshake.

AWS CLI

To decline a handshake sent from another account

The following example shows that Susan, an admin who is the owner of account 222222222222, declines an invitation to join Bill's organization. The DeclineHandshake operation returns a handshake object, showing that the state is now DECLINED:

aws organizations decline-handshake --handshake-id h-examplehandshakeid111

The output includes a handshake object that shows the new state of DECLINED:

```json
{
  "Handshake": {
    "Id": "h-examplehandshakeid111",
    "State": "DECLINED",
    "Resources": [
      {
        "Type": "ORGANIZATION",
        "Value": "o-exampleorgid",
        "Resources": [
          {
            "Type": "MASTER_EMAIL",
            "Value": "bill@example.com"
          },
          {
            "Type": "MASTER_NAME",
```
For API details, see DeclineHandshake in AWS CLI Command Reference.

describe-account

The following code example shows how to use describe-account.

AWS CLI

To get the details about an account

The following example shows you how to request details about an account:
aws organizations describe-account --account-id 555555555555

The output shows an account object with the details about the account:

```
{
    "Account": {
        "Id": "555555555555",
        "Arn": "arn:aws:organizations::111111111111:account/o-exampleorgid/555555555555",
        "Name": "Beta account",
        "Email": "anika@example.com",
        "JoinedMethod": "INVITED",
        "JoinedTimeStamp": 1481756563.134,
        "Status": "ACTIVE"
    }
}
```

- For API details, see [DescribeAccount](https://docs.aws.amazon.com/cli/latest/reference/organizations/describe-account.html) in *AWS CLI Command Reference*.

**describe-create-account-status**

The following code example shows how to use `describe-create-account-status`.

**AWS CLI**

**To get the latest status about a request to create an account**

The following example shows how to request the latest status for a previous request to create an account in an organization. The specified `--request-id` comes from the response of the original call to `create-account`. The account creation request shows by the status field that Organizations successfully completed the creation of the account.

Command:

```
aws organizations describe-create-account-status --create-account-request-id car-examplecreateaccountrequestid111
```

Output:

```
{
```

**Actions and scenarios**
For API details, see DescribeCreateAccountStatus in AWS CLI Command Reference.

describe-handshake

The following code example shows how to use describe-handshake.

AWS CLI

To get information about a handshake

The following example shows you how to request details about a handshake. The handshake ID comes either from the original call to InviteAccountToOrganization, or from a call to ListHandshakesForAccount or ListHandshakesForOrganization:

```bash/aws organizations describe-handshake --handshake-id h-examplehandshakeid111
```

The output includes a handshake object that has all the details about the requested handshake:

```json
{
    "Handshake": {
        "Id": "h-examplehandshakeid111",
        "State": "OPEN",
        "Resources": [
            {
                "Type": "ORGANIZATION",
                "Value": "o-exampleorgid",
                "Resources": [
                    {
                        "Type": "MASTER_EMAIL",
                        "Value": "bill@example.com"
                    }
                ]
            }
        ]
    }
}
```
For API details, see `DescribeHandshake` in *AWS CLI Command Reference*.

describe-organization

The following code example shows how to use `describe-organization`.

AWS CLI

To get information about the current organization

The following example shows you how to request details about an organization:

```bash
aws organizations describe-organization
```
The output includes an organization object that has the details about the organization:

```json
{
    "Organization": {
        "MasterAccountArn": "arn:aws:organizations::111111111111:account/o-exampleorgid/111111111111",
        "MasterAccountEmail": "bill@example.com",
        "MasterAccountId": "111111111111",
        "Id": "o-exampleorgid",
        "FeatureSet": "ALL",
        "Arn": "arn:aws:organizations::111111111111:organization/o-exampleorgid",
        "AvailablePolicyTypes": [
            {
                "Status": "ENABLED",
                "Type": "SERVICE_CONTROL_POLICY"
            }
        ]
    }
}
```

- For API details, see [DescribeOrganization](#) in AWS CLI Command Reference.

`describe-organizational-unit`

The following code example shows how to use `describe-organizational-unit`.

**AWS CLI**

**To get information about an OU**

The following `describe-organizational-unit` example requests details about an OU.

```bash
aws organizations describe-organizational-unit \ 
    --organizational-unit-id ou-examplerootid111-exampleoid111
```

**Output:**

```json
{
    "OrganizationalUnit": {
        "Name": "Accounting Group",
```
"Arn": "arn:aws:organizations::123456789012:ou/o-exampleorgid/ou-examplerootid111-exampleouid111",
  "Id": "ou-examplerootid111-exampleouid111"
}]
}

• For API details, see DescribeOrganizationalUnit in AWS CLI Command Reference.

disable-policy-type

The following code example shows how to use disable-policy-type.

AWS CLI

To disable a policy type in a root

The following example shows how to disable the service control policy (SCP) policy type in a root:

aws organizations disable-policy-type --root-id r-examplerootid111 --policy-type SERVICE_CONTROL_POLICY

The output shows that the PolicyTypes response element no longer includes SERVICE_CONTROL_POLICY:

{
   "Root": {
      "PolicyTypes": [],
      "Name": "Root",
      "Id": "r-examplerootid111",
      "Arn": "arn:aws:organizations::11111111111:root/o-exampleorgid/r-examplerootid111"
   }
}

• For API details, see DisablePolicyType in AWS CLI Command Reference.

enable-all-features

The following code example shows how to use enable-all-features.
To enable all features in an organization

This example shows the administrator asking all the invited accounts in the organization to approve enabled all features in the organization. AWS Organizations sends an email to the address that is registered with every invited member account asking the owner to approve the change to all features by accepting the handshake that is sent. After all invited member accounts accept the handshake, the organization administrator can finalize the change to all features, and those with appropriate permissions can create policies and apply them to roots, OUs, and accounts:

```bash
aws organizations enable-all-features
```

The output is a handshake object that is sent to all invited member accounts for approval:

```json
{
   "Handshake": {
      "Action": "ENABLE_ALL_FEATURES",
      "Arn": "arn:aws:organizations::111111111111:handshake/o-exampleorgid/enable_all_features/h-examplehandshakeid111",
      "ExpirationTimestamp": 1.483127868609E9,
      "Id": "h-examplehandshakeid111",
      "Parties": [
         {
            "id": "o-exampleorgid",
            "type": "ORGANIZATION"
         }
      ],
      "requestedTimestamp": 1.481831868609E9,
      "resources": [
         {
            "type": "ORGANIZATION",
            "value": "o-exampleorgid"
         }
      ],
      "state": "REQUESTED"
   }
}
```

- For API details, see [EnableAllFeatures](https://docs.aws.amazon.com/cli/latest/reference/organizations/enable-all-features.html) in AWS CLI Command Reference.
enable-policy-type

The following code example shows how to use enable-policy-type.

**AWS CLI**

To enable the use of a policy type in a root

The following example shows how to enable the service control policy (SCP) policy type in a root:

```bash
aws organizations enable-policy-type --root-id r-examplerooid111 --policy-type SERVICE_CONTROL_POLICY
```

The output shows a root object with a policyTypes response element showing that SCPs are now enabled:

```json
{
   "Root": {
      "PolicyTypes": [
         {
            "Status": "ENABLED",
            "Type": "SERVICE_CONTROL_POLICY"
         }
      ],
      "Id": "r-examplerooid111",
      "Name": "Root",
      "Arn": "arn:aws:organizations::1111111111:root/o-exampleorgid/r-examplerooid111"
   }
}
```

- For API details, see [EnablePolicyType](#) in *AWS CLI Command Reference*.

invite-account-to-organization

The following code example shows how to use invite-account-to-organization.

**AWS CLI**

To invite an account to join an organization
The following example shows the master account owned by bill@example.com inviting the account owned by juan@example.com to join an organization:

```
aws organizations invite-account-to-organization --target '{"Type": "EMAIL", "Id": "juan@example.com"}' --notes "This is a request for Juan's account to join Bill's organization."
```

The output includes a handshake structure that shows what is sent to the invited account:

```
{
    "Handshake": {
        "Action": "INVITE",
        "Arn": "arn:aws:organizations::111111111111:handshake/o-exampleorgid/invite/h-examplehandshakeid111",
        "ExpirationTimestamp": 1482952459.257,
        "Id": "h-examplehandshakeid111",
        "Parties": [
            {
                "Id": "o-exampleorgid",
                "Type": "ORGANIZATION"
            },
            {
                "Id": "juan@example.com",
                "Type": "EMAIL"
            }
        ],
        "RequestedTimestamp": 1481656459.257,
        "Resources": [
            {
                "Resources": [
                    {
                        "Type": "MASTER_EMAIL",
                        "Value": "bill@amazon.com"
                    },
                    {
                        "Type": "MASTER_NAME",
                        "Value": "Org Master Account"
                    },
                    {
                        "Type": "ORGANIZATION_FEATURE_SET",
                        "Value": "FULL"
                    }
                ]
            }
        ]
    }
}
```
For API details, see `InviteAccountToOrganization` in *AWS CLI Command Reference*.

**leave-organization**

The following code example shows how to use leave-organization.

**AWS CLI**

To leave an organization as a member account

The following example shows the administrator of a member account requesting to leave the organization it is currently a member of:

```bash
aws organizations leave-organization
```

For API details, see `LeaveOrganization` in *AWS CLI Command Reference*.

**list-accounts-for-parent**

The following code example shows how to use list-accounts-for-parent.

**AWS CLI**

To retrieve a list of all of the accounts in a specified parent root or OU

The following example shows how to request a list of the accounts in an OU:

```bash
aws organizations list-accounts-for-parent --parent-id ou-examplerootid111-exempleouid111
```
The output includes a list of account summary objects.

```json
{
    "Accounts": [
        {
            "Arn": "arn:aws:organizations::111111111111:account/o-exampleorgid/333333333333",
            "JoinedMethod": "INVITED",
            "JoinedTimestamp": 1481835795.536,
            "Id": "333333333333",
            "Name": "Development Account",
            "Email": "juan@example.com",
            "Status": "ACTIVE"
        },
        {
            "Arn": "arn:aws:organizations::111111111111:account/o-exampleorgid/444444444444",
            "JoinedMethod": "INVITED",
            "JoinedTimestamp": 1481835812.143,
            "Id": "444444444444",
            "Name": "Test Account",
            "Email": "anika@example.com",
            "Status": "ACTIVE"
        }
    ]
}
```

- For API details, see [ListAccountsForParent](#) in [AWS CLI Command Reference](#).

**list-children**

The following code example shows how to use `list-children`.

**AWS CLI**

**To retrieve the child accounts and OUs of a parent OU or root**

The following example you how to list the root or OU that contains that account `444444444444`:

```
aws organizations list-children --child-type ORGANIZATIONAL_UNIT --parent-id ou-examplerooid111-exampleouid111
```
The output shows the two child OUs that are contained by the parent:

```
{
    "Children": [
        {
            "Id": "ou-examplerootid111-exampleouid111",
            "Type": "ORGANIZATIONAL_UNIT"
        },
        {
            "Id": "ou-examplerootid111-exampleouid222",
            "Type": "ORGANIZATIONAL_UNIT"
        }
    ]
}
```

- For API details, see [ListChildren](https://docs.aws.amazon.com/cli/latest/reference/listchildren/) in *AWS CLI Command Reference*.

### list-create-account-status

The following code example shows how to use `list-create-account-status`.

**AWS CLI**

**Example 1: To retrieve a list of the account creation requests made in the current organization**

The following example shows how to request a list of account creation requests for an organization that have completed successfully:

```
aws organizations list-create-account-status --states SUCCEEDED
```

The output includes an array of objects with information about each request.

```
{
    "CreateAccountStatuses": [
        {
            "AccountId": "444444444444",
            "AccountName": "Developer Test Account",
            "CompletedTimeStamp": 1481835812.143,
            "Id": "car-examplecreateaccountrequestid111",
            "RequestedTimeStamp": 1481829432.531,
```
Example 2: To retrieve a list of the in progress account creation requests made in the current organization

The following example gets a list of in-progress account creation requests for an organization:

```
aws organizations list-create-account-status --states IN_PROGRESS
```

The output includes an array of objects with information about each request.

```
{
   "CreateAccountStatuses": [
   {
      "State": "IN_PROGRESS",
      "Id": "car-examplecreateaccountrequestid111",
      "RequestedTimeStamp": 1481829432.531,
      "AccountName": "Production Account"
   }
   ]
}
```

- For API details, see [ListCreateAccountStatus](#) in *AWS CLI Command Reference*.

list-handshakes-for-account

The following code example shows how to use `list-handshakes-for-account`.

**AWS CLI**

**To retrieve a list of the handshakes sent to an account**

The following example shows how to get a list of all handshakes that are associated with the account of the credentials that were used to call the operation:

```
aws organizations list-handshakes-for-account
```
The output includes a list of handshake structures with information about each handshake including its current state:

```json
{
    "Handshake": {
        "Action": "INVITE",
        "Arn": "arn:aws:organizations::111111111111:handshake/o-exampleorgid/invite/h-examplehandshakeid111",
        "ExpirationTimestamp": 1482952459.257,
        "Id": "h-examplehandshakeid111",
        "Parties": [
            {
                "Id": "o-exampleorgid",
                "Type": "ORGANIZATION"
            },
            {
                "Id": "juan@example.com",
                "Type": "EMAIL"
            }
        ],
        "RequestedTimestamp": 1481656459.257,
        "Resources": [
            {
                "Resources": [
                    {
                        "Type": "MASTER_EMAIL",
                        "Value": "bill@amazon.com"
                    },
                    {
                        "Type": "MASTER_NAME",
                        "Value": "Org Master Account"
                    },
                    {
                        "Type": "ORGANIZATION_FEATURE_SET",
                        "Value": "FULL"
                    }
                ],
                "Type": "ORGANIZATION",
                "Value": "o-exampleorgid"
            },
            {
                "Type": "EMAIL",
                "Value": "juan@example.com"
            }
        ]
    }
}
```
For API details, see ListHandshakesForAccount in AWS CLI Command Reference.

**list-handshakes-for-organization**

The following code example shows how to use list-handshakes-for-organization.

**AWS CLI**

**To retrieve a list of the handshakes associated with an organization**

The following example shows how to get a list of handshakes that are associated with the current organization:

```bash
aws organizations list-handshakes-for-organization
```

The output shows two handshakes. The first one is an invitation to Juan's account and shows a state of OPEN. The second is an invitation to Anika's account and shows a state of ACCEPTED:

```json
{
   "Handshakes": [
      {
         "Action": "INVITE",
         "Arn": "arn:aws:organizations::111111111111:handshake/o-exampleorgid/invite/h-examplehandshakeid111",
         "ExpirationTimestamp": 1482952459.257,
         "Id": "h-examplehandshakeid111",
         "Parties": [
            {
               "Id": "o-exampleorgid",
               "Type": "ORGANIZATION"
            },
            {
               "Id": "juan@example.com",
               "Type": "EMAIL"
            }
         ]
      }
   ],
   "State": "OPEN"
}
```
"RequestedTimestamp": 1481656459.257,
"Resources": [
    {
        "Resources": [
            {
                "Type": "MASTER_EMAIL",
                "Value": "bill@amazon.com"
            },
            {
                "Type": "MASTER_NAME",
                "Value": "Org Master Account"
            },
            {
                "Type": "ORGANIZATION_FEATURE_SET",
                "Value": "FULL"
            }
        ],
        "Type": "ORGANIZATION",
        "Value": "o-exampleorgid"
    },
    {
        "Type": "EMAIL",
        "Value": "juan@example.com"
    },
    {
        "Type": "NOTES",
        "Value": "This is an invitation to Juan's account to join Bill's organization."
    }
],
"State": "OPEN"
],
"Action": "INVITE",
"State": "ACCEPTED",
"Arn": "arn:aws:organizations::1111111111:handshake/o-exampleorgid/invite/h-examplehandshakeid111",
"ExpirationTimestamp": 1.471797437427E9,
"Id": "h-examplehandshakeid222",
"Parties": [
    {
        "Id": "o-exampleorgid",
        "OrchestratedTransfers": [
            {
                "Id": "o-exampleorgid",
                "Action": "INVITE",
                "State": "ACCEPTED",
                "Arn": "arn:aws:organizations::1111111111:handshake/o-exampleorgid/invite/h-examplehandshakeid111",
                "ExpirationTimestamp": 1.471797437427E9,
                "Id": "h-examplehandshakeid222",
                "Parties": [
                    {
                        "Id": "o-exampleorgid",
                    }
                ]
            }
        ]
    }
]
"Type": "ORGANIZATION"
},
{
   "Id": "anika@example.com",
   "Type": "EMAIL"
}
],
"RequestedTimestamp": 1.469205437427E9,
"Resources": [
{
   "Resources": [
   {
      "Type": "MASTER_EMAIL",
      "Value": "bill@example.com"
   },
   {
      "Type": "MASTER_NAME",
      "Value": "Master Account"
   }
   ],
   "Type": "ORGANIZATION",
   "Value": "o-exampleorgid"
},
{
   "Type": "EMAIL",
   "Value": "anika@example.com"
},
{
   "Type": "NOTES",
   "Value": "This is an invitation to Anika's account to join Bill's organization."
}
]
}

• For API details, see ListHandshakesForOrganization in AWS CLI Command Reference.

list-organizational-units-for-parent

The following code example shows how to use list-organizational-units-for-parent.
AWS CLI

To retrieve a list of the OUs in a parent OU or root

The following example shows you how to get a list of OUs in a specified root:

```bash
aws organizations list-organizational-units-for-parent --parent-id r-examplerootid111
```

The output shows that the specified root contains two OUs and shows details of each:

```json
{
    "OrganizationalUnits": [
        {
            "Name": "AccountingDepartment",
            "Arn": "arn:aws:organizations::o-exampleorgid:ou/r-examplerootid111/ou-examplerootid111-exampleouid111"
        },
        {
            "Name": "ProductionDepartment",
            "Arn": "arn:aws:organizations::o-exampleorgid:ou/r-examplerootid111/ou-examplerootid111-exampleouid222"
        }
    ]
}
```

For API details, see `ListOrganizationalUnitsForParent` in AWS CLI Command Reference.

list-parents

The following code example shows how to use list-parents.

AWS CLI

To list the parent OUs or roots for an account or child OU

The following example you how to list the root or parent OU that contains that account 444444444444:

```bash
aws organizations list-parents --child-id 444444444444
```

The output shows that the specified account is in the OU with specified ID:
• For API details, see ListParents in AWS CLI Command Reference.

list-policies-for-target

The following code example shows how to use list-policies-for-target.

AWS CLI

To retrieve a list of the SCPs attached directly to an account

The following example shows how to get a list of all service control policies (SCPs), as specified by the Filter parameter, that are directly attached to an account:

```bash
aws organizations list-policies-for-target --filter SERVICE_CONTROL_POLICY --target-id 444444444444
```

The output includes a list of policy structures with summary information about the policies. The list does not include policies that apply to the account because of inheritance from its location in an OU hierarchy:

```json
{
    "Policies": [
        {
            "Type": "SERVICE_CONTROL_POLICY",
            "Name": "AllowAllEC2Actions",
            "AwsManaged": false,
            "Id": "p-examplepolicyid222",
            "Arn": "arn:aws:organizations:o-exampleorgid:policy/service_control_policy/p-examplepolicyid222",
            "Description": "Enables account admins to delegate permissions for any EC2 actions to users and roles in their accounts."
        }
    ]
}
```
list-roots

The following code example shows how to use list-roots.

AWS CLI

To retrieve a list of the roots in an organization

This example shows you how to get the list of roots for an organization:

```
aws organizations list-roots
```

The output includes a list of root structures with summary information:

```
{
   "Roots": [
      {
         "Name": "Root",
         "Arn": "arn:aws:organizations::111111111111:root/o-exampleorgid/r-exampleid111",
         "Id": "r-exampleid111",
         "PolicyTypes": [
            {
               "Status": "ENABLED",
               "Type": "SERVICE_CONTROL_POLICY"
            }
         ]
      }
   ]
}
```

- For API details, see ListRoots in AWS CLI Command Reference.

list-targets-for-policy

The following code example shows how to use list-targets-for-policy.

- For API details, see ListPoliciesForTarget in AWS CLI Command Reference.
AWS CLI

To retrieve a list of the roots, OUs, and accounts that a policy is attached to

The following example shows how to get a list of the roots, OUs, and accounts that the specified policy is attached to:

```bash
aws organizations list-targets-for-policy --policy-id p-FullAWSAccess
```

The output includes a list of attachment objects with summary information about the roots, OUs, and accounts the policy is attached to:

```json
{
   "Targets": [
      {
         "Arn": "arn:aws:organizations::111111111111:root/o-exampleorgid/r-exampleonid111",
         "Name": "Root",
         "TargetId": "r-exampleonid111",
         "Type": "ROOT"
      },
      {
         "Arn": "arn:aws:organizations::111111111111:account/o-exampleorgid/333333333333;",
         "Name": "Developer Test Account",
         "TargetId": "333333333333",
         "Type": "ACCOUNT"
      },
      {
         "Arn": "arn:aws:organizations::111111111111:ou/o-exampleorgid/ou-exampleonid111-exampleouid111",
         "Name": "Accounting",
         "TargetId": "ou-exampleonid111-exampleouid111",
         "Type": "ORGANIZATIONAL_UNIT"
      }
   ]
}
```

- For API details, see [ListTargetsForPolicy](https://docs.aws.amazon.com/cli/latest/reference/orgs/list-targets-for-policy.html) in *AWS CLI Command Reference*.
move-account

The following code example shows how to use move-account.

**AWS CLI**

**To move an account between roots or OUs**

The following example shows you how to move the master account in the organization from the root to an OU:

```bash
aws organizations move-account --account-id 333333333333 --source-parent-id r-examplerootid111 --destination-parent-id ou-examplerootid111-exampleouid111
```

- For API details, see [MoveAccount](#) in *AWS CLI Command Reference*.

remove-account-from-organization

The following code example shows how to use remove-account-from-organization.

**AWS CLI**

**To remove an account from an organization as the master account**

The following example shows you how to remove an account from an organization:

```bash
aws organizations remove-account-from-organization --account-id 333333333333
```

- For API details, see [RemoveAccountFromOrganization](#) in *AWS CLI Command Reference*.

update-organizational-unit

The following code example shows how to use update-organizational-unit.

**AWS CLI**

**To rename an OU**

This example shows you how to rename an OU: In this example, the OU is renamed "AccountingOU":

```bash
```
aws organizations update-organizational-unit --organizational-unit-id ou-examplerootid111-exampleouid111 --name AccountingOU

The output shows the new name:

```json
{
   "OrganizationalUnit": {
      "Id": "ou-examplerootid111-exampleouid111",
      "Name": "AccountingOU",
      "Arn": "arn:aws:organizations::111111111111:ou/o-exampleorgid/ou-examplerootid111-exampleouid111"
   }
}
```

- For API details, see UpdateOrganizationalUnit in AWS CLI Command Reference.

update-policy

The following code example shows how to use update-policy.

AWS CLI

**Example 1: To rename a policy**

The following update-policy example renames a policy and gives it a new description.

```bash
aws organizations update-policy \
   --policy-id p-examplepolicyid111 \
   --name Renamed-Policy \
   --description "This description replaces the original."
```

The output shows the new name and description.

```json
{
   "Policy": {
      "Content": "{"Version":"2012-10-17","Statement":{"Effect":"Allow","Action":"ec2:*","Resource":"*"}},
   "PolicySummary": {
      "Id": "p-examplepolicyid111",
```
Example 2: To replace a policy's JSON text content

The following example shows you how to replace the JSON text of the SCP in the previous example with a new JSON policy text string that allows S3 instead of EC2:

```bash
aws organizations update-policy \
    --policy-id p-examplepolicyid111 \
    --content "{"Version":"2012-10-17","Statement":{"Effect":"Allow","Action":"s3:*","Resource":"*"}}"
```

The output shows the new content:

```
{
    "Policy": {
        "Content": "{"Version": "2012-10-17", "Statement": { "Effect": "Allow", "Action": "s3:*", "Resource": "*" }}",
        "PolicySummary": {
            "Arn": "arn:aws:organizations::111111111111:policy/o-exampleorgid/service_control_policy/p-examplepolicyid111",
            "AwsManaged": false,
            "Description": "This description replaces the original.",
            "Id": "p-examplepolicyid111",
            "Name": "Renamed-Policy",
            "Type": "SERVICE_CONTROL_POLICY"
        }
    }
}
```

- For API details, see [UpdatePolicy](#) in AWS CLI Command Reference.
AWS Outposts examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS Outposts.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**
- *Actions*

**Actions**

**get-outpost**

The following code example shows how to use `get-outpost`.

**AWS CLI**

**To get Outpost details**

The following `get-outpost` example displays the details for the specified Outpost.

```bash
aws outposts get-outpost \
   --outpost-id op-0ab23c4567EXAMPLE
```

Output:

```json
{
   "Outpost": {
      "OutpostId": "op-0ab23c4567EXAMPLE",
      "OwnerId": "123456789012",
      "OutpostArn": "arn:aws:outposts:us-west-2:123456789012:outpost/op-0ab23c4567EXAMPLE",
   }
}
```
For more information, see [Working with Outposts](#) in the *AWS Outposts User Guide*.

- For API details, see [GetOutpost](#) in *AWS CLI Command Reference*.

### get-outpost-instance-types

The following code example shows how to use get-outpost-instance-types.

**AWS CLI**

**To get the instance types on your Outpost**

The following `get-outpost-instance-types` example gets the instance types for the specified Outpost.

```
aws outposts get-outpost-instance-types \
   --outpost-id op-0ab23c4567EXAMPLE
```

**Output:**

```json
{
   "InstanceTypes": [
      {
         "InstanceType": "c5d.large"
      },
      {
         "InstanceType": "i3en.24xlarge"
      },
      {
         "InstanceType": "m5d.large"
      },
      {
         "InstanceType": "r5d.large"
      }
   ]
}
```
For more information, see Launch an instance on your Outpost in the AWS Outposts User Guide.

- For API details, see GetOutpostInstanceTypes in AWS CLI Command Reference.

### list-outposts

The following code example shows how to use list-outposts.

**AWS CLI**

#### To list Outposts

The following list-outposts example lists the Outposts in your AWS account.

```bash
aws outposts list-outposts
```

Output:

```json
{
  "Outposts": [
    {
      "OutpostId": "op-0ab23c4567EXAMPLE",
      "OwnerId": "123456789012",
      "OutpostArn": "arn:aws:outposts:us-west-2:123456789012:outpost/op-0ab23c4567EXAMPLE",
      "SiteId": "os-0ab12c3456EXAMPLE",
      "Name": "EXAMPLE",
      "Description": "example",
      "LifeCycleStatus": "ACTIVE",
      "AvailabilityZone": "us-west-2a",
      "AvailabilityZoneId": "usw2-az1",
      "Tags": {
        "Name": "EXAMPLE"
      }
    }
  ]
}
```
For more information, see Working with Outposts in the AWS Outposts User Guide.

- For API details, see ListOutposts in AWS CLI Command Reference.

list-sites

The following code example shows how to use list-sites.

AWS CLI

To list sites

The following list-sites example lists the available Outpost sites in your AWS account.

```
aws outposts list-sites
```

Output:

```
{
   "Sites": [
   {
       "SiteId": "os-0ab12c3456EXAMPLE",
       "AccountId": "123456789012",
       "Name": "EXAMPLE",
       "Description": "example",
       "Tags": {}
   }
   ]
}
```
For more information, see Working with Outposts in the AWS Outposts User Guide.

- For API details, see ListSites in AWS CLI Command Reference.

AWS Payment Cryptography examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS Payment Cryptography.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics

- Actions

Actions

create-alias

The following code example shows how to use create-alias.

AWS CLI

To create an alias for a key

The following create-alias example creates an alias for a key.

```
aws payment-cryptography create-alias \
  --alias-name alias/sampleAlias1 \
  --key-arn arn:aws:payment-cryptography:us-east-2:123456789012:key/\n  kwapwa6qaif1lw2h
```
Output:

```json
{
  "Alias": {
    "AliasName": "alias/sampleAlias1",
    "KeyArn": "arn:aws:payment-cryptography:us-west-2:123456789012:key/kwapwa6qaif1lw2h"
  }
}
```

For more information, see [About aliases](#) in the [AWS Payment Cryptography User Guide](#).

- For API details, see [CreateAlias](#) in [AWS CLI Command Reference](#).

create-key

The following code example shows how to use create-key.

AWS CLI

**To create a key**

The following `create-key` example generates a 2KEY TDES key you can use to generate and verify CVV/CVV2 values.

```bash
aws payment-cryptography create-key \
  --exportable \
  --key-attributes KeyAlgorithm=TDES_2KEY,\n  KeyUsage=TR31_C0_CARD_VERIFICATION_KEY,KeyClass=SYMMETRIC_KEY,\n  KeyModesOfUse={Generate=true,Verify=true}
```

Output:

```json
{
  "Key": {
    "CreateTimestamp": "1686800690",
    "Enabled": true,
    "Exportable": true,
    "KeyArn": "arn:aws:payment-cryptography:us-west-2:123456789012:key/kwapwa6qaif1lw2h",
    "KeyAttributes": {
      "KeyAlgorithm": "TDES_2KEY",
      "KeyUsage": "TR31_C0_CARD_VERIFICATION_KEY",
      "KeyClass": "SYMMETRIC_KEY",
      "KeyModesOfUse": {"Generate": true,"Verify": true}
    }
  }
}
```
For more information, see Generating keys in the AWS Payment Cryptography User Guide.

- For API details, see CreateKey in AWS CLI Command Reference.

**delete-alias**

The following code example shows how to use delete-alias.

**AWS CLI**

**To delete an alias**

The following delete-alias example deletes an alias. It does not affect the key.

```bash
aws payment-cryptography delete-alias \
  --alias-name alias/sampleAlias1
```

This command produces no output.

For more information, see About aliases in the AWS Payment Cryptography User Guide.

- For API details, see DeleteAlias in AWS CLI Command Reference.
delete-key

The following code example shows how to use delete-key.

AWS CLI

To delete a key

The following delete-key example schedules a key for deletion after 7 days, which is the default waiting period.

```
aws payment-cryptography delete-key \
  --key-identifier arn:aws:payment-cryptography:us-west-2:123456789012:key/
  kwapwa6qaifllw2h
```

Output:

```
{
  "Key": {
    "CreateTimestamp": "1686801198",
    "DeletePendingTimestamp": "1687405998",
    "Enabled": true,
    "Exportable": true,
    "KeyArn": "arn:aws:payment-cryptography:us-west-2:123456789012:key/
      kwapwa6qaifllw2h",
    "KeyAttributes": {
      "KeyAlgorithm": "TDES_2KEY",
      "KeyClass": "SYMMETRIC_KEY",
      "KeyModesOfUse": {
        "Decrypt": false,
        "DeriveKey": false,
        "Encrypt": false,
        "Generate": true,
        "NoRestrictions": false,
        "Sign": false,
        "Unwrap": false,
        "Verify": true,
        "Wrap": false
      },
      "KeyUsage": "TR31_C0_CARD_VERIFICATION_KEY"
    },
    "KeyCheckValue": "F2E50F",
    "KeyCheckValueAlgorithm": "ANSI_X9_24"
  }
}
"KeyOrigin": "AWS_PAYMENT_CRYPTOGRAPHY",
"KeyState": "DELETE_PENDING",
"UsageStartTimestamp": "1686801190"
}
}

For more information, see Deleting keys in the AWS Payment Cryptography User Guide.

- For API details, see DeleteKey in AWS CLI Command Reference.

**export-key**

The following code example shows how to use export-key.

**AWS CLI**

**To export a key**

The following export-key example exports a key.

```bash
aws payment-cryptography export-key
   --export-key-identifier arn:aws:payment-cryptography:us-west-2:123456789012:key/lco3w6agsk7zgu2l
   --key-material '{"Tr34KeyBlock": { 
   "CertificateAuthorityPublicKeyIdentifier": "arn:aws:payment-cryptography:us-west-2:123456789012:key/ftobshq7pvioc5fx", 
   "ExportToken": "export-token-cu4lg26ofcziixny", 
   "KeyBlockFormat": "X9_TR34_2012", 
   "WrappingKeyCertificate": file://wrapping-key-certificate.pem }}'
```

Contents of wrapping-key-certificate.pem:

```
LS0tLS1CRUdJTiBDRVJUSUZJQ0FURS0tLS0t
...EXAMPLE=
```

Output:

```json
{
   "WrappedKey": {
      "KeyMaterial":
      "308205A106092A864886F70D010702A08205923082058E02010130082031F06092A864886F70D010703A08203100 ... 2FD4D2BABC69BDDBD6B17EB376FA9ADD83C2974292447E63F26D168E66A4558ED97E417BDE97837188DB4F414A2219BAC50A8D726CD54C3C1EXAMPLE",
      "WrappedKeyMaterialFormat": "TR34_KEY_BLOCK"
   }
```

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get-alias

The following code example shows how to use get-alias.

**AWS CLI**

**To get an alias**

The following `get-alias` example returns the ARN of the key associated with the alias.

```
aws payment-cryptography get-alias \
   --alias-name alias/sampleAlias1
```

**Output:**

```
{
   "Alias": {
      "AliasName": "alias/sampleAlias1",
      "KeyArn": "arn:aws:payment-cryptography:us-west-2:123456789012:key/kwapwa6qaifllw2h"
   }
}
```

For more information, see [About aliases](https://awsdocs.aws.amazon.com) in the *AWS Payment Cryptography User Guide*.

- For API details, see [GetAlias](https://awscli.amazonaws.com) in *AWS CLI Command Reference*.

get-key

The following code example shows how to use get-key.

**AWS CLI**

**To get the metadata of a key**
The following `get-key` example returns the metadata of the key associated with the alias. This operation does not return cryptographic material.

```
aws payment-cryptography get-key \
  --key-identifier alias/sampleAlias1
```

Output:

```
{
"Key": {
"CreateTimestamp": "1686800690",
"DeletePendingTimestamp": "1687405998",
"Enabled": true,
"Exportable": true,
"KeyArn": "arn:aws:payment-cryptography:us-west-2:123456789012:key/kwapwa6qaifllw2h",
"KeyAttributes": {
"KeyAlgorithm": "TDES_2KEY",
"KeyClass": "SYMMETRIC_KEY",
"KeyModesOfUse": {
"Decrypt": false,
"DeriveKey": false,
"Encrypt": false,
"Generate": true,
"NoRestrictions": false,
"Sign": false,
"Unwrap": false,
"Verify": true,
"Wrap": false
},
"KeyUsage": "TR31_C0_CARD_VERIFICATION_KEY"
},
"KeyCheckValue": "F2E50F",
"KeyCheckValueAlgorithm": "ANSI_X9_24",
"KeyOrigin": "AWS_PAYMENT_CRYPTOGRAPHY",
"KeyState": "DELETE_PENDING",
"UsageStartTimestamp": "1686801190"
}
```

For more information, see [Get keys](https://docs.aws.amazon.com/payment-cryptography/latest/userguide/api-get-key.html) in the *AWS Payment Cryptography User Guide*.

- For API details, see [GetKey](https://docs.aws.amazon.com/cli/latest/reference/payment-cryptography/get-key.html) in *AWS CLI Command Reference*. 

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get-parameters-for-export

The following code example shows how to use get-parameters-for-export.

AWS CLI

To initialize the export process

The following get-parameters-for-export example generates a key pair, signs the key, and then returns the certificate and certificate root.

```
aws payment-cryptography get-parameters-for-export \
   --signing-key-algorithm RSA_2048 \
   --key-material-type TR34_KEY_BLOCK
```

Output:

```
{
  "ExportToken": "export-token-ep5cwyzune7oya53",
  "ParametersValidUntilTimestamp": "1687415640",
  "SigningKeyAlgorithm": "RSA_2048",
  "SigningKeyCertificate":
  "MIICiTCCAfICCQD6m7oRw0uX0jANBgkqhkiG9w0BAQUFADCBiDELMAkGA1UEBhMC
  VVMxCzAJBgNVBAgTAldBMRAwDgYDVQQHEwdTZWF0dGx1MQ8wDQYDVQQKEwZBBbWFG
  b24xFDASBgNVAsTC0lBTSDBd25zb2x1MRIwEAYDVQQDEw1UZXNQ2lsYWMxHzAd
  BgkqhkiG9w0BCQEWE5G5v251QGFtYXpvbi5jb20wHhcNMTEwNDI1MjA0NTIwWhcN
  MTIwNDI0MjA0NTIwWjCBiDELMAkGA1UEBhMCVVMxCzAJBgNVBAsTC0lBTSDBd25zb
  b2x1MRIwEAYDVQQDEw1UZXNQ2lsYWMxHzAdBgcgkqiG9w0BCQEWE5G5v251QGFt
  YXpvbi5jb20wZ8wDQYJKoZIhvcNAQEBBQuadgY0AMIGJaoGAMaK0dn+a4GmWIJ
  21uUSwFwEvySWtC2XAZ4nB+BLYgVIk60CpiwsZ3G93vUEIO3IyNoH/f0wYK8m9T
  rDHudU2gX4waLG5M43q7Wgc/MbQITxOUSqV7c7ugFFDqG8zZswY6786m868gE
  Ibb3OhjzNncvQAaRhhDlqOJmm2nrAgMBAAEwDQYJKoZIhvcNAQEBBQuadgYEAtCu4
  nUhVxYUnteO9h8Mg9q6q+auNKeyExzyLwax1Aoo7TJHidbtS4j5lNzgXL0Fkb
  FFBjvSfpJ1J00zbhNY55f6GuoEDmFJ1OzXhJjnyp3780D8uTs7fLvjx79Lj5Tb
  NYiytVbZPQQUQ5Yaxu2JxNimwv3rrszlaEXAMPLE=",
  "SigningKeyCertificateChain":
  "MIICiTCCAfICCQD6m7oRw0uX0jANBgkqhkiG9w0BAQUFADCBiDELMAkGA1UEBhMC
  VVMxCzAJBgNVBAgTAldBMRAwDgYDVQQHEwdTZWF0dGx1MQ8wDQYDVQQKEwZBBbWFG
  b24xFDASBgNVAsTC0lBTSDBd25zb2x1MRIwEAYDVQQDEw1UZXNQ2lsYWMxHzAd
  BgkqhkiG9w0BCQEWE5G5v251QGFtYXpvbi5jb20wHhcNMTEwNDI1MjA0NTIwWhcN
  MTIwNDI0MjA0NTIwWjCBiDELMAkGA1UEBhMCVVMxCzAJBgNVBAsTC0lBTSDBd25zb
  b2x1MRIwEAYDVQQDEw1UZXNQ2lsYWMxHzAdBgcgkqiG9w0BCQEWE5G5v251QGFt
  YXpvbi5jb20wZ8wDQYJKoZIhvcNAQEBBQuadgY0AMIGJaoGAMaK0dn+a4GmWIJ
  21uUSwFwEvySWtC2XAZ4nB+BLYgVIk60CpiwsZ3G93vUEIO3IyNoH/f0wYK8m9T
  rDHudU2gX4waLG5M43q7Wgc/MbQITxOUSqV7c7ugFFDqG8zZswY6786m868gE
  Ibb3OhjzNncvQAaRhhDlqOJmm2nrAgMBAAEwDQYJKoZIhvcNAQEBBQuadgYEAtCu4
  nUhVxYUnteO9h8Mg9q6q+auNKeyExzyLwax1Aoo7TJHidbtS4j5lNzgXL0Fkb
  FFBjvSfpJ1J00zbhNY55f6GuoEDmFJ1OzXhJjnyp3780D8uTs7fLvjx79Lj5Tb
  NYiytVbZPQQUQ5Yaxu2JxNimwv3rrszlaEXAMPLE=",
  "SigningKeyCertificate":
  "MIICiTCCAfICCQD6m7oRw0uX0jANBgkqhkiG9w0BAQUFADCBiDELMAkGA1UEB
"
For more information, see [Export keys](#) in the [AWS Payment Cryptography User Guide](#).

- For API details, see [GetParametersForExport](#) in [AWS CLI Command Reference](#).

### get-parameters-for-import

The following code example shows how to use `get-parameters-for-import`.

#### AWS CLI

To initialize the import process

The following get-parameters-for-import example generates a key pair, signs the key, and then returns the certificate and certificate root.

```
aws payment-cryptography get-parameters-for-import \
  --key-material-type TR34_KEY_BLOCK \
  --wrapping-key-algorithm RSA_2048
```

Output:

```json
{
  "ImportToken": "import-token-qgmafpaa7nt2kfbbb",
  "ParametersValidUntilTimestamp": "1687415640",
  "WrappingKeyAlgorithm": "RSA_2048",
  "WrappingKeyCertificate": "MIICiTCCAfICCQD6m7oRw0uXOjANBgkqhkiG9w0BAQUFADCBiDELMAkGA1UEBhMCVVMxCzAJBgNVBAgTAldBMRAwDgYDVQQHEwdTZWF0dGxlMQ8wDQYDVQQKEwZBbWF6b24xMDASBgNVBAsTC0lBTSBDb25z
```
For more information, see Import keys in the AWS Payment Cryptography User Guide.

- For API details, see GetParametersForImport in AWS CLI Command Reference.

get-public-key-certificate

The following code example shows how to use get-public-key-certificate.

AWS CLI

To return the public key

The following get-public-key-certificate example returns the public key portion of a key pair.

```
aws payment-cryptography get-public-key-certificate \
    --key-identifier arn:aws:payment-cryptography:us-east-2:123456789012:key/ 
    kwapwa6qaifllw2h
```
AWS CLI

To import a TR-34 key

The following import-key example imports a TR-34 key.

```bash
aws payment-cryptography import-key \
    --key-material='{ "Tr34KeyBlock": "\n        CertificateAuthorityPublicKeyIdentifier": "arn:aws:payment-
        cryptography:us-west-2:123456789012:key/rmm5wn2q564njnjm", \
        "ImportToken": "import-token-5ott6ho5nts7bobic", \
        "KeyBlockFormat": "X9_TR34_2012", \
        "SigningKeyCertificate": file://signing-key-certificate.pem, \
        "WrappedKeyBlock": file://wrapped-key-block.pem }}'
```

Contents of `signing-key-certificate.pem`:

```
LS0tLS1CRUdJTiBDRVJUSUZJQ0FURS0tLS0tCk1JSUV2RENDQXFTZ0F3SUJBZ0lRYWVCK25IbE1WZU1PR1ZiNjU1Q2JzREFOQmdrcWhraUc5dzBCQVEwRkFEQ0 ... ttSEhyd3p0NXRBc2llcjFyWXFGK2lYa1Y4TzRxSzI0bHc4cXFPanUKS3htVHMzY0NlTmdGNUZhVmhCV1Zjdz09Ci0tLS0tRU5EIENFUlRJRklDQVRFLS0tLS0=
```

Contents of `wrapped-key-block.pem`:

```
3082059806092A864886F70D010702A0820589308205850201011D300B0609608648016503040213082031606
```

Output:

```
{
    "Key": {
        "CreateTimestamp": "2023-06-09T16:56:27.621000-07:00",
        "Enabled": true,
        "KeyArn": "arn:aws:payment-cryptography:us-west-2:123456789012:key/bzmvgxyxdg3sktwxd",
        "KeyAttributes": {
            "KeyAlgorithm": "TDES_2KEY",
            "KeyClass": "SYMMETRIC_KEY",
            "KeyModesOfUse": {
                "Decrypt": false,
                "DeriveKey": false,
                "Encrypt": false,
                "Generate": true,
                "NoRestrictions": false,
                "Sign": false,
                "Unwrap": false,
```
For more information, see Import keys in the AWS Payment Cryptography User Guide.

- For API details, see ImportKey in AWS CLI Command Reference.

### list-aliases

The following code example shows how to use list-aliases.

**AWS CLI**

**To get a list of aliases**

The following list-aliases example shows all of the aliases in your account in this Region.

```bash
aws payment-cryptography list-aliases
```

**Output:**

```json
{
  "Aliases": [
    {
      "AliasName": "alias/sampleAlias1",
      "KeyArn": "arn:aws:payment-cryptography:us-east-2:123456789012:key/kwapwa6qaifllw2h"
    },
    {
      "AliasName": "alias/sampleAlias2",
      "KeyArn": "arn:aws:payment-cryptography:us-east-2:123456789012:key/kwapwa6qaifllw2h"
    }
  ]
}
```
list-keys

The following code example shows how to use list-keys.

**AWS CLI**

**To get a list of keys**

The following list-keys example shows all of the keys in your account in this Region.

```
aws payment-cryptography list-keys
```

Output:

```
{
  "Keys": [
    {
      "CreateTimestamp": "1666506840",
      "Enabled": false,
      "Exportable": true,
      "KeyArn": "arn:aws:payment-cryptography:us-east-2:123456789012:key/kwapwa6qaifllw2h",
      "KeyAttributes": {
        "KeyAlgorithm": "TDES_3KEY",
        "KeyClass": "SYMMETRIC_KEY",
        "KeyModesOfUse": {
          "Decrypt": true,
          "DeriveKey": false,
          "Encrypt": true,
          "Generate": false,
          "NoRestrictions": false,
          "Sign": false,
          "Unwrap": true,
          "Verify": false,
          "Wrap": true
```
For more information, see **List keys** in the *AWS Payment Cryptography User Guide*.

- For API details, see **ListKeys** in *AWS CLI Command Reference*.

**list-tags-for-resource**

The following code example shows how to use `list-tags-for-resource`.

**AWS CLI**

**To get the list of tags for a key**

The following `list-tags-for-resource` example gets the tags for a key.

```
aws payment-cryptography list-tags-for-resource \
    kwapwa6qaifl1w2h
```

**Output:**

```json
{
    "Tags": [
        {
            "Key": "BIN",
            "Value": "20151120"
        },
        {
            "Key": "Project",
            "Value": "Production"
        }
    ]
}
```
For more information, see Managing key tags with API operations in the AWS Payment Cryptography User Guide.

- For API details, see ListTagsForResource in AWS CLI Command Reference.

**restore-key**

The following code example shows how to use restore-key.

**AWS CLI**

**To restore a key that is scheduled for deletion**

The following restore-key example cancels the deletion of a key.

```bash
aws payment-cryptography restore-key \
    --key-identifier arn:aws:payment-cryptography:us-east-2:123456789012:key/kwapwa6qaifl1w2h
```

Output:

```json
{
    "Key": {
        "KeyArn": "arn:aws:payment-cryptography:us-east-2:123456789012:key/kwapwa6qaifl1w2h",
        "KeyAttributes": {
            "KeyUsage": "TR31_V2_VISA_PIN_VERIFICATION_KEY",
            "KeyClass": "SYMMETRIC_KEY",
            "KeyAlgorithm": "TDES_3KEY",
            "KeyModesOfUse": {
                "Encrypt": false,
                "Decrypt": false,
                "Wrap": false,
                "Unwrap": false,
                "Generate": true,
                "Sign": false,
                "Verify": true,
                "DeriveKey": false,
                "NoRestrictions": false
            }
        }
    }
}
```
For more information, see Deleting keys in the AWS Payment Cryptography User Guide.

- For API details, see RestoreKey in AWS CLI Command Reference.

start-key-usage

The following code example shows how to use start-key-usage.

AWS CLI

To enable a key

The following start-key-usage example enables a key to be used.

```
aws payment-cryptography start-key-usage \
  --key-identifier arn:aws:payment-cryptography:us-east-2:123456789012:key/kwapwa6qaifl1w2h
```

Output:

```
{
  "Key": {
    "CreateTimestamp": "1686800690",
    "Enabled": true,
    "Exportable": true,
    "KeyArn": "arn:aws:payment-cryptography:us-east-2:111122223333:key/alsuwfxug3pgy6xh",
    "KeyAttributes": {
      "KeyAlgorithm": "TDES_3KEY",
      "KeyClass": "SYMMETRIC_KEY",
      "KeyModesOfUse": {
        "KeyCheckValue": "",
        "KeyCheckValueAlgorithm": "ANSI_X9_24",
        "Enabled": false,
        "Exportable": true,
        "KeyState": "CREATE_COMPLETE",
        "KeyOrigin": "AWS_PAYMENT_CRYPTOGRAPHY",
        "CreateTimestamp": "1686800690",
        "UsageStopTimestamp": "1687405998"
      }
    }
  }
}
```
"Decrypt": true,
"DeriveKey": false,
"Encrypt": true,
"Generate": false,
"NoRestrictions": false,
"Sign": false,
"Unwrap": true,
"Verify": false,
"Wrap": true
},
"KeyUsage": "TR31_P1_PIN_GENERATION_KEY"
},
"KeyCheckValue": "369D",
"KeyCheckValueAlgorithm": "ANSI_X9_24",
"KeyOrigin": "AWS_PAYMENT_CRYPTOGRAPHY",
"KeyState": "CREATE_COMPLETE",
"UsageStartTimestamp": "1686800690"
}
)

For more information, see Enabling and disabling keys in the AWS Payment Cryptography User Guide.

- For API details, see StartKeyUsage in AWS CLI Command Reference.

**stop-key-usage**

The following code example shows how to use stop-key-usage.

**AWS CLI**

**To disable a key**

The following stop-key-usage example disables a key.

```bash
aws payment-cryptography stop-key-usage \
    --key-identifier arn:aws:payment-cryptography:us-east-2:123456789012:key/kwapwa6qaifllw2h
```

Output:

```json
{
    "Key": {
```
For more information, see Enabling and disabling keys in the AWS Payment Cryptography User Guide.

- For API details, see StopKeyUsage in AWS CLI Command Reference.

**tag-resource**

The following code example shows how to use tag-resource.

**AWS CLI**

To tag a key

The following tag-resource example tags a key.
aws payment-cryptography tag-resource \
   --resource-arn arn:aws:payment-cryptography:us-east-2:123456789012:key/kwapwa6qaif1lw2h \
   --tags Key=sampleTag,Value=sampleValue

This command produces no output.

For more information, see Managing key tags in the AWS Payment Cryptography User Guide.

- For API details, see TagResource in AWS CLI Command Reference.

untag-resource

The following code example shows how to use untag-resource.

AWS CLI

To remove a tag from a key

The following untag-resource example removes a tag from a key.

aws payment-cryptography untag-resource \
   --resource-arn arn:aws:payment-cryptography:us-east-2:123456789012:key/kwapwa6qaif1lw2h \
   --tag-keys sampleTag

This command produces no output.

For more information, see Managing key tags in the AWS Payment Cryptography User Guide.

- For API details, see UntagResource in AWS CLI Command Reference.

update-alias

The following code example shows how to use update-alias.

AWS CLI

To update an alias

The following update-alias example associates the alias with a different key.

aws payment-cryptography update-alias \

AWS Command Line Interface

--alias-name alias/sampleAlias1 \
--key-arn arn:aws:payment-cryptography:us-east-2:123456789012:key/tqv5yij6wtxx64pi

Output:

```json
{
   "Alias": {
      "AliasName": "alias/sampleAlias1",
      "KeyArn": "arn:aws:payment-cryptography:us-west-2:123456789012:key/tqv5yij6wtxx64pi"
   }
}
```

For more information, see [About aliases](#) in the AWS Payment Cryptography User Guide.

- For API details, see [UpdateAlias](#) in AWS CLI Command Reference.

**AWS Payment Cryptography Data Plane examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS Payment Cryptography Data Plane.

**Actions** are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

**Scenarios** are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**
- **Actions**

**Actions**

**decrypt-data**

The following code example shows how to use decrypt-data.
**AWS CLI**

**To decrypt ciphertext**

The following `decrypt-data` example decrypts ciphertext data using a symmetric key. For this operation, the key must have `KeyModesOfUse` set to `Decrypt` and `KeyUsage` set to `TR31_D0_SYMMETRIC_DATA_ENCRYPTION_KEY`.

```
aws payment-cryptography-data decrypt-data \
    --key-identifier arn:aws:payment-cryptography:us-east-2:123456789012:key/kwapwa6qaifllw2h \
    --cipher-text 33612AB9D6929C3A828EB6030082B2BD  \
    --decryption-attributes 'Symmetric={Mode=CBC}'
```

Output:

```
{
    "KeyArn": "arn:aws:payment-cryptography:us-east-2:123456789012:key/kwapwa6qaifllw2h",
    "KeyCheckValue": "71D7AE",
    "PlainText": "3132333431323334313233343132333431323334"
}
```

For more information, see [Decrypt data](https://docs.aws.amazon.com/payment-cryptography/latest/userguide/decrypt-data.html) in the *AWS Payment Cryptography User Guide*.

- For API details, see [DecryptData](https://docs.aws.amazon.com/cli/latest/reference/payment-cryptography-data/decrypt-data.html) in *AWS CLI Command Reference*.

**encrypt-data**

The following code example shows how to use `encrypt-data`.

**AWS CLI**

**To encrypt data**

The following `encrypt-data` example encrypts plaintext data using a symmetric key. For this operation, the key must have `KeyModesOfUse` set to `Encrypt` and `KeyUsage` set to `TR31_D0_SYMMETRIC_DATA_ENCRYPTION_KEY`.

```
aws payment-cryptography-data encrypt-data \
    --key-identifier arn:aws:payment-cryptography:us-east-2:123456789012:key/kwapwa6qaifllw2h \
```

Actions and scenarios
--plain-text 31323334313233343132333431323334 \ 
--encryption-attributes 'Symmetric={Mode=CBC}'

Output:

```
{
    "KeyArn": "arn:aws:payment-cryptography:us-east-2:123456789012:key/kwapwa6qaifllw2h",
    "KeyCheckValue": "71D7AE",
    "CipherText": "33612AB9D6929C3A828EB6030082B2BD"
}
```

For more information, see Encrypt data in the AWS Payment Cryptography User Guide.

- For API details, see EncryptData in AWS CLI Command Reference.

generate-card-validation-data

The following code example shows how to use generate-card-validation-data.

**AWS CLI**

**To generate a CVV**

The following generate-card-validation-data example generates a CVV/CVV2.

```
aws payment-cryptography-data generate-card-validation-data \
    --key-identifier arn:aws:payment-cryptography:us-east-2:123456789012:key/kwapwa6qaifllw2h \
    --primary-account-number=171234567890123 \
    --generation-attributes CardVerificationValue2={CardExpiryDate=0123}
```

Output:

```
{
    "KeyArn": "arn:aws:payment-cryptography:us-east-2:123456789012:key/kwapwa6qaifllw2h",
    "KeyCheckValue": "CADDA1",
    "ValidationData": "801"
}
```

For more information, see Generate card data in the AWS Payment Cryptography User Guide.
generate-mac

The following code example shows how to use generate-mac.

**AWS CLI**

**To generate a MAC**

The following `generate-card-validation-data` example generates a Hash-Based Message Authentication Code (HMAC) for card data authentication using the algorithm HMAC_SHA256 and an HMAC encryption key. The key must have KeyUsage set to TR31_M7_HMAC_KEY and KeyModesOfUse to Generate.

```bash
aws payment-cryptography-data generate-mac
   --key-identifier arn:aws:payment-cryptography:us-east-2:123456789012:key/kwapwa6qaif11w2h
   --message-data
   "3b313038333439303031303733393431353d32343038323236303030373030303f33"
   --generation-attributes Algorithm=HMAC_SHA256
```

**Output:**

```json
{
   "KeyArn": "arn:aws:payment-cryptography:us-east-2:123456789012:key/kwapwa6qaif11w2h",
   "KeyCheckValue": "2976E7",
   "Mac": "ED87F26E961C6D0DDB78DAE0DEA0DCE03E5B5E96BDD494F4A7AA470C"
}
```

For more information, see [Generate MAC](https://docs.aws.amazon.com/payment-cryptography/latest/userguide/generate-mac.html) in the *AWS Payment Cryptography User Guide*.

**For API details, see GenerateMac in [AWS CLI Command Reference](https://docs.aws.amazon.com/cli/latest/reference/payment-cryptography-data/generate-mac.html).**

---

**generate-pin-data**

The following code example shows how to use generate-pin-data.

**AWS CLI**

**To generate a PIN**

---

**Actions and scenarios**

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The following `generate-card-validation-data` example generates a new random PIN using the Visa PIN scheme.

```bash
aws payment-cryptography-data generate-pin-data
  --generation-key-identifier arn:aws:payment-cryptography:us-east-2:111122223333:key/37y2tsl45p5zjbh2
  --encryption-key-identifier arn:aws:payment-cryptography:us-east-2:111122223333:key/ivi5ksfsuplneuyt
  --primary-account-number 171234567890123
  --pin-block-format ISO_FORMAT_0
  --generation-attributes VisaPin={PinVerificationKeyIndex=1}
```

Output:

```json
{
  "GenerationKeyArn": "arn:aws:payment-cryptography:us-east-2:111122223333:key/37y2tsl45p5zjbh2",
  "GenerationKeyCheckValue": "7F2363",
  "EncryptionKeyArn": "arn:aws:payment-cryptography:us-east-2:111122223333:key/ivi5ksfsuplneuyt",
  "EncryptionKeyCheckValue": "7CC9E2",
  "EncryptedPinBlock": "AC17DC148BDA645E",
  "PinData": {
    "VerificationValue": "5507"
  }
}
```

For more information, see [Generate PIN data](https://docs.aws.amazon.com/pca/latest/dev/generate-pin-data.html) in the *AWS Payment Cryptography User Guide*.

- For API details, see [GeneratePinData](https://docs.aws.amazon.com/cli/latest/reference/payment-cryptography-data/generate-pin-data.html) in *AWS CLI Command Reference*.

### re-encrypt-data

The following code example shows how to use `re-encrypt-data`.

**AWS CLI**

**To re-encrypt data with a different key**

The following `re-encrypt-data` example decrypts cipher text that was encrypted using an AES symmetric key and re-encrypts it using a Derived Unique Key Per Transaction (DUKPT) key.
The following code example shows how to use `translate-pin-data`.

**AWS CLI**

**To translate PIN data**

The following `translate-pin-data` example translates a PIN from PEK TDES encryption using ISO 0 PIN block to an AES ISO 4 PIN Block using the DUKPT algorithm.

```
aws payment-cryptography-data translate-pin-data \
   --encrypted-pin-block "AC17DC148BDA645E" \
   --incoming-translation-attributes=IsoFormat0='{"PrimaryAccountNumber":171234567890123}''
```
Output:

```
{
   "PinBlock": "1F4209C670E49F83E75CC72E81B787D9",
   "KeyArn": "arn:aws:payment-cryptography:us-east-2:111122223333:key/ivi5ksfsuplneuyt",
   "KeyCheckValue": "7CC9E2"
}
```

For more information, see [Translate PIN data](https://console.aws.amazon.com/pbc) in the [AWS Payment Cryptography User Guide](https://aws.amazon.com/pbc).

- For API details, see [TranslatePinData](https://aws.amazon.com/pbc) in [AWS CLI Command Reference](https://aws.amazon.com/pbc).

**verify-auth-request-cryptogram**

The following code example shows how to use `verify-auth-request-cryptogram`.

**AWS CLI**

**To verify an auth request**

The following `verify-auth-request-cryptogram` example verifies an Authorization Request Cryptogram (ARQC).

```
aws payment-cryptography-data verify-auth-request-cryptogram \
   --auth-request-cryptogram F6E1BD1E6037FB3E \
   --auth-response-attributes '{"ArpcMethod1": "AuthResponseCode": "1111"}' \
   --key-identifier arn:aws:payment-cryptography:us-west-2:111122223333:key/pboipdfzd4mdklya \
   --major-key-derivation-mode "EMV_OPTION_A" \
   --session-key-derivation-attributes '{"EmvCommon": \
   {"ApplicationTransactionCounter": "1234","PanSequenceNumber": "01","PrimaryAccountNumber": "471234567890123"}'} \
   --transaction-data "123456789ABCDEF"
```
Output:

```
{
    "AuthResponseValue": "D899B8C6F8F971AA",
    "KeyArn": "arn:aws:payment-cryptography:us-west-2:111122223333:key/pboidfzd4mdklya",
    "KeyCheckValue": "985792"
}
```

For more information, see Verify auth request (ARQC) cryptogram in the AWS Payment Cryptography User Guide.

- For API details, see VerifyAuthRequestCryptogram in AWS CLI Command Reference.

**verify-card-validation-data**

The following code example shows how to use verify-card-validation-data.

**AWS CLI**

**To validate a CVV**

The following verify-card-validation-data example validates a CVV/CVV2 for a PAN.

```
aws payment-cryptography-data verify-card-validation-data \
    --key-identifier arn:aws:payment-cryptography:us-east-2:111122223333:key/tqv5yij6wtxx64pi \
    --primary-account-number=171234567890123 \
    --verification-attributes CardVerificationValue2={CardExpiryDate=0123} \
    --validation-data 801
```

Output:

```
{
    "KeyArn": "arn:aws:payment-cryptography:us-east-2:111122223333:key/tqv5yij6wtxx64pi",
    "KeyCheckValue": "CADDAA1"
}
```

For more information, see Verify card data in the AWS Payment Cryptography User Guide.

- For API details, see VerifyCardValidationData in AWS CLI Command Reference.
**verify-mac**

The following code example shows how to use verify-mac.

**AWS CLI**

**To verify a MAC**

The following `verify-mac` example verifies a Hash-Based Message Authentication Code (HMAC) for card data authentication using the algorithm HMAC_SHA256 and an HMAC encryption key.

```bash
aws payment-cryptography-data verify-mac \
   --key-identifier arn:aws:payment-cryptography:us-east-2:111122223333:key/qnobl51ghrzunque6 \
   --message-data "3b343038383439303031303733393431353d3234303832323630303037303033f33" \
   --verification-attributes='Algorithm=HMAC_SHA256' \
   --mac ED87F26E961C6D0DDB78DA5038AA2BDDEA0DCE03E5B5E96BDD494F4A7AA470C
```

**Output:**

```json
{
   "KeyArn": "arn:aws:payment-cryptography:us-east-2:111122223333:key/qnobl51ghrzunque6,
   "KeyCheckValue": "2976E7",
}
```

For more information, see [Verify MAC](#) in the *AWS Payment Cryptography User Guide*.

- For API details, see [VerifyMac](#) in *AWS CLI Command Reference*.

**verify-pin-data**

The following code example shows how to use verify-pin-data.

**AWS CLI**

**To verify a PIN**

The following `verify-pin-data` example validates a PIN for a PAN.

```bash
aws payment-cryptography-data verify-pin-data \
```

Actions and scenarios
Output:

```json
{
    "VerificationKeyArn": "arn:aws:payment-cryptography:us-east-2:111122223333:key/37y2tsl45p5zjbh2",
    "VerificationKeyCheckValue": "7F2363",
    "EncryptionKeyArn": "arn:aws:payment-cryptography:us-east-2:111122223333:key/ivi5ksfsuplneuyt",
    "EncryptionKeyCheckValue": "7CC9E2",
}
```

For more information, see [Verify PIN data](#) in the AWS Payment Cryptography User Guide.

- [VerifyPinData](#) in [AWS CLI Command Reference](#).

### Amazon Pinpoint examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon Pinpoint.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.
Actions

Create an application

The following code example shows how to create an application.

AWS CLI

Example 1: To create an application

The following `create-app` example creates a new application (project).

```
aws pinpoint create-app \\
    --create-application-request Name=ExampleCorp
```

Output:

```
{
    "ApplicationResponse": {
        "Arn": "arn:aws:mobiletargeting:us-
west-2:AIDACKCEVSQ6C2EXAMPLE:apps/810c7aab86d42fb2b56c8c966example",
        "Id": "810c7aab86d42fb2b56c8c966example",
        "Name": "ExampleCorp",
        "tags": {}
    }
}
```

Example 2: To create an application that is tagged

The following `create-app` example creates a new application (project) and associates a tag (key and value) with the application.

```
aws pinpoint create-app \\
    --create-application-request Name=ExampleCorp,tags={"Stack"="Test"}
```

Output:

```
{
    "ApplicationResponse": {
```
Delete an application

The following code example shows how to delete an application.

**AWS CLI**

**To delete an application**

The following `delete-app` example deletes an application (project).

```bash
aws pinpoint delete-app \
   --application-id 810c7aab86d42fb2b56c8c966example
```

**Output:**

```json
{
   "ApplicationResponse": {
      "Arn": "arn:aws:mobiletargeting:us-west-2:AIDACKCEVSQ6C2EXAMPLE:apps/810c7aab86d42fb2b56c8c966example",
      "Id": "810c7aab86d42fb2b56c8c966example",
      "Name": "ExampleCorp",
      "tags": {}
   }
}
```

For API details, see [DeleteApp](#) in AWS CLI Command Reference.

Get endpoints

The following code example shows how to get endpoints.
To retrieve information about the settings and attributes of a specific endpoint for an application

The following get-endpoint example retrieves information about the settings and attributes of a specific endpoint for an application.

```bash
aws pinpoint get-endpoint \
    --application-id 611e3e3cdd47474c9c1399a505665b91 \
    --endpoint-id testendpoint \
    --region us-east-1
```

Output:

```json
{
    "EndpointResponse": {
        "Address": "+11234567890",
        "ApplicationId": "611e3e3cdd47474c9c1399a505665b91",
        "Attributes": {},
        "ChannelType": "SMS",
        "CohortId": "63",
        "EffectiveDate": "2021-08-06T00:04:51.763Z",
        "EndpointStatus": "ACTIVE",
        "Id": "testendpoint",
        "Location": {
            "Country": "USA"
        },
        "Metrics": {
            "SmsDelivered": 1.0
        },
        "OptOut": "ALL",
        "RequestId": "a204b1f2-7e26-48a7-9c80-b49a2143489d",
        "User": {
            "UserAttributes": {
                "Age": [
                    "24"
                ]
            },
            "UserId": "testuser"
        }
    }
}
```
Send email and text messages

The following code example shows how to send email and text messages with Amazon Pinpoint.

AWS CLI

To send SMS message using the endpoint of an application

The following send-messages example sends a direct message for an application with an endpoint.

```bash
aws pinpoint send-messages \
   --application-id 611e3e3cdd47474c9c1399a505665b91 \
   --message-request file://myfile.json \
   --region us-west-2
```

Contents of `myfile.json`:

```json
{
   "MessageConfiguration": {
      "SMSMessage": {
         "Body": "hello, how are you?"
      }
   },
   "Endpoints": {
      "testendpoint": {}
   }
}
```

Output:

```json
{
   "MessageResponse": {
      "ApplicationId": "611e3e3cdd47474c9c1399a505665b91",
      "EndpointResult": {
         "testendpoint": {
            "Address": "+12345678900"
         }
      }
   }
}
```
The following code example shows how to update channels.

**AWS CLI**

To retrieve information about the status and settings of the SMS channel for an application

The following get-sms-channel example retrieves status and settings of the sms channel for an application.

```
aws pinpoint get-sms-channel \
   --application-id 6e0b7591a90841d2b5d93fa11143e5a7 \
   --region us-east-1
```

**Output:**

```
{
   "SMSChannelResponse": {
      "ApplicationId": "6e0b7591a90841d2b5d93fa11143e5a7",
      "CreationDate": "2019-10-08T18:39:18.511Z",
      "Enabled": true,
      "Id": "sms",
      "IsArchived": false,
      "LastModifiedDate": "2019-10-08T18:39:18.511Z",
      "Platform": "SMS",
      "PromotionalMessagesPerSecond": 20,
      "TransactionalMessagesPerSecond": 20,
   }
}
```
For API details, see GetSmsChannel in AWS CLI Command Reference.

create-sms-template

The following code example shows how to use create-sms-template.

AWS CLI

**Creates a message template for messages that are sent through the SMS channel**

The following create-sms-template example creates a SMS message template.

```bash
aws pinpoint create-sms-template \
   --template-name TestTemplate \
   --sms-template-request file://myfile.json \
   --region us-east-1
```

Contents of myfile.json:

```json
{
   "Body": "hello\n how are you?\n food is good",
   "TemplateDescription": "Test SMS Template"
}
```

Output:

```json
{
   "CreateTemplateMessageBody": {
      "Message": "Created",
      "RequestID": "8c36b17f-a0b0-400f-ac21-29e9b62a975d"
   }
}
```

For more information, see Amazon Pinpoint message templates in the Amazon Pinpoint User Guide.
• For API details, see CreateSmsTemplate in AWS CLI Command Reference.

get-apns-channel

The following code example shows how to use get-apns-channel.

AWS CLI

To retrieve information about the status and settings of the APNs channel for an application

The following get-apns-channel example retrieves information about the status and settings of the APNs channel for an application.

```bash
aws pinpoint get-apns-channel \
    --application-id 9ab1068eb0a6461c86ccep7ce0ef7d7 \
    --region us-east-1
```

Output:

```json
{
    "APNSChannelResponse": {
        "ApplicationId": "9ab1068eb0a6461c86ccep7ce0ef7d7",
        "CreationDate": "2019-05-09T21:54:45.082Z",
        "DefaultAuthenticationMethod": "CERTIFICATE",
        "Enabled": true,
        "HasCredential": true,
        "HasTokenKey": false,
        "Id": "apns",
        "IsArchived": false,
        "LastModifiedDate": "2019-05-09T22:04:01.067Z",
        "Platform": "APNS",
        "Version": 2
    }
}
```

• For API details, see GetApnsChannel in AWS CLI Command Reference.

get-app

The following code example shows how to use get-app.
AWS CLI

To retrieve information about an application (project)

The following `get-app` example retrieves information about an application (project).

```bash
aws pinpoint get-app \
  --application-id 810c7aab86d42fb2b56c8c966example \
  --region us-east-1
```

Output:

```
{
    "ApplicationResponse": {
        "Arn": "arn:aws:mobiletargeting:us-east-1:AIDACKCEVSQ6C2EXAMPLE:apps/810c7aab86d42fb2b56c8c966example",
        "Id": "810c7aab86d42fb2b56c8c966example",
        "Name": "ExampleCorp",
        "tags": {
            "Year": "2019",
            "Stack": "Production"
        }
    }
}
```

- For API details, see [GetApp](#) in *AWS CLI Command Reference*.

get-apps

The following code example shows how to use `get-apps`.

AWS CLI

To retrieve information about all of your applications

The following `get-apps` example retrieves information about all of your applications (projects).

```bash
aws pinpoint get-apps
```

Output:

```
{
}
```
The presence of the NextToken response value indicates that there is more output available. Call the command again and supply that value as the NextToken input parameter.

- For API details, see GetApps in AWS CLI Command Reference.

get-campaign

The following code example shows how to use get-campaign.
To retrieve information about the status, configuration, and other settings for a campaign

The following `get-campaign` example retrieves information about the status, configuration, and other settings for a campaign.

```bash
aws pinpoint get-campaign \
   --application-id 6e0b7591a90841d2b5d93fa11143e5a7 \
   --campaign-id a1e63c6cc0eb43ed826ffcc3cc90b30d \
   --region us-east-1
```

Output:

```json
{
   "CampaignResponse": {
      "AdditionalTreatments": [],
      "ApplicationId": "6e0b7591a90841d2b5d93fa11143e5a7",
      "Arn": "arn:aws:mobiletargeting:us-east-1:AIDACKCEVSQ6C2EXAMPLE:apps/6e0b7591a90841d2b5d93fa11143e5a7/campaigns/a1e63c6cc0eb43ed826ffcc3cc90b30d",
      "CreationDate": "2019-10-08T18:40:16.581Z",
      "Description": "",
      "HoldoutPercent": 0,
      "Id": "a1e63c6cc0eb43ed826ffcc3cc90b30d",
      "IsPaused": false,
      "LastModifiedDate": "2019-10-08T18:40:16.581Z",
      "Limits": {
         "Daily": 0,
         "MaximumDuration": 60,
         "MessagesPerSecond": 50,
         "Total": 0
      },
      "MessageConfiguration": {
         "EmailMessage": {
            "FromAddress": "sender@example.com",
            "HtmlBody": "<!DOCTYPE html>
   <html lang="en">
    <head>
      <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
    </head>
    <body>Hello</body>
   </html>"
         },
         "Name": "MyCampaign",
      },
      "Name": "MyCampaign",
   }
}
```
For API details, see [GetCampaign](https://awscli.amazonaws.com/v2/documentation/api/latest/reference/pinpoint/get-campaign.html) in *AWS CLI Command Reference*.

**get-campaigns**

The following code example shows how to use `get-campaigns`.

**AWS CLI**

To retrieves information about the status, configuration, and other settings for all the campaigns that are associated with an application

The following `get-campaigns` example retrieves information about the status, configuration, and other settings for all the campaigns that are associated with an application.

```bash
aws pinpoint get-campaigns \
  --application-id 6e0b7591a90841d2b5d93fa11143e5a7 \
  --region us-east-1
```

Output:

```json
{
  "CampaignsResponse": {
    "Item": [
      {
        "AdditionalTreatments": [],
        "ApplicationId": "6e0b7591a90841d2b5d93fa11143e5a7",
```
The following code example shows how to use `get-channels`.

For API details, see [GetCampaigns](#) in AWS CLI Command Reference.
AWS CLI

To retrieve information about the history and status of each channel for an application

The following `get-channels` example retrieves information about the history and status of each channel for an application.

```bash
aws pinpoint get-channels \
    --application-id 6e0b7591a90841d2b5d93fa11143e5a7 \
    --region us-east-1
```

Output:

```json
{
    "ChannelsResponse": {
        "Channels": {
            "GCM": {
                "ApplicationId": "6e0b7591a90841d2b5d93fa11143e5a7",
                "CreationDate": "2019-10-08T18:28:23.182Z",
                "Enabled": true,
                "HasCredential": true,
                "Id": "gcm",
                "IsArchived": false,
                "LastModifiedDate": "2019-10-08T18:28:23.182Z",
                "Version": 1
            },
            "SMS": {
                "ApplicationId": "6e0b7591a90841d2b5d93fa11143e5a7",
                "CreationDate": "2019-10-08T18:39:18.511Z",
                "Enabled": true,
                "Id": "sms",
                "IsArchived": false,
                "LastModifiedDate": "2019-10-08T18:39:18.511Z",
                "Version": 1
            },
            "EMAIL": {
                "ApplicationId": "6e0b7591a90841d2b5d93fa11143e5a7",
                "CreationDate": "2019-10-08T18:27:23.990Z",
                "Enabled": true,
                "Id": "email",
                "IsArchived": false,
                "LastModifiedDate": "2019-10-08T18:27:23.990Z",
                "Version": 1
            }
        }
    }
}
```
For API details, see [GetChannels](https://docs.aws.amazon.com/cli/latest/reference/pinpoint/get-email-channel.html) in *AWS CLI Command Reference*.

### get-email-channel

The following code example shows how to use `get-email-channel`.

**AWS CLI**

To retrieve information about the status and settings of the Email channel for an application

The following `get-email-channel` example retrieves status and settings of the Email channel for an application.

```
aws pinpoint get-email-channel \
   --application-id 6e0b7591a90841d2b5d93fa11143e5a7 \
   --region us-east-1
```

**Output:**

```
{
   "EmailChannelResponse": {
      "ApplicationId": "6e0b7591a90841d2b5d93fa11143e5a7",
      "CreationDate": "2019-10-08T18:27:23.990Z",
      "Enabled": true,
      "FromAddress": "sender@example.com",
      "Id": "email",
      "Identity": "arn:aws:ses:us-east-1:AIDACKCEVSQ6C2EXAMPLE:identity/sender@example.com",
      "IsArchived": false,
      "LastModifiedDate": "2019-10-08T18:27:23.990Z",
      "MessagesPerSecond": 1,
```

Actions and scenarios
• For API details, see `GetEmailChannel` in *AWS CLI Command Reference*.

**get-gcm-channel**

The following code example shows how to use `get-gcm-channel`.

**AWS CLI**

To retrieve information about the status and settings of the GCM channel for an application

The following `get-gcm-channel` example retrieves information about the status and settings of the GCM channel for an application.

```bash
aws pinpoint get-gcm-channel \
   --application-id 6e0b7591a90841d2b5d93fa11143e5a7 \
   --region us-east-1
```

Output:

```
{
   "GCMChannelResponse": {
      "ApplicationId": "6e0b7591a90841d2b5d93fa11143e5a7",
      "CreationDate": "2019-10-08T18:28:23.182Z",
      "Enabled": true,
      "HasCredential": true,
      "Id": "gcm",
      "IsArchived": false,
      "LastModifiedDate": "2019-10-08T18:28:23.182Z",
      "Platform": "GCM",
      "Version": 1
   }
}
```

• For API details, see `GetGcmChannel` in *AWS CLI Command Reference*. 
get-sms-template

The following code example shows how to use get-sms-template.

AWS CLI

Retrieves the content and settings of a message template for messages that are sent through the SMS channel

The following get-sms-template example retrieves the content and settings of a SMS message template.

```bash
aws pinpoint get-sms-template \
  --template-name TestTemplate \
  --region us-east-1
```

Output:

```json
{
  "SMSTemplateResponse": {
    "Body": "hello\n how are you?\n food is good",
    "CreationDate": "2023-06-20T21:37:30.124Z",
    "LastModifiedDate": "2023-06-20T21:37:30.124Z",
    "tags": {},
    "TemplateDescription": "Test SMS Template",
    "TemplateName": "TestTemplate",
    "TemplateType": "SMS",
    "Version": "1"
  }
}
```

For more information, see Amazon Pinpoint message templates in the Amazon Pinpoint User Guide.

- For API details, see GetSmsTemplate in AWS CLI Command Reference.

get-voice-channel

The following code example shows how to use get-voice-channel.
To retrieve information about the status and settings of the voice channel for an application

The following `get-voice-channel` example retrieves status and settings of the voice channel for an application.

```
aws pinpoint get-voice-channel \
    --application-id 6e0b7591a90841d2b5d93fa11143e5a7 \
    --region us-east-1
```

Output:

```
{
    "VoiceChannelResponse": {
        "ApplicationId": "6e0b7591a90841d2b5d93fa11143e5a7",
        "CreationDate": "2022-04-28T00:17:03.836Z",
        "Enabled": true,
        "Id": "voice",
        "IsArchived": false,
        "LastModifiedDate": "2022-04-28T00:17:03.836Z",
        "Platform": "VOICE",
        "Version": 1
    }
}
```

- For API details, see `GetVoiceChannel` in *AWS CLI Command Reference*.

### list-tags-for-resource

The following code example shows how to use `list-tags-for-resource`.

AWS CLI

To retrieve a list of tags for a resource

The following `list-tags-for-resource` example retrieves all the tags (key names and values) that are associated with the specified resource.

```
aws pinpoint list-tags-for-resource \
```
For more information, see 'Tagging Amazon Pinpoint Resources <https://docs.aws.amazon.com/pinpoint/latest/developerguide/tagging-resources.html>' in the Amazon Pinpoint Developer Guide.

- For API details, see ListTagsForResource in AWS CLI Command Reference.

**phone-number-validate**

The following code example shows how to use phone-number-validate.

**AWS CLI**

Retrieves information about a phone number

The following phone-number-validate retrieves information about a phone number.

```bash
aws pinpoint phone-number-validate
   --number-validate-request PhoneNumber="+12065550142" \
   --region us-east-1
```

Output:

```
{
   "NumberValidateResponse": {
      "Carrier": "ExampleCorp Mobile",
      "City": "Seattle",
      "CleansedPhoneNumberE164": "+12065550142",
   }
}
```
"CleansedPhoneNumberNational": "2065550142",
"Country": "United States",
"CountryCodeIso2": "US",
"CountryCodeNumeric": "1",
"OriginalPhoneNumber": "+12065550142",
"PhoneType": "MOBILE",
"PhoneTypeCode": 0,
"Timezone": "America/Los_Angeles",
"ZipCode": "98101"
}
}

For more information, see Amazon Pinpoint SMS channel in the Amazon Pinpoint User Guide.  
- For API details, see PhoneNumberValidate in AWS CLI Command Reference.

**send-users-messages**

The following code example shows how to use send-users-messages.

**AWS CLI**

To send SMS message for an user of an application

The following send-users-messages example sends a direct message for an user of an application.

```bash
aws pinpoint send-users-messages \
   --application-id 611e3e3cdd47474c9c1399a505665b91 \
   --send-users-message-request file://myfile.json \
   --region us-west-2
```

Contents of myfile.json:

```json
{
   "MessageConfiguration": {
      "SMSMessage": {
         "Body": "hello, how are you?"
      }
   },
   "Users": {
      "testuser": {}
   }
}
```
Output:

```
{
    "SendUsersMessageResponse": {
        "ApplicationId": "611e3e3cdd47474c9c1399a505665b91",
        "RequestId": "e0b12cf5-2359-11e9-bb0b-d5fb91876b25",
        "Result": {
            "testuser": {
                "testuserendpoint": {
                    "DeliveryStatus": "SUCCESSFUL",
                    "MessageId": "7qu4hk5bqhda3i7i2n4pjf98qcuh8b7p45ifsmo0",
                    "StatusCode": 200,
                    "StatusMessage": "MessageId: 7qu4hk5bqhda3i7i2n4pjf98qcuh8b7p45ifsmo0",
                    "Address": "+12345678900"
                }
            }
        }
    }
}
```

For more information, see Amazon Pinpoint SMS channel in the Amazon Pinpoint User Guide.

- For API details, see SendUsersMessages in AWS CLI Command Reference.

**tag-resource**

The following code example shows how to use `tag-resource`.

**AWS CLI**

**To add tags to a resource**

The following example adds two tags (key names and values) to a resource.

```
aws pinpoint list-tags-for-resource \
    --resource-arn arn:aws:mobiletargeting:us-east-1:AIDACKCEVSQ6C2EXAMPLE:apps/810c7aab86d42fb2b56c8c966example \
    --tags-model tags={Stack=Production,Year=2019}
```
This command produces no output.

For more information, see ‘Tagging Amazon Pinpoint Resources <https://docs.aws.amazon.com/pinpoint/latest/developerguide/tagging-resources.html>’ in the Amazon Pinpoint Developer Guide.

- For API details, see TagResource in AWS CLI Command Reference.

untag-resource

The following code example shows how to use untag-resource.

AWS CLI

**Example 1: To remove a tag from a resource**

The following untag-resource example removes the specified tag (key name and value) from a resource.

```bash
aws pinpoint untag-resource \
   --resource-arn arn:aws:mobiletargeting:us-west-2:AIDACKCEVSQ6C2EXAMPLE:apps/810c7aab86d42fb2b56c8c966example \
   --tag-keys Year
```

This command produces no output.

**Example 2: To remove multiple tags from a resource**

The following untag-resource example removes the specified tags (key names and values) from a resource.

```bash
aws pinpoint untag-resource \
   --resource-arn arn:aws:mobiletargeting:us-east-1:AIDACKCEVSQ6C2EXAMPLE:apps/810c7aab86d42fb2b56c8c966example \
   --tag-keys Year Stack
```

This command produces no output.

For more information, see ‘Tagging Amazon Pinpoint Resources <https://docs.aws.amazon.com/pinpoint/latest/developerguide/tagging-resources.html>’ in the Amazon Pinpoint Developer Guide.

- For API details, see UntagResource in AWS CLI Command Reference.
**update-sms-channel**

The following code example shows how to use `update-sms-channel`.

**AWS CLI**

To enable SMS channel or to update the status and settings of the SMS channel for an application.

The following `update-sms-channel` example enables SMS channel for an application.

```
aws pinpoint update-sms-channel \
  --application-id 611e3e3cdd47474c9c1399a505665b91 \
  --sms-channel-request Enabled=true \
  --region us-west-2
```

Output:

```
{
  "SMSChannelResponse": {
    "ApplicationId": "611e3e3cdd47474c9c1399a505665b91",
    "CreationDate": "2019-01-28T23:25:25.224Z",
    "Enabled": true,
    "Id": "sms",
    "IsArchived": false,
    "LastModifiedDate": "2023-05-18T23:22:50.977Z",
    "Platform": "SMS",
    "PromotionalMessagesPerSecond": 20,
    "TransactionalMessagesPerSecond": 20,
    "Version": 3
  }
}
```

For more information, see [Amazon Pinpoint SMS channel](https://docs.aws.amazon.com/pinpoint/latest/userguide/pinpoint-sms-channel.html) in the Amazon Pinpoint User Guide.

- For API details, see [UpdateSmsChannel](https://docs.aws.amazon.com/cli/latest/reference/pinpoint/update-sms-channel.html) in AWS CLI Command Reference.

**Amazon Polly examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon Polly.
Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics
• Actions

Actions

Delete a lexicon

The following code example shows how to delete an Amazon Polly lexicon.

AWS CLI

To delete a lexicon

The following delete-lexicon example deletes the specified lexicon.

```bash
aws polly delete-lexicon --name w3c
```

This command produces no output.

For more information, see Using the DeleteLexicon operation in the Amazon Polly Developer Guide.

• For API details, see DeleteLexicon in AWS CLI Command Reference.

Get a lexicon

The following code example shows how to get an Amazon Polly lexicon.

AWS CLI

To retrieve the content of a lexicon
The following `get-lexicon` example retrieves the content of the specified pronunciation lexicon.

```bash
aws polly get-lexicon \
  --name w3c
```

Output:

```json
{
  "Lexicon": {
    "Content": "<?xml version="1.0" encoding="UTF-8"?>
<lexicon version="1.0"
 xmlns= "http://www.w3.org/2005/01/pronunciation-lexicon"
 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xsi:schemaLocation="http://www.w3.org/2005/01/pronunciation-lexicon
 http://www.w3.org/TR/2007/CR-pronunciation-lexicon-20071212/pls.xsd"
 alphabet="ipa" 
 xml:lang="en-US">
  <lexeme>
    <grapheme>W3C</grapheme>
        <alias>World Wide Web Consortium</alias>
  </lexeme>
</lexicon>
",
  "Name": "w3c"
},
  "LexiconAttributes": {
    "Alphabet": "ipa",
    "LanguageCode": "en-US",
    "LastModified": 1603908910.99,
    "LexemesCount": 1,
    "Size": 492
  }
}
```

For more information, see [Using the GetLexicon operation](https://docs.aws.amazon.com/polly/latest/dg/API_GetLexicon.html) in the *Amazon Polly Developer Guide*.

- For API details, see [GetLexicon](https://docs.aws.amazon.com/cli/latest/reference/polly/get-lexicon.html) in *AWS CLI Command Reference*.

### Get data about a speech synthesis task

The following code example shows how to get data about an existing asynchronous Amazon Polly speech synthesis task.

**AWS CLI**

To get information about a speech synthesis task

---

Actions and scenarios
The following get-speech-synthesis-task example retrieves information about the specified speech synthesis task.

```
aws polly get-speech-synthesis-task \
   --task-id 70b61c0f-57ce-4715-a247-cae8729dcce9
```

Output:

```
{
   "SynthesisTask": {
      "TaskId": "70b61c0f-57ce-4715-a247-cae8729dcce9",
      "TaskStatus": "completed",
      "OutputUri": "https://s3.us-west-2.amazonaws.com/my-s3-bucket/70b61c0f-57ce-4715-a247-cae8729dcce9.mp3",
      "CreationTime": 1603911042.689,
      "RequestCharacters": 1311,
      "OutputFormat": "mp3",
      "TextType": "text",
      "VoiceId": "Joanna"
   }
}
```

For more information, see [Creating long audio files](#) in the Amazon Polly Developer Guide.

- For API details, see [GetSpeechSynthesisTask](#) in AWS CLI Command Reference.

**List pronunciation lexicons**

The following code example shows how to list Amazon Polly pronunciation lexicons.

**AWS CLI**

**To list your lexicons**

The following list-lexicons example lists your pronunciation lexicons.

```
aws polly list-lexicons
```

Output:

```
{
```
For more information, see Using the ListLexicons operation in the Amazon Polly Developer Guide.

- For API details, see ListLexicons in AWS CLI Command Reference.

**Start a speech synthesis task**

The following code example shows how to start an asynchronous Amazon Polly speech synthesis task.

**AWS CLI**

**To synthesize text**

The following start-speech-synthesis-task example synthesizes the text in text_file.txt and stores the resulting MP3 file in the specified bucket.

```bash
code
aws polly start-speech-synthesis-task 
  --output-format mp3 
  --output-s3-bucket-name my-s3-bucket 
  --text file://text_file.txt 
  --voice-id Joanna
```

**Output:**

```
code
{
```
"SynthesisTask": {
    "TaskId": "70b61c0f-57ce-4715-a247-cae8729dcce9",
    "TaskStatus": "scheduled",
    "OutputUri": "https://s3.us-east-2.amazonaws.com/my-s3-bucket/70b61c0f-57ce-4715-a247-cae8729dcce9.mp3",
    "CreationTime": 1603911042.689,
    "RequestCharacters": 1311,
    "OutputFormat": "mp3",
    "TextType": "text",
    "VoiceId": "Joanna"
}

For more information, see Creating long audio files in the Amazon Polly Developer Guide.

- For API details, see StartSpeechSynthesisTask in AWS CLI Command Reference.

Store a pronunciation lexicon

The following code example shows how to store an Amazon Polly pronunciation lexicon.

AWS CLI

To store a lexicon

The following put-lexicon example stores the specified pronunciation lexicon. The example.pls file specifies a W3C PLS-compliant lexicon.

/aws polly put-lexicon \
    --name w3c \
    --content file://example.pls

Contents of example.pls

{
    <?xml version="1.0" encoding="UTF-8"?>
    <lexicon version="1.0"
        xmlns="http://www.w3.org/2005/01/pronunciation-lexicon"
        xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xsi:schemaLocation="http://www.w3.org/2005/01/pronunciation-lexicon
            http://www.w3.org/TR/2007/CR-pronunciation-lexicon-20071212/pls.xsd"
        alphabet="ipa"
This command produces no output.

For more information, see Using the PutLexicon operation in the Amazon Polly Developer Guide.

- For API details, see PutLexicon in AWS CLI Command Reference.

**list-speech-synthesis-tasks**

The following code example shows how to use `list-speech-synthesis-tasks`.

**AWS CLI**

**To list your speech synthesis tasks**

The following `list-speech-synthesis-tasks` example lists your speech synthesis tasks.

```bash
aws polly list-speech-synthesis-tasks
```

Output:

```json
{
   "SynthesisTasks": [
   {
      "TaskId": "70b61c0f-57ce-4715-a247-cae8729dcce9",
      "TaskStatus": "completed",
      "OutputUri": "https://s3.us-west-2.amazonaws.com/my-s3-bucket/70b61c0f-57ce-4715-a247-cae8729dcce9.mp3",
      "CreationTime": 1603911042.689,
      "RequestCharacters": 1311,
      "OutputFormat": "mp3",
      "TextType": "text",
      "VoiceId": "Joanna"
   }
   ]
}
```
For more information, see [Creating long audio files](https://docs.aws.amazon.com/polly/latest/dg/creating-long-audio-files.html) in the *Amazon Polly Developer Guide*.

- For API details, see [ListSpeechSynthesisTasks](https://docs.aws.amazon.com/cli/latest/reference/polly/list-speech-synthesis-tasks.html) in *AWS CLI Command Reference*.

## AWS Price List examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS Price List.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

### Topics

- [Actions](#)

### Actions

#### describe-services

The following code example shows how to use `describe-services`.

### AWS CLI

#### To retrieve service metadata

This example retrieves the metadata for the Amazon EC2 service code.

**Command:**

```
aws pricing describe-services --service-code AmazonEC2 --format-version aws_v1 --max-items 1
```
Output:

```json
{
    "Services": [
        {
            "ServiceCode": "AmazonEC2",
            "AttributeNames": [
                "volumeType",
                "maxIopsVolume",
                "instance",
                "instanceCapacity10xlarge",
                "locationType",
                "instanceFamily",
                "operatingSystem",
                "clockSpeed",
                "LeaseContractLength",
                "ecu",
                "networkPerformance",
                "instanceCapacity8xlarge",
                "group",
                "maxThroughputVolume",
                "gpuMemory",
                "ebsOptimized",
                "elasticGpuType",
                "maxVolumeSize",
                "gpu",
                "processorFeatures",
                "intelAvxAvailable",
                "instanceCapacity4xlarge",
                "servicecode",
                "groupDescription",
                "processorArchitecture",
                "physicalCores",
                "productFamily",
                "enhancedNetworkingSupported",
                "intelTurboAvailable",
                "memory",
                "dedicatedEbsThroughput",
                "vcpu",
                "OfferingClass",
                "instanceCapacityLarge",
                "capacitystatus",
                "termType",
                "storage"
            ]
        }
    ]
}
```
get-attribute-values

The following code example shows how to use get-attribute-values.

AWS CLI

To retrieve a list of attribute values

The following get-attribute-values example retrieves a list of values available for the given attribute.

- For API details, see DescribeServices in AWS CLI Command Reference.
aws pricing get-attribute-values \\--service-code AmazonEC2 \\--attribute-name volumeType \\--max-items 2

Output:

```
{
    "NextToken": "eyJOZXh0VG9rZW4iOiBudWxsLCAiYm90b190cnVuY2F0ZW1hbnQiOiAyfQ==",
    "AttributeValues": [
        {
            "Value": "Cold HDD"
        },
        {
            "Value": "General Purpose"
        }
    ]
}
```

- For API details, see [GetAttributeValues](https://docs.aws.amazon.com/cli/latest/reference/pricing/get-attribute-values.html) in *AWS CLI Command Reference*.

### get-products

The following code example shows how to use `get-products`.

**AWS CLI**

**To retrieve a list of products**

This example retrieves a list of products that match the given criteria.

**Command:**

```
aws pricing get-products --filters file://filters.json --format-version aws_v1 --max-results 1 --service-code AmazonEC2
```

**filters.json:**

```
[
    {
        "Type": "TERM_MATCH",
        "Field": "ServiceCode",
```
Output:

```
{
  "FormatVersion": "aws_v1",
  "NextToken": "WGDY7K908fQXdlaiUZVdasFQ==:RVSagyIFn770XQ0zdUIc09BY6ucBG9itXAZG2F/zioUz0sUKhPCCPwa0yPZRIeMepb986TeoKYB9155fw/CyoMq5ymnGmT1Vj39T1jbbAhcqnVfTMpIllx8Uy5bdDaBYy/e20fw9Edzykbs8LTBuNbiDQ+B8ds5yeI9AQkUepruKk3aEahFPxJ55kx/zk",
  "PriceList": [
    {
      "product": {
        "productFamily": "Storage",
        "attributes": {
          "storageMedia": "SSD-backed",
          "maxThroughputVolume": "320 MB/sec",
          "volumeType": "Provisioned IOPS",
          "maxIopsVolume": "20000",
          "serviceCode": "AmazonEC2",
          "usageType": "/"APS1-EBS:VolumeUsage.piops",
          "locationType": "AWS Region",
          "location": "Asia Pacific (Singapore)",
          "serviceName": "Amazon Elastic Compute Cloud",
          "maxVolumeSize": "16 TiB",
          "operation": "/",
          "sku": "3MKHNSN7RDDVGKJ",
          "serviceCode": "AmazonEC2",
          "terms": {
            "OnDemand": {
              "priceDimensions": {
                "3MKHNSN7RDDVGKJ.JRTCKXETXF.6YS6G9N2CT7": {
                  "unit": "GB-Mo",
                  "endRange": "Inf",
                  "description": "$0.138 per GB-month of Provisioned IOPS SSD (io1) provisioned storage - Asia Pacific (Singapore)",
                  "appliesTo": [],
                  "rateCode": "3MKHNSN7RDDVGKJ.JRTCKXETXF.6YS6G9N2CT7",
                  "beginRange": "0",
                  "pricePerUnit": {
                    "USD": "0.1380000000"
                  }
                }
              }
            }
          }
        }
      }
    }
  ],
  "version": "20180808005701",
  "publicationDate": "2018-08-08T00:57:01Z"
}
```

- For API details, see [GetProducts](https://awscli.amazonaws.com/v2/documentation/api/) in AWS CLI Command Reference.

### AWS Private CA examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS Private CA.
Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics

- Actions

Actions

create-certificate-authority

The following code example shows how to use create-certificate-authority.

AWS CLI

To create a private certificate authority

The following create-certificate-authority command creates a private certificate authority in your AWS account.

```bash
aws acm-pca create-certificate-authority --certificate-authority-configuration file://C:\ca_config.txt --revocation-configuration file://C:\revoke_config.txt --certificate-authority-type "SUBORDINATE" --idempotency-token 98256344
```

- For API details, see CreateCertificateAuthority in AWS CLI Command Reference.

create-certificate-authority-audit-report

The following code example shows how to use create-certificate-authority-audit-report.

AWS CLI

To create a certificate authority audit report
The following `create-certificate-authority-audit-report` command creates an audit report for the private CA identified by the ARN.

```
```

- For API details, see [CreateCertificateAuthorityAuditReport](https://docs.aws.amazon.com/cli/latest/index.html) in *AWS CLI Command Reference*.

### delete-certificate-authority

The following code example shows how to use `delete-certificate-authority`.

#### AWS CLI

**To delete a private certificate authority**

The following `delete-certificate-authority` command deletes the certificate authority identified by the ARN.

```
```

- For API details, see [DeleteCertificateAuthority](https://docs.aws.amazon.com/cli/latest/index.html) in *AWS CLI Command Reference*.

### describe-certificate-authority

The following code example shows how to use `describe-certificate-authority`.

#### AWS CLI

**To describe a private certificate authority**

The following `describe-certificate-authority` command lists information about the private CA identified by the ARN.

```
```
• For API details, see DescribeCertificateAuthority in AWS CLI Command Reference.

describe-certificate-authority-audit-report

The following code example shows how to use describe-certificate-authority-audit-report.

AWS CLI

To describe an audit report for a certificate authority

The following describe-certificate-authority-audit-report command lists information about the specified audit report for the CA identified by the ARN.

```bash
```

• For API details, see DescribeCertificateAuthorityAuditReport in AWS CLI Command Reference.

get-certificate

The following code example shows how to use get-certificate.

AWS CLI

To retrieve an issued certificate

The following get-certificate example retrieves a certificate from the specified private CA.

```bash
aws acm-pca get-certificate \
    certificate/6707447683a9b7f4055627ffd55cebcc \
    --output text
```

Output:

```
-----BEGIN CERTIFICATE-----
```
The first part of the output is the certificate itself. The second part is the certificate chain that chains to the root CA certificate. Note that when you use the --output text option, a TAB character is inserted between the two certificate pieces (that is the cause of the indented text). If you intend to take this output and parse the certificates with other tools, you might need to remove the TAB character so it is processed correctly.

- For API details, see GetCertificate in AWS CLI Command Reference.

get-certificate-authority-certificate

The following code example shows how to use get-certificate-authority-certificate.

AWS CLI

To retrieve a certificate authority (CA) certificate

The following get-certificate-authority-certificate command retrieves the certificate and certificate chain for the private CA specified by the ARN.

```
```

- For API details, see GetCertificateAuthorityCertificate in AWS CLI Command Reference.

get-certificate-authority-csr

The following code example shows how to use get-certificate-authority-csr.
**AWS CLI**

**To retrieve the certificate signing request for a certificate authority**

The following `get-certificate-authority-csr` command retrieves the CSR for the private CA specified by the ARN.

```
```

- For API details, see [GetCertificateAuthorityCsr](#) in *AWS CLI Command Reference*.

**import-certificate-authority-certificate**

The following code example shows how to use `import-certificate-authority-certificate`.

**AWS CLI**

**To import your certificate authority certificate into ACM PCA**

The following `import-certificate-authority-certificate` command imports the signed private CA certificate for the CA specified by the ARN into ACM PCA.

```
```

- For API details, see [ImportCertificateAuthorityCertificate](#) in *AWS CLI Command Reference*.

**issue-certificate**

The following code example shows how to use `issue-certificate`.

**AWS CLI**

**To issue a private certificate**
The following `issue-certificate` command uses the private CA specified by the ARN to issue a private certificate.

```
```

- For API details, see `IssueCertificate` in AWS CLI Command Reference.

**list-certificate-authorities**

The following code example shows how to use `list-certificate-authorities`.

**AWS CLI**

To list your private certificate authorities

The following `list-certificate-authorities` command lists information about all of the private CAs in your account.

```
aws acm-pca list-certificate-authorities --max-results 10
```

- For API details, see `ListCertificateAuthorities` in AWS CLI Command Reference.

**list-tags**

The following code example shows how to use `list-tags`.

**AWS CLI**

To list the tags for your certificate authority

The following `list-tags` command lists the tags associated with the private CA specified by the ARN.

```
```
• For API details, see `ListTags` in *AWS CLI Command Reference*.

**revoke-certificate**

The following code example shows how to use `revoke-certificate`.

**AWS CLI**

**To revoke a private certificate**

The following `revoke-certificate` command revokes a private certificate from the CA identified by the ARN.

```bash
```

• For API details, see `RevokeCertificate` in *AWS CLI Command Reference*.

**tag-certificate-authority**

The following code example shows how to use `tag-certificate-authority`.

**AWS CLI**

**To attach tags to a private certificate authority**

The following `tag-certificate-authority` command attaches one or more tags to your private CA.

```bash
```

• For API details, see `TagCertificateAuthority` in *AWS CLI Command Reference*.

**untag-certificate-authority**

The following code example shows how to use `untag-certificate-authority`.
AWS CLI

**To remove one or more tags from your private certificate authority**

The following `untag-certificate-authority` command removes tags from the private CA identified by the ARN.

```bash
```

- For API details, see [UntagCertificateAuthority](#) in *AWS CLI Command Reference*.

**update-certificate-authority**

The following code example shows how to use `update-certificate-authority`.

AWS CLI

**To update the configuration of your private certificate authority**

The following `update-certificate-authority` command updates the status and configuration of the private CA identified by the ARN.

```bash
```

- For API details, see [UpdateCertificateAuthority](#) in *AWS CLI Command Reference*.

**AWS Proton examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS Proton.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.
Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics

- Actions

Actions

cancel-service-instance-deployment

The following code example shows how to use cancel-service-instance-deployment.

AWS CLI

To cancel a service instance deployment

The following cancel-service-instance-deployment example cancels a service instance deployment.

```bash
aws proton cancel-service-instance-deployment \
  --service-instance-name "instance-one" \
  --service-name "simple-svc"
```

Output:

```json
{
  "serviceInstance": {
    "arn": "arn:aws:proton:region-id:123456789012:service/simple-svc/service-instance/instance-one",
    "createdAt": "2021-04-02T21:29:59.962000+00:00",
    "deploymentStatus": "CANCELLING",
    "environmentName": "simple-env",
    "lastDeploymentAttemptedAt": "2021-04-02T21:45:15.406000+00:00",
    "lastDeploymentSucceededAt": "2021-04-02T21:38:00.823000+00:00",
    "name": "instance-one",
    "serviceName": "simple-svc",
    "spec": "proton: ServiceSpec
    my_sample_pipeline_optional_input: abc
    my_sample_pipeline_required_input: 
```

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"123"
instances:
- name: my-instance
  environment: MySimpleEnv
  spec:
    my_sample_service_instance_optional_input: def
  my_sample_service_instance_required_input: '456'
- name: my-other-instance
  environment: MySimpleEnv
  spec:
    my_sample_service_instance_required_input: '789'
"templateMajorVersion": "1",
"templateMinorVersion": "1",
"templateName": "svc-simple"
} }  

For more information, see [Update a service instance](https://docs.aws.amazon.com/proton/latest/adg/update-service-instance.html) in the *The AWS Proton Administrator Guide* or [Update a service instance](https://docs.aws.amazon.com/proton/latest/ug/update-service-instance.html) in the *The AWS Proton User Guide*.

- For API details, see [CancelServiceInstanceDeployment](https://docs.aws.amazon.com/cli/latest/reference/proton/cancel-service-instance-deployment.html) in *AWS CLI Command Reference*.

cancel-service-pipeline-deployment

The following code example shows how to use cancel-service-pipeline-deployment.

**AWS CLI**

To cancel a service pipeline deployment

The following cancel-service-pipeline-deployment example cancels a service pipeline deployment.

```bash
aws proton cancel-service-pipeline-deployment 
--service-name "simple-svc"
```

Output:

```
{
  "pipeline": {
    "createdAt": "2021-04-02T21:29:59.962000+00:00",
    "deploymentStatus": "CANCELLING",
    "lastDeploymentAttemptedAt": "2021-04-02T22:02:45.095000+00:00",
    "lastDeploymentSucceededAt": "2021-04-02T21:39:28.991000+00:00",
    "templateMajorVersion": "1",
    "templateMinorVersion": "1",
    "templateName": "svc-simple"
  }
}
```
For more information, see Update a service pipeline in The AWS Proton Administrator Guide or Update a service pipeline in The AWS Proton User Guide.

- For API details, see CancelServicePipelineDeployment in AWS CLI Command Reference.

create-service

The following code example shows how to use create-service.

AWS CLI

To create a service

The following create-service example creates a service with a service pipeline.

```
aws proton create-service \\
   --name "MySimpleService" \\
   --template-name "fargate-service" \\
   --template-major-version "1" \\
   --branch-name "mainline" \\
   --repository-connection-arn "arn:aws:codestar-connections:region-id:account-id:connection/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111" \\
   --repository-id "myorg/myapp" \\
   --spec file://spec.yaml
```

Contents of spec.yaml:

```yaml
proton: ServiceSpec

pipeline:
  my_sample_pipeline_required_input: "hello"
  my_sample_pipeline_optional_input: "bye"

instances:
  - name: "acme-network-dev"
    environment: "ENV_NAME"
    spec:
      my_sample_service_instance_required_input: "hi"
      my_sample_service_instance_optional_input: "ho"
```
For more information, see Create a service in the The AWS Proton Administrator Guide and Create a service in the The AWS Proton User Guide.

- For API details, see CreateService in AWS CLI Command Reference.

delete-service

The following code example shows how to use delete-service.

AWS CLI

To delete a service

The following delete-service example deletes a service.

```
aws proton delete-service \
   --name "simple-svc"
```

Output:

```
{
   "service": {
      "arn": "arn:aws:proton:region-id:123456789012:service/simple-svc",
      "branchName": "mainline",
      "createdAt": "2020-11-28T22:40:50.512000+00:00",
      "description": "Edit by updating description",
```
For more information, see Delete a service in the The AWS Proton Administrator Guide.

- For API details, see DeleteService in AWS CLI Command Reference.

get-service

The following code example shows how to use get-service.

AWS CLI

To get service details

The following get-service example gets detail data for a service.

```
aws proton get-service
   --name "simple-svc"
```

Output:

```
{
   "service": {
      "arn": "arn:aws:proton:region-id:123456789012:service/simple-svc",
      "branchName": "mainline",
      "createdAt": "2020-11-28T22:40:50.512000+00:00",
      "lastModifiedAt": "2020-11-29T00:39:248000+00:00",
      "name": "simple-svc",
      "pipeline": {
         "arn": "arn:aws:proton:region-id:123456789012:service/simple-svc/pipeline/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
         "createdAt": "2020-11-28T22:40:50.512000+00:00",
         "deploymentStatus": "SUCCEEDED",
         "lastDeploymentAttemptedAt": "2020-11-29T00:39:248000+00:00",
         "repositoryConnectionArn": "arn:aws:codestar-connections:region-id:123456789012:connection/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
         "repositoryId": "myorg/myapp",
         "status": "DELETE_IN_PROGRESS",
         "templateName": "fargate-service"
      }
   }
}
For more information, see View service data in the The AWS Proton Administrator Guide or View service data in the The AWS Proton User Guide.

- For API details, see GetService in AWS CLI Command Reference.

get-service-instance

The following code example shows how to use get-service-instance.

AWS CLI

To get service instance details

The following get-service-instance example gets detail data for a service instance.

```
aws proton get-service-instance \
  --name "instance-one" \
  --service-name "simple-svc"
```

Output:
For more information, see View service data in the The AWS Proton Administrator Guide or View service data in the The AWS Proton User Guide.

- For API details, see GetServiceInstance in AWS CLI Command Reference.

list-service-instances

The following code example shows how to use list-service-instances.

AWS CLI

Example 1: To list all service instances

The following list-service-instances example lists service instances.

```
aws proton list-service-instances
```

Output:

```
For more information, see View service instance data in the The AWS Proton Administrator Guide or View service instance data in the The AWS Proton User Guide.

Example 2: To list the specified service instance

The following get-service-instance example gets a service instance.

```
aws proton get-service-instance \
  --name "instance-one" \
  --service-name "simple-svc"
```

Output:

```
{
  "serviceInstance": {
    "arn": "arn:aws:proton:region-id:123456789012:service/simple-svc/service-instance/instance-one",
    "createdAt": "2020-11-28T22:40:50.512000+00:00",
    "deploymentStatus": "SUCCEEDED",
    "lastDeploymentAttemptedAt": "2020-11-28T22:40:50.512000+00:00",
    "lastDeploymentSucceededAt": "2020-11-28T22:40:50.512000+00:00",
    "name": "instance-one",
    "serviceName": "simple-svc",
    "templateMajorVersion": "1",
    "templateMinorVersion": "0",
    "templateName": "fargate-service"
  }
}
```
"spec": "proton: ServiceSpec
my_sample_pipeline_optional_input: hello world
my_sample_pipeline_required_input: pipeline up
instances:
- name: instance-one
  environment: my-simple-env
spec:
  my_sample_service_instance_optional_input: Ola
  my_sample_service_instance_required_input: Ciao",
"templateMajorVersion": "1",
"templateMinorVersion": "0",
"templateName": "svc-simple"
}
}

For more information, see View service instance data in the The AWS Proton Administrator Guide or View service instance data in the The AWS Proton User Guide.

- For API details, see ListServiceInstances in AWS CLI Command Reference.

update-service

The following code example shows how to use update-service.

**AWS CLI**

To update a service

The following update-service example edits a service description.

```bash
aws proton update-service \
  --name "MySimpleService" \
  --description "Edit by updating description"
```

Output:

```json
{
  "service": {
    "arn": "arn:aws:proton:region-id:123456789012:service/MySimpleService",
    "branchName": "mainline",
    "createdAt": "2021-03-12T22:39:42.318000+00:00",
    "description": "Edit by updating description",
    "lastModifiedAt": "2021-03-12T22:44:21.975000+00:00",
    "name": "MySimpleService",
    "repositoryConnectionArn": "arn:aws:codestar-connections:region-id:123456789012:connection/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
    "repositoryId": "myorg/myapp",
```
For more information, see Edit a service in the The AWS Proton Administrator Guide or Edit a service in the The AWS Proton User Guide.

- For API details, see UpdateService in AWS CLI Command Reference.

update-service-instance

The following code example shows how to use update-service-instance.

AWS CLI

To update a service instance to a new minor version

The following update-service-instance example updates a service instance to a new minor version of its service template that adds a new instance named "my-other-instance" with a new required input.

```
aws proton update-service-instance
   --service-name "simple-svc" \
   --spec "file://service-spec.yaml " \
   --template-major-version "1" \n   --template-minor-version "1" \n   --deployment-type "MINOR_VERSION" \n   --name "instance-one"
```

Contents of service-spec.yaml:

```
proton: ServiceSpec
pipeline:
    my_sample_pipeline_optional_input: "abc"
    my_sample_pipeline_required_input: "123"
instances:
    - name: "instance-one"
      environment: "simple-env"
      spec:
        my_sample_service_instance_optional_input: "def"
        my_sample_service_instance_required_input: "456"
```
- name: "my-other-instance"
  environment: "simple-env"
  spec:
    my_sample_service_instance_required_input: "789"

Output:

```json
{
  "serviceInstance": {
    "arn": "arn:aws:proton:region-id:123456789012:service/simple-svc/service-instance/instance-one",
    "createdAt": "2021-04-02T21:29:59.962000+00:00",
    "deploymentStatus": "IN_PROGRESS",
    "environmentName": "arn:aws:proton:region-id:123456789012:environment/simple-env",
    "lastDeploymentAttemptedAt": "2021-04-02T21:38:00.823000+00:00",
    "lastDeploymentSucceededAt": "2021-04-02T21:29:59.962000+00:00",
    "name": "instance-one",
    "serviceName": "simple-svc",
    "templateMajorVersion": "1",
    "templateMinorVersion": "0",
    "templateName": "svc-simple"
  }
}
```

For more information, see Update a service instance in the The AWS Proton Administrator Guide or Update a service instance in the The AWS Proton User Guide.

- For API details, see UpdateServiceInstance in AWS CLI Command Reference.

**update-service-pipeline**

The following code example shows how to use update-service-pipeline.

**AWS CLI**

To update a service pipeline

The following update-service-pipeline example updates a service pipeline to a new minor version of its service template.

```bash
aws proton update-service-pipeline \\
### QLDB examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with QLDB.

**Actions** are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

```bash
--service-name "simple-svc" \
--spec "file://service-spec.yaml" \
--template-major-version "1" \
--template-minor-version "1" \
--deployment-type "MINOR_VERSION"
```

Output:

```json
{
    "pipeline": {
        "arn": "arn:aws:proton:region-id:123456789012:service/simple-svc/pipeline/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
        "createdAt": "2021-04-02T21:29:59.962000+00:00",
        "deploymentStatus": "IN_PROGRESS",
        "lastDeploymentAttemptedAt": "2021-04-02T21:39:28.991000+00:00",
        "lastDeploymentSucceededAt": "2021-04-02T21:29:59.962000+00:00",
        "spec": "proton: ServiceSpec

my_sample_pipeline_optional_input: "abc"
my_sample_pipeline_required_input: "123"

instances:
  - name: "my-instance"
    environment: "MySimpleEnv"
    spec:
      my_sample_service_instance_optional_input: "def"
      my_sample_service_instance_required_input: "456"
  - name: "my-other-instance"
    environment: "MySimpleEnv"
    spec:
      my_sample_service_instance_required_input: "789",
        "templateMajorVersion": "1",
        "templateMinorVersion": "0",
        "templateName": "svc-simple"
    }
}
```

For more information, see [Update a service pipeline](https://docs.aws.amazon.com/proton/latest/admguideline/update-service-pipeline.html) in the *The AWS Proton Administrator Guide* or [Update a service pipeline](https://docs.aws.amazon.com/proton/latest/ug/update-service-pipeline.html) in the *The AWS Proton User Guide*.

- For API details, see [UpdateServicePipeline](https://docs.aws.amazon.com/cli/latest/reference/proton/update-service-pipeline.html) in *AWS CLI Command Reference*.
Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics
- Actions

Actions

Create a ledger

The following code example shows how to create a QLDB ledger.

AWS CLI

**Example 1: To create a ledger with default properties**

The following create-ledger example creates a ledger with the name myExampleLedger and the permissions mode STANDARD. The optional parameters for deletion protection and AWS KMS key are not specified, so they default to true and an AWS owned KMS key respectively.

```bash
aws qldb create-ledger \
   --name myExampleLedger \
   --permissions-mode STANDARD
```

Output:

```
{
   "State": "CREATING",
   "DeletionProtection": true,
   "CreationDateTime": 1568839243.951,
   "Name": "myExampleLedger",
   "PermissionsMode": "STANDARD"
}
```

**Example 2: To create a ledger with deletion protection disabled, a customer managed KMS key, and specified tags**
The following `create-ledger` example creates a ledger with the name `myExampleLedger2` and the permissions mode `STANDARD`. The deletion protection feature is disabled, the specified customer managed KMS key is used for encryption at rest, and the specified tags are attached to the resource.

```bash
aws qldb create-ledger \
   --name myExampleLedger2 \
   --permissions-mode STANDARD \
   --no-deletion-protection \
   --kms-key arn:aws:kms:us-west-2:123456789012:key/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111 \
   --tags IsTest=true,Domain=Test
```

Output:

```json
{
   "DeletionProtection": false,
   "CreationDateTime": 1568839543.557,
   "State": "CREATING",
   "Name": "myExampleLedger2",
   "PermissionsMode": "STANDARD",
   "KmsKeyArn": "arn:aws:kms:us-west-2:123456789012:key/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111"
}
```

For more information, see [Basic Operations for Amazon QLDB Ledgers](https://docs.aws.amazon.com/qldb/latest/developerguide/qldb-ledgers-basics.html) in the *Amazon QLDB Developer Guide*.

- For API details, see [CreateLedger](https://docs.aws.amazon.com/cli/latest/reference/qldb/create-ledger.html) in *AWS CLI Command Reference*.

**List your ledgers**

The following code example shows how to list your QLDB ledgers.

**AWS CLI**

**To list your available ledgers**

The following `list-ledgers` example lists all ledgers that are associated with the current AWS account and Region.
aws qldb list-ledgers

Output:

```
{
    "Ledgers": [
    {
        "State": "ACTIVE",
        "CreationDateTime": 1568839243.951,
        "Name": "myExampleLedger"
    },
    {
        "State": "ACTIVE",
        "CreationDateTime": 1568839543.557,
        "Name": "myExampleLedger2"
    }
    ]
}
```

For more information, see Basic Operations for Amazon QLDB Ledgers in the Amazon QLDB Developer Guide.

- For API details, see ListLedgers in AWS CLI Command Reference.

**cancel-journal-kinesis-stream**

The following code example shows how to use cancel-journal-kinesis-stream.

**AWS CLI**

**To cancel a journal stream**

The following cancel-journal-kinesis-stream example cancels the specified journal stream from a ledger.

```
aws qldb cancel-journal-kinesis-stream \
   --ledger-name myExampleLedger \
   --stream-id 7ISCkqwe4y25YyHLzYUFaf
```

Output:
For more information, see Streaming journal data from Amazon QLDB in the Amazon QLDB Developer Guide.

- For API details, see CancelJournalKinesisStream in AWS CLI Command Reference.

delete-ledger

The following code example shows how to use delete-ledger.

AWS CLI

To delete a ledger

The following delete-ledger example deletes the specified ledger.

```
aws qldb delete-ledger \
    --name myExampleLedger
```

This command produces no output.

For more information, see Basic Operations for Amazon QLDB Ledgers in the Amazon QLDB Developer Guide.

- For API details, see DeleteLedger in AWS CLI Command Reference.

describe-journal-kinesis-stream

The following code example shows how to use describe-journal-kinesis-stream.

AWS CLI

To describe a journal stream

The following describe-journal-kinesis-stream example displays the details for the specified journal stream from a ledger.

```
aws qldb describe-journal-kinesis-stream \
```
Output:

```
{
   "Stream": {
      "LedgerName": "myExampleLedger",
      "CreationTime": 1591221984.677,
      "InclusiveStartTime": 1590710400.0,
      "ExclusiveEndTime": 1590796799.0,
      "RoleArn": "arn:aws:iam::123456789012:role/my-kinesis-stream-role",
      "StreamId": "7ISCkqwe4y25YyHLzYUFAf",
      "Arn": "arn:aws:qldb:us-east-1:123456789012:stream/myExampleLedger/7ISCkqwe4y25YyHLzYUFAf",
      "Status": "ACTIVE",
      "KinesisConfiguration": {
         "AggregationEnabled": true
      },
      "StreamName": "myExampleLedger-stream"
   }
}
```

For more information, see [Streaming journal data from Amazon QLDB](https://docs.aws.amazon.com/qldb/latest/developerguide/streaming-journal-streaming.html) in the [Amazon QLDB Developer Guide](https://docs.aws.amazon.com/qldb/latest/developerguide/)


### describe-journal-s3-export

The following code example shows how to use `describe-journal-s3-export`.

#### AWS CLI

To describe a journal export job

The following `describe-journal-s3-export` example displays the details for the specified export job from a ledger.

```
aws qldb describe-journal-s3-export \\
```
The following code example shows how to use `describe-ledger`.

**AWS CLI**

To describe a ledger

The following `describe-ledger` example displays the details for the specified ledger.

```
aws qldb describe-ledger \
  --name myExampleLedger
```
export-journal-to-s3

The following code example shows how to use `export-journal-to-s3`.

**AWS CLI**

To export journal blocks to S3

The following `export-journal-to-s3` example creates an export job for journal blocks within a specified date and time range from a ledger with the name `myExampleLedger`. The export job writes the blocks into a specified Amazon S3 bucket.

```
aws qldb export-journal-to-s3 \
  --name myExampleLedger \
  --inclusive-start-time 2019-09-18T00:00:00Z \
  --exclusive-end-time 2019-09-18T22:59:59Z \
  --role-arn arn:aws:iam::123456789012:role/my-s3-export-role \
  --s3-export-configuration file://my-s3-export-config.json
```

Contents of `my-s3-export-config.json`:
```json
{
    "Bucket": "awsExampleBucket",
    "Prefix": "ledgerexport1/",
    "EncryptionConfiguration": {
        "ObjectEncryptionType": "SSE_S3"
    }
}
```

Output:

```json
{
    "ExportId": "ADR2ONPKN5LINYGb4dp7yZ"
}
```

For more information, see Exporting Your Journal in Amazon QLDB in the Amazon QLDB Developer Guide.

- For API details, see ExportJournalToS3 in AWS CLI Command Reference.

### get-block

The following code example shows how to use `get-block`.

**AWS CLI**

**Example 1: To get a journal block and proof for verification using input files**

The following `get-block` example requests a block data object and a proof from the specified ledger. The request is for a specified digest tip address and block address.

```
aws qldb get-block \
    --name vehicle-registration \
    --block-address file://myblockaddress.json \
    --digest-tip-address file://mydigesttipaddress.json
```

Contents of `myblockaddress.json`:

```json
{
    "IonText": "{strandId:"KmA3ZZca7vAIiJAK9S5Iwl",sequenceNo:100}"
}
```
Contents of mydigesttipaddress.json:

```json
{
   "IonText": "\"KmA3ZZca7vAIiJAK955Iw1\",sequenceNo:123"
}
```

Output:

```json
{
   "Block": {
      "IonText": "{"blockAddress:\"KmA3ZZca7vAIiJAK955Iw1\",sequenceNo:100},transactionId:"FnQeJBaicTX0Ah32ZnVtSX",
      "blockTimestamp":2019-09-16T19:37:05.360Z,blockHash:
      {{NoChM92yKRuJAb/jeLd1VnYn4DHiwif071ACfic9uHc=}},entriesHash:
      {{105Lo9iV145DbuaYnH7uwXzUvqIZwUirLXGbTyj/nY=}},previousBlockHash:
      {{7kewBXhdpdBcLZkxhVmpoMHPuOGJttWQD0iY2LpFzYa=}},entriesHashList:
      ["{eRSwnmAMT7WANWDdSiG0yK+T4tDXyzq6GHZ/0fgLHos=},{{mHVex/yjHAWjFPpwBuh2GKXmKJjK2FBA9faqoUVNtg=},
      {{5CB7p0AIUfsvQ1jQtqE97b4b401R0vnYyE5wWm=},{{TvTXygML1bMe6NvEzTkGkX
      +KR+W/E3l4quD1mmV77KZgq=}],transactionInfo:{statements:["FROM VehicleRegistration AS r \n\nWHERE r.VIN = '1N4AL11D75C109151'\n\nINSERT INTO r.Owners.SecondaryOwners\n\nVALUE { 'PersonId' : 'CMVdR77XP8zAg1mmFDGTvt' }"],startTime:2019-09-16T19:37:05.302Z,statementDigest:
      {{jcgPX2vs03Jwaum4qMDYu1pCAT9xKNIza+2k4R+mxA=}],documents:
      {JUJgkIcNbhJS6g:{tableName:"VehicleRegistration",tableId:
      "BFJkdXgzt9oFw4jMbuzy4Gy",statements:[0]}},revisions:[{"blockAddress:
      "KmA3ZZca7vAIiJAK955Iw1\",sequenceNo:100},hash:
      {{mHVex/yjHAWjFPpwBuh2GKXmKJjK2FBA9faqoUVNtg=}],data:{VIN:
      "1N4AL11D75C109151"},LicensePlateNumber:"LEWISR261LL",State:"WA",
      "PendingPenaltyTicketAmount":90.25,ValidFromDate:2017-08-21,ValidToDate:2020-05-11,Owners:
      {PrimaryOwner:{PersonId:"BFJkdXhnLRT77sXBojNGw"},SecondaryOwners:
      ["CMVdR77XP8zAg1mmFDGTvt"],City:"Everett"},metadata:{id:
      "JUJgkIcNbhS2goq8RqLuZ4"},version:3,txTime:2019-09-16T19:37:05.344Z,txId:
      "FnQeJBaicTX0Ah32ZnVtSX"}]
   }
   ,"Proof": {
      "IonText": "[{l3+Ex5sGi1+rehlqyWLkt+oHDLw4Zi9pCLW/t/mgTPM=},
      {{48CGXg3ehPqxsCYd34EEaBFso0R0pWwAO8010RJKf3Do=}},{{9umwnK5QT0i3ge13MVa
      +tM1qCEDaOPTKwXmyHSn8UPQ=}},{{3nW6Vzyghk+77p6WFCfLufgPM6gqXHyTvNeC61sCwcDaI=},
      {{Ir50FhBnNEQ1VPhz1nGT/ZQpadSmgfdtMYcwkN0xoI=}},{{+3CwpYG/ytf/vq9GidpzSx6JJiLXt1hMQWNNq0y3jyF=},{{NPx6cRhwsiy5m9UEWS5J7IrZoUd02jBOAAOmyZAT
      +qE=}]}}
   }
```

Actions and scenarios
Example 2: To get a journal block and proof for verification using shorthand syntax

The following get-block example requests a block data object and a proof from the specified ledger using shorthand syntax. The request is for a specified digest tip address and block address.

```bash
aws qldb get-block
   --name vehicle-registration
   --block-address 'IonText="{strandId:"KmA3ZZca7vAIIJAK955Iwl",sequenceNo:100}"'
   --digest-tip-address 'IonText="{strandId:"KmA3ZZca7vAIIJAK955Iwl
",sequenceNo:123}"'
```

Output:

```json
{
   "Block": {
      "IonText": "{blockAddress:{strandId:"KmA3ZZca7vAIIJAK955Iwl
",sequenceNo:100},transactionId:"FnQeJBAicTX0Ah32ZnVtSX
\",blockTimestamp:2019-09-16T19:37:05.360Z,blockHash:
{{NoChM9yKRUJAb/jed1vNyn4DHiwIf07JACFic9uHc=}},entriesHash:
{"l05LOsiKV145SduaYnHuwXzUvQzIu1RLXgBjTyj/nY=\}},previousBlockHash:
{"7kwBXhpdB2cXhVmpoMHpU0GtWQD01Y2LPfZkYA=\}},entriesHashList:
[{{eRSwnmAM7WANwDd5iG0yK+T4tDXYzuqH6H/Zf0gLhos=\}},{{mHVex/yjHAWjFPwhBuH2GKxMkJjK2Fba9faqoUVNtg=\}},
{{v5C6Br7p0AIUfsVQi1jOowetE9z7b4b4oo1R0vnYyE5wWM=\}},{{TvTXygMLbM6NvEZtGkX+KR+W/EJ1qD1mmV77KZqg=\}}],transactionInfo:{statements:[{"statement:"FROM VehicleRegistration AS r WHERE r.VIN = '1N4AL11D75C109151'\nINSTALL INTO r.Owners.SecondaryOwners\nVALUE { 'PersonId' : 'CMVdR77XP8zAg1mmFDGTv' }",startTime:2019-09-16T19:37:05.302Z,statementDigest:
{"jcgPX2vx0J0waum4qMDYtnIpCAt9xKINizA+2k4R+mxA=\}]],documents:
{"JUJgkJcNh52gq8RqLuZ4:{tableName:"VehicleRegistration",tableId:
"BFJKdXgzt9O4f4wpiMbbxy4Gk",statements:[0]]},revisions:[{"blockAddress:
{strandId:"KmA3ZZca7vAIIJAK955Iwl
",sequenceNo:100},hash:
{"mHVex/yjHAWjFPwhBuH2GKxMkJjK2Fba9faqoUVNtg=\},data:{VIN:
"1N4AL11D75C109151\",LicensePlateNumber:"LEWISR261LL\",State:"WA\n","PendingPenaltyTicketAmount:90.25,ValidFromDate:2017-08-21,ValidToDate:2020-05-11,Owners:
```
```
For more information, see [Data Verification in Amazon QLDB](https://docs.aws.amazon.com/qldb/latest/developerguide/qldb-developer-guide-data-access.html) in the Amazon QLDB Developer Guide.


### get-digest

The following code example shows how to use `get-digest`.

#### AWS CLI

**To get a digest for a ledger**

The following `get-digest` example requests a digest from the specified ledger at the latest committed block in the journal.

```bash
aws qldb get-digest \
  --name vehicle-registration
```

**Output:**

```json
{
  "Digest": "6m6BMXobbJKpMhahwVthAEsN6awgnHK62Qq5McGP1Gk=",
  "DigestTipAddress": {
    "IonText": "\{strandId:"KmA3ZZca7vAIiJAK9S5Iwl",sequenceNo:123}"
  }
}
```
get-revision

The following code example shows how to use get-revision.

AWS CLI

Example 1: To get a document revision and proof for verification using input files

The following get-revision example requests a revision data object and a proof from the specified ledger. The request is for a specified digest tip address, document ID, and block address of the revision.

```
aws qldb get-revision \
   --name vehicle-registration \ 
   --block-address file://myblockaddress.json \ 
   --document-id JU3gkICNhB52goq8RqLuZ4 \ 
   --digest-tip-address file://mydigesttipaddress.json
```

Contents of `myblockaddress.json`:

```
{
   "IonText": "{strandId:"KmA3ZZca7vAIiJAK9S5Iwl",sequenceNo:100}"
}
```

Contents of `mydigesttipaddress.json`:

```
{
   "IonText": "{strandId:"KmA3ZZca7vAIiJAK9S5Iwl",sequenceNo:123}"
}
```

Output:

```
{
   "Revision": {
      "IonText": "{blockAddress:{strandId:"KmA3ZZca7vAIiJAK9S5Iwl \
",sequenceNo:100},hash:{mHVex/yjHAWjFPwhBuH2GKXmKJjk2FBa9faqoUVNg=}},data:
```
Example 2: To get a document revision and proof for verification using shorthand syntax

The following get-revision example requests a revision data object and a proof from the specified ledger using shorthand syntax. The request is for a specified digest tip address, document ID, and block address of the revision.

```bash
aws qldb get-revision
  --name vehicle-registration
  --block-address 'IonText="{{strandId:"KmA3ZZca7vAIiJAK955Iwl",sequenceNo:100}}"'
  --document-id JUJgkICNhB2goq8RqLuZ4
  --digest-tip-address 'IonText="{{strandId:"KmA3ZZca7vAIiJAK955Iwl
  ",sequenceNo:123}}"'
```

Output:

```json
{
  "Revision": {
    "IonText": "{{blockAddress:"{strandId:"KmA3ZZca7vAIiJAK955Iwl
  ",sequenceNo:100},hash:{mvEx/yjHAWjFPpwhBuH2GKXmKjK2Fba9faqoUVNg=}},data:
```

For more information, see Data Verification in Amazon QLDB in the Amazon QLDB Developer Guide.
For more information, see Data Verification in Amazon QLDB in the Amazon QLDB Developer Guide.

- For API details, see GetRevision in AWS CLI Command Reference.

**list-journal-kinesis-streams-for-ledger**

The following code example shows how to use list-journal-kinesis-streams-for-ledger.

**AWS CLI**

**To list streams for a ledger**

The following list-journal-kinesis-streams-for-ledger example lists journal streams for the specified ledger.

```
aws qldb list-journal-kinesis-streams-for-ledger \
  --ledger-name myExampleLedger
```

**Output:**

```
{
  "Streams": [
```

For more information, see Streaming journal data from Amazon QLDB in the Amazon QLDB Developer Guide.

- For API details, see ListJournalKinesisStreamsForLedger in AWS CLI Command Reference.

**list-journal-s3-exports**

The following code example shows how to use list-journal-s3-exports.

**AWS CLI**

**To list journal export jobs**

The following list-journal-s3-exports example lists journal export jobs for all ledgers that are associated with the current AWS account and Region.

```
aws qldb list-journal-s3-exports
```

**Output:**

```
{
   "JournalS3Exports": [
```

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```
For more information, see Exposing Your Journal in Amazon QLDB in the Amazon QLDB Developer Guide.

- For API details, see ListJournalS3Exports in AWS CLI Command Reference.

list-journal-s3-exports-for-ledger

The following code example shows how to use list-journal-s3-exports-for-ledger.
To list journal export jobs for a ledger

The following `list-journal-s3-exports-for-ledger` example lists journal export jobs for the specified ledger.

```bash
aws qldb list-journal-s3-exports-for-ledger \
--name myExampleLedger
```

Output:

```json
{
  "JournalS3Exports": [ 
    {
      "LedgerName": "myExampleLedger",
      "ExclusiveEndTime": 1568847599.0,
      "ExportCreationTime": 1568847801.418,
      "S3ExportConfiguration": {
        "Bucket": "awsExampleBucket",
        "Prefix": "ledgerexport1/",
        "EncryptionConfiguration": {
          "ObjectEncryptionType": "SSE_S3"
        }
      },
      "ExportId": "ADR2ONPKN5LINYGb4dp7yZ",
      "RoleArn": "arn:aws:iam::123456789012:role/qldb-s3-export",
      "InclusiveStartTime": 1568764800.0,
      "Status": "IN_PROGRESS"
    }
  ]
}
```

For more information, see [Exporting Your Journal in Amazon QLDB](https://docs.aws.amazon.com/qldb/latest/developerguide/qlb-journal-export.html) in the *Amazon QLDB Developer Guide*.

- For API details, see [ListJournalS3ExportsForLedger](https://docs.aws.amazon.com/cli/latest/reference/qldb/list-journal-s3-exports-for-ledger.html) in *AWS CLI Command Reference*.

**list-tags-for-resource**

The following code example shows how to use `list-tags-for-resource`.

```bash
list-tags-for-resource
```
AWS CLI

To list the tags attached to a ledger

The following `list-tags-for-resource` example lists all tags attached to the specified ledger.

```bash
aws qldb list-tags-for-resource \
```

Output:

```json
{
   "Tags": {
      "IsTest": "true",
      "Domain": "Test"
   }
}
```

For more information, see [Tagging Amazon QLDB Resources](https://docs.aws.amazon.com/qldb/latest/developerguide/TaggingAmazonQLDBResources.html) in the Amazon QLDB Developer Guide.

- For API details, see [ListTagsForResource](https://docs.aws.amazon.com/qldb/latest/developerguide/qldb-cli-list-tags-for-resource.html) in AWS CLI Command Reference.

stream-journal-to-kinesis

The following code example shows how to use `stream-journal-to-kinesis`.

AWS CLI

**Example 1: To stream journal data to Kinesis Data Streams using input files**

The following `stream-journal-to-kinesis` example creates a stream of journal data within a specified date and time range from a ledger with the name `myExampleLedger`. The stream sends the data to a specified Amazon Kinesis data stream.

```bash
aws qldb stream-journal-to-kinesis \
   --ledger-name myExampleLedger \
   --inclusive-start-time 2020-05-29T00:00:00Z \
   --exclusive-end-time 2020-05-29T23:59:59Z \
   --role-arn arn:aws:iam::123456789012:role/my-kinesis-stream-role \
   --kinesis-configuration file://my-kinesis-config.json
```
Contents of `my-kinesis-config.json`:

```json
{
    "AggregationEnabled": true
}
```

Output:

```json
{
    "StreamId": "7ISCkqw4y25YyHLzYUFaF"
}
```

For more information, see [Streaming journal data from Amazon QLDB](https://docs.aws.amazon.com/qldb/latest/developerguide/qlb-streaming.html) in the *Amazon QLDB Developer Guide*.

**Example 2: To stream journal data to Kinesis Data Streams using shorthand syntax**

The following `stream-journal-to-kinesis` example creates a stream of journal data within a specified date and time range from a ledger with the name `myExampleLedger`. The stream sends the data to a specified Amazon Kinesis data stream.

```bash
aws qldb stream-journal-to-kinesis \
    --ledger-name myExampleLedger \
    --inclusive-start-time 2020-05-29T00:00:00Z \
    --exclusive-end-time 2020-05-29T23:59:59Z \
    --role-arn arn:aws:iam::123456789012:role/my-kinesis-stream-role \
    --stream-name myExampleLedger-stream \
```

Output:

```json
{
    "StreamId": "7ISCkqw4y25YyHLzYUFaF"
}
```

For more information, see [Streaming journal data from Amazon QLDB](https://docs.aws.amazon.com/qldb/latest/developerguide/qlb-streaming.html) in the *Amazon QLDB Developer Guide*.
tag-resource

The following code example shows how to use tag-resource.

AWS CLI

To tag a ledger

The following tag-resource example adds a set of tags to a specified ledger.

```bash
aws qldb tag-resource \
   --resource-arn arn:aws:qldb:us-west-2:123456789012:ledger/myExampleLedger \
   --tags IsTest=true,Domain=Test
```

This command produces no output.

For more information, see Tagging Amazon QLDB Resources in the Amazon QLDB Developer Guide.

untag-resource

The following code example shows how to use untag-resource.

AWS CLI

To remove tags from a resource

The following untag-resource example removes tags with the specified tag keys from a specified ledger.

```bash
aws qldb untag-resource \
   --resource-arn arn:aws:qldb:us-west-2:123456789012:ledger/myExampleLedger \
   --tag-keys IsTest Domain
```

This command produces no output.

For more information, see Tagging Amazon QLDB Resources in the Amazon QLDB Developer Guide.
update-ledger

The following code example shows how to use update-ledger.

AWS CLI

Example 1: To update the deletion protection property of a ledger

The following update-ledger example updates the specified ledger to disable the deletion protection feature.

```bash
aws qldb update-ledger \
   --name myExampleLedger \
   --no-deletion-protection
```

Output:

```json
{
   "CreationDateTime": 1568839243.951,
   "DeletionProtection": false,
   "Name": "myExampleLedger",
   "State": "ACTIVE"
}
```

Example 2: To update the AWS KMS key of a ledger to a customer managed key

The following update-ledger example updates the specified ledger to use a customer managed KMS key for encryption at rest.

```bash
aws qldb update-ledger \
   --name myExampleLedger \
   --kms-key arn:aws:kms:us-west-2:123456789012:key/a1b2c3d4-5678-90ab-cdef-EXAMPLE1111
```

Output:

```json
{
   "CreationDateTime": 1568839243.951,
   "DeletionProtection": false,
   "Name": "myExampleLedger",
   "State": "ACTIVE"
}
```
Example 3: To update the AWS KMS key of a ledger to an AWS owned key

The following update-ledger example updates the specified ledger to use an AWS owned KMS key for encryption at rest.

```bash
aws qldb update-ledger \
  --name myExampleLedger \
  --kms-key AWS_OWNED_KMS_KEY
```

Output:

```json
{
  "CreationDateTime": 1568839243.951,
  "DeletionProtection": false,
  "Name": "myExampleLedger",
  "State": "ACTIVE",
  "EncryptionDescription": {
    "KmsKeyArn": "arn:aws:kms:us-west-2:123456789012:key/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
    "EncryptionStatus": "UPDATING"
  }
}
```

For more information, see [Basic Operations for Amazon QLDB Ledgers](https://docs.aws.amazon.com/qldb/latest/developerguide/qldb-concept-ledger.html) in the Amazon QLDB Developer Guide.


update-ledger-permissions-mode

The following code example shows how to use update-ledger-permissions-mode.
Example 1: To update the permissions mode of a ledger to STANDARD

The following update-ledger-permissions-mode example assigns the STANDARD permissions mode to the specified ledger.

```bash
aws qldb update-ledger-permissions-mode \
    --name myExampleLedger \
    --permissions-mode STANDARD
```

Output:

```json
{
    "Name": "myExampleLedger",
    "PermissionsMode": "STANDARD"
}
```

Example 2: To update the permissions mode of a ledger to ALLOW_ALL

The following update-ledger-permissions-mode example assigns the ALLOW_ALL permissions mode to the specified ledger.

```bash
aws qldb update-ledger-permissions-mode \
    --name myExampleLedger \
    --permissions-mode ALLOW_ALL
```

Output:

```json
{
    "Name": "myExampleLedger",
    "PermissionsMode": "ALLOW_ALL"
}
```

For more information, see Basic Operations for Amazon QLDB Ledgers in the Amazon QLDB Developer Guide.

- For API details, see UpdateLedgerPermissionsMode in AWS CLI Command Reference.
Amazon RDS examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon RDS.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- *Actions*

**Actions**

**Create a DB instance**

The following code example shows how to create an Amazon RDS DB instance and wait for it to become available.

**AWS CLI**

*To create a DB instance*

The following `create-db-instance` example uses the required options to launch a new DB instance.

```bash
aws rds create-db-instance \
  --db-instance-identifier test-mysql-instance \
  --db-instance-class db.t3.micro \
  --engine mysql \
  --master-username admin \
  --master-user-password secret99 \
  --allocated-storage 20
```
Output:

```json
{
    "DBInstance": {
        "DBInstanceIdentifier": "test-mysql-instance",
        "DBInstanceClass": "db.t3.micro",
        "Engine": "mysql",
        "DBInstanceStatus": "creating",
        "MasterUsername": "admin",
        "AllocatedStorage": 20,
        "PreferredBackupWindow": "12:55-13:25",
        "BackupRetentionPeriod": 1,
        "DBSecurityGroups": [],
        "VpcSecurityGroups": [
            {
                "VpcSecurityGroupId": "sg-12345abc",
                "Status": "active"
            }
        ],
        "DBParameterGroups": [
            {
                "DBParameterGroupName": "default.mysql5.7",
                "ParameterApplyStatus": "in-sync"
            }
        ],
        "DBSubnetGroup": {
            "DBSubnetGroupName": "default",
            "DBSubnetGroupDescription": "default",
            "VpcId": "vpc-2ff2ff2f",
            "SubnetGroupStatus": "Complete",
            "Subnets": [
                {
                    "SubnetIdentifier": "subnet-########",
                    "SubnetAvailabilityZone": {
                        "Name": "us-west-2c"
                    },
                    "SubnetStatus": "Active"
                },
                {
                    "SubnetIdentifier": "subnet-########",
                    "SubnetAvailabilityZone": {
                        "Name": "us-west-2d"
                    },
                    "SubnetStatus": "Active"
                }
            ]
        }
    }
}
```
{
    "SubnetIdentifier": "subnet-########",
    "SubnetAvailabilityZone": {
        "Name": "us-west-2a"
    },
    "SubnetStatus": "Active"
},
{
    "SubnetIdentifier": "subnet-########",
    "SubnetAvailabilityZone": {
        "Name": "us-west-2b"
    },
    "SubnetStatus": "Active"
}
],
"PreferredMaintenanceWindow": "sun:08:07-sun:08:37",
"PendingModifiedValues": {
    "MasterUserPassword": "****"
},
"MultiAZ": false,
"EngineVersion": "5.7.22",
"AutoMinorVersionUpgrade": true,
"ReadReplicaDBInstanceIdentifiers": [],
"LicenseModel": "general-public-license",
"OptionGroupMemberships": [
    {
        "OptionGroupName": "default:mysql-5-7",
        "Status": "in-sync"
    }
],
"PubliclyAccessible": true,
"StorageType": "gp2",
"DbInstancePort": 0,
"StorageEncrypted": false,
"DbiResourceId": "db-5555EXAMPLE44444444EXAMPLE",
"CACertificateIdentifier": "rds-ca-2019",
"DomainMemberships": [],
"CopyTagsToSnapshot": false,
"MonitoringInterval": 0,
"IAMDatabaseAuthenticationEnabled": false,
"PerformanceInsightsEnabled": false,
"DeletionProtection": false,
"AssociatedRoles": []
}
}

For more information, see Creating an Amazon RDS DB Instance in the Amazon RDS User Guide.

- For API details, see CreateDBInstance in AWS CLI Command Reference.

**Create a DB parameter group**

The following code example shows how to create an Amazon RDS DB parameter group.

**AWS CLI**

**To create a DB parameter group**

The following create-db-parameter-group example creates a DB parameter group.

```
aws rds create-db-parameter-group \
    --db-parameter-group-name mydbparametergroup \
    --db-parameter-group-family MySQL5.6 \
    --description "My new parameter group"
```

**Output:**

```
{
    "DBParameterGroup": {
        "DBParameterGroupName": "mydbparametergroup",
        "DBParameterGroupFamily": "mysql5.6",
        "Description": "My new parameter group",
        "DBParameterGroupArn": "arn:aws:rds:us-east-1:123456789012:pg:mydbparametergroup"
    }
}
```

For more information, see Creating a DB Parameter Group in the Amazon RDS User Guide.

- For API details, see CreateDBParameterGroup in AWS CLI Command Reference.
Create a snapshot of a DB instance

The following code example shows how to create a snapshot of an Amazon RDS DB instance.

AWS CLI

To create a DB snapshot

The following create-db-snapshot example creates a DB snapshot.

```bash
aws rds create-db-snapshot \
   --db-instance-identifier database-mysql \n   --db-snapshot-identifier mydbsnapshot
```

Output:

```
{
   "DBSnapshot": {
       "DBSnapshotIdentifier": "mydbsnapshot",
       "DBInstanceIdentifier": "database-mysql",
       "Engine": "mysql",
       "AllocatedStorage": 100,
       "Status": "creating",
       "Port": 3306,
       "AvailabilityZone": "us-east-1b",
       "VpcId": "vpc-6594f31c",
       "InstanceCreateTime": "2019-04-30T15:45:53.663Z",
       "MasterUsername": "admin",
       "EngineVersion": "5.6.40",
       "LicenseModel": "general-public-license",
       "SnapshotType": "manual",
       "Iops": 1000,
       "OptionGroupName": "default:mysql-5-6",
       "PercentProgress": 0,
       "StorageType": "io1",
       "Encrypted": true,
       "KmsKeyId": "arn:aws:kms:us-east-1:123456789012:key/AKIAIOSFODNN7EXAMPLE",
       "DBSnapshotArn": "arn:aws:rds:us-east-1:123456789012:snapshot:mydbsnapshot",
       "IAMDatabaseAuthenticationEnabled": false,
       "ProcessorFeatures": [],
       "DbiResourceIdentifier": "db-AKIAIOSFODNN7EXAMPLE"
   }
}
```
Delete a DB instance

The following code example shows how to delete an Amazon RDS DB instance.

**AWS CLI**

**To delete a DB instance**

The following `delete-db-instance` example deletes the specified DB instance after creating a final DB snapshot named `test-instance-final-snap`.

```
aws rds delete-db-instance \
  --db-instance-identifier test-instance \
  --final-db-snapshot-identifier test-instance-final-snap
```

**Output:**

```
{
   "DBInstance": {
      "DBInstanceIdentifier": "test-instance",
      "DBInstanceStatus": "deleting",
      ...
   }
}
```

- For API details, see [DeleteDBInstance](#) in AWS CLI Command Reference.

Delete a DB parameter group

The following code example shows how to delete an Amazon RDS DB parameter group.

**AWS CLI**

**To delete a DB parameter group**

The following command example deletes a DB parameter group.

```
aws rds delete-db-parameter-group \
```

For more information, see [Creating a DB Snapshot](#) in the Amazon RDS User Guide.
- For API details, see [CreateDBSnapshot](#) in AWS CLI Command Reference.
--db-parameter-group-name mydbparametergroup

This command produces no output.

For more information, see Working with DB Parameter Groups in the Amazon RDS User Guide.

- For API details, see DeleteDBParameterGroup in AWS CLI Command Reference.

Describe DB instances

The following code example shows how to describe Amazon RDS DB instances.

AWS CLI

To describe a DB instance

The following describe-db-instances example retrieves details about the specified DB instance.

```bash
aws rds describe-db-instances \
   --db-instance-identifier mydbinstancecf
```

Output:

```json
{
   "DBInstances": [
      {
        "DBInstanceIdentifier": "mydbinstancecf",
        "DBInstanceClass": "db.t3.small",
        "Engine": "mysql",
        "DBInstanceStatus": "available",
        "MasterUsername": "masterawsuser",
        "Endpoint": {
          "Address": "mydbinstancecf.abcexample.us-east-1.rds.amazonaws.com",
          "Port": 3306,
          "HostedZoneId": "Z2R2ITUGPM61AM"
        },
        ...some output truncated...
      }
   ]
}
```
Describe DB parameter groups

The following code example shows how to describe Amazon RDS DB parameter groups.

AWS CLI

To describe your DB parameter group

The following describe-db-parameter-groups example retrieves details about your DB parameter groups.

```bash
aws rds describe-db-parameter-groups
```

Output:

```json
{
    "DBParameterGroups": [
    {
        "DBParameterGroupName": "default.aurora-mysql5.7",
        "DBParameterGroupFamily": "aurora-mysql5.7",
        "Description": "Default parameter group for aurora-mysql5.7",
        "DBParameterGroupArn": "arn:aws:rds:us-east-1:123456789012:pg:default.aurora-mysql5.7"
    },
    {
        "DBParameterGroupName": "default.aurora-postgresql9.6",
        "DBParameterGroupFamily": "aurora-postgresql9.6",
        "Description": "Default parameter group for aurora-postgresql9.6",
        "DBParameterGroupArn": "arn:aws:rds:us-east-1:123456789012:pg:default.aurora-postgresql9.6"
    },
    {
        "DBParameterGroupName": "default.aurora5.6",
        "DBParameterGroupFamily": "aurora5.6",
        "Description": "Default parameter group for aurora5.6",
        "DBParameterGroupArn": "arn:aws:rds:us-east-1:123456789012:pg:default.aurora5.6"
    },
    {
        "DBParameterGroupName": "default.mariadb10.1",
```
"DBParameterGroupFamily": "mariadb10.1",
"Description": "Default parameter group for mariadb10.1",
"DBParameterGroupArn": "arn:aws:rds:us-east-1:123456789012:pg:default.mariadb10.1"
},
...some output truncated...

For more information, see Working with DB Parameter Groups in the Amazon RDS User Guide.
• For API details, see DescribeDBParameterGroups in AWS CLI Command Reference.

Describe database engine versions

The following code example shows how to describe Amazon RDS database engine versions.

AWS CLI

To describe the DB engine versions for the MySQL DB engine

The following describe-db-engine-versions example displays details about each of the DB engine versions for the specified DB engine.

```bash
aws rds describe-db-engine-versions 
  --engine mysql
```

Output:

```json
{
  "DBEngineVersions": [
  {
    "Engine": "mysql",
    "EngineVersion": "5.5.46",
    "DBParameterGroupFamily": "mysql5.5",
    "DBEngineDescription": "MySQL Community Edition",
    "DBEngineVersionDescription": "MySQL 5.5.46",
    "ValidUpgradeTarget": [
      {
        "Engine": "mysql",
        "EngineVersion": "5.5.53",
        "Description": "MySQL 5.5.53",
        "AutoUpgrade": false,
```
Describe options for DB instances

The following code example shows how to describe options for Amazon RDS DB instances.

**AWS CLI**

To describe orderable DB instance options

The following describe-orderable-db-instance-options example retrieves details about the orderable options for a DB instances running the MySQL DB engine.

```
aws rds describe-orderable-db-instance-options \
    --engine mysql
```

Output:

```json
{
}
```
"OrderableDBInstanceOptions": [ 
  {
    "MinStorageSize": 5,
    "ReadReplicaCapable": true,
    "MaxStorageSize": 6144,
    "AvailabilityZones": [
      {
        "Name": "us-east-1a"
      },
      {
        "Name": "us-east-1b"
      },
      {
        "Name": "us-east-1c"
      },
      {
        "Name": "us-east-1d"
      }
    ],
    "SupportsIops": false,
    "AvailableProcessorFeatures": [],
    "MultiAZCapable": true,
    "DBInstanceClass": "db.m1.large",
    "Vpc": true,
    "StorageType": "gp2",
    "LicenseModel": "general-public-license",
    "EngineVersion": "5.5.46",
    "SupportsStorageEncryption": false,
    "SupportsEnhancedMonitoring": true,
    "Engine": "mysql",
    "SupportsIAMDatabaseAuthentication": false,
    "SupportsPerformanceInsights": false
  }
]
...some output truncated...

- For API details, see DescribeOrderableDBInstanceOptions in AWS CLI Command Reference.

Describe parameters in a DB parameter group

The following code example shows how to describe parameters in an Amazon RDS DB parameter group.
AWS CLI

To describe the parameters in a DB parameter group

The following describe-db-parameters example retrieves the details of the specified DB parameter group.

```
aws rds describe-db-parameters \\
--db-parameter-group-name mydbpg
```

Output:

```
{
  "Parameters": [
    {
      "ParameterName": "allow-suspicious-udfs",
      "Description": "Controls whether user-defined functions that have only an xxx symbol for the main function can be loaded",
      "Source": "engine-default",
      "ApplyType": "static",
      "DataType": "boolean",
      "AllowedValues": "0,1",
      "IsModifiable": false,
      "ApplyMethod": "pending-reboot"
    },
    {
      "ParameterName": "auto_generate_certs",
      "Description": "Controls whether the server autogenerates SSL key and certificate files in the data directory, if they do not already exist.",
      "Source": "engine-default",
      "ApplyType": "static",
      "DataType": "boolean",
      "AllowedValues": "0,1",
      "IsModifiable": false,
      "ApplyMethod": "pending-reboot"
    }
  ]
}
```

For more information, see Working with DB Parameter Groups in the Amazon RDS User Guide.

- For API details, see DescribeDBParameters in AWS CLI Command Reference.
Describe snapshots of DB instances

The following code example shows how to describe snapshots of Amazon RDS DB instances.

**AWS CLI**

**Example 1: To describe a DB snapshot for a DB instance**

The following `describe-db-snapshots` example retrieves the details of a DB snapshot for a DB instance.

```bash
aws rds describe-db-snapshots \
    --db-snapshot-identifier mydbsnapshot
```

Output:

```json
{
    "DBSnapshots": [
        {
            "DBSnapshotIdentifier": "mydbsnapshot",
            "DBInstanceIdentifier": "mysqldb",
            "SnapshotCreateTime": "2018-02-08T22:28:08.598Z",
            "Engine": "mysql",
            "AllocatedStorage": 20,
            "Status": "available",
            "Port": 3306,
            "AvailabilityZone": "us-east-1f",
            "VpcId": "vpc-6594f31c",
            "InstanceCreateTime": "2018-02-08T22:24:55.973Z",
            "MasterUsername": "mysqladmin",
            "EngineVersion": "5.6.37",
            "LicenseModel": "general-public-license",
            "SnapshotType": "manual",
            "OptionGroupName": "default:mysql-5-6",
            "PercentProgress": 100,
            "StorageType": "gp2",
            "Encrypted": false,
            "DBSnapshotArn": "arn:aws:rds:us-east-1:123456789012:snapshot:mydbsnapshot",
            "IAMDatabaseAuthenticationEnabled": false,
            "ProcessorFeatures": [],
            "DbiResourceId": "db-AKIAIOSFODNNEXAMPLE"
        }
    ]
}
```
Example 2: To find the number of manual snapshots taken

The following describe-db-snapshots example uses the length operator in the --query option to return the number of manual snapshots that have been taken in a particular AWS Region.

```
aws rds describe-db-snapshots \
   --snapshot-type manual \
   --query "length(*[].{DBSnapshots:SnapshotType})" \
   --region eu-central-1
```

Output:

```
35
```

For more information, see Creating a DB Snapshot in the Amazon RDS User Guide.

- For API details, see DescribeDBSnapshots in AWS CLI Command Reference.

Modify a DB instance

The following code example shows how to modify an Amazon RDS DB instance.

AWS CLI

To modify a DB instance

The following modify-db-instance example associates an option group and a parameter group with a compatible Microsoft SQL Server DB instance. The --apply-immediately parameter causes the option and parameter groups to be associated immediately, instead of waiting until the next maintenance window.

```
aws rds modify-db-instance \
   --db-instance-identifier database-2 \
   --option-group-name test-se-2017 \
   --db-parameter-group-name test-sqlserver-se-2017 \
```
Output:

```json
{
    "DBInstance": {
        "DBInstanceIdentifier": "database-2",
        "DBInstanceClass": "db.r4.large",
        "Engine": "sqlserver-se",
        "DBInstanceStatus": "available",
        ...output omitted...
        "DBParameterGroups": [
            {
                "DBParameterGroupName": "test-sqlserver-se-2017",
                "ParameterApplyStatus": "applying"
            }
        ],
        "AvailabilityZone": "us-west-2d",
        ...output omitted...
        "MultiAZ": true,
        "EngineVersion": "14.00.3281.6.v1",
        "AutoMinorVersionUpgrade": false,
        "ReadReplicaDBInstanceIdentifiers": [],
        "LicenseModel": "license-included",
        "OptionGroupMemberships": [
            {
                "OptionGroupName": "test-se-2017",
                "Status": "pending-apply"
            }
        ],
        "CharacterSet": "SQL_Latin1_General_CP1_CI_AS",
        "SecondaryAvailabilityZone": "us-west-2c",
        "PubliclyAccessible": true,
        "StorageType": "gp2",
        ...output omitted...
        "DeletionProtection": false,
        "AssociatedRoles": []
    }
}
```
"MaxAllocatedStorage": 1000
}
}

For more information, see Modifying an Amazon RDS DB Instance in the Amazon RDS User Guide.

- For API details, see ModifyDBInstance in AWS CLI Command Reference.

Reboot a DB instance

The following code example shows how to reboot an Amazon RDS DB instance.

AWS CLI

To reboot a DB instance

The following reboot-db-instance example starts a reboot of the specified DB instance.

```bash
aws rds reboot-db-instance \
  --db-instance-identifier test-mysql-instance
```

Output:

```json
{
  "DBInstance": {
    "DBInstanceIdentifier": "test-mysql-instance",
    "DBInstanceClass": "db.t3.micro",
    "Engine": "mysql",
    "DBInstanceStatus": "rebooting",
    "MasterUsername": "admin",
    "Endpoint": {
      "Address": "test-mysql-instance.############.us-west-2.rds.amazonaws.com",
      "Port": 3306,
      "HostedZoneId": "Z1PVIF0EXAMPLE"
    },
    ... output omitted...
  }
}
```
For more information, see Rebooting a DB Instance in the Amazon RDS User Guide.

- For API details, see RebootDBInstance in AWS CLI Command Reference.

Retrieve attributes

The following code example shows how to retrieve attributes that belong to an Amazon RDS account.

AWS CLI

To describe account attributes

The following describe-account-attributes example retrieves the attributes for the current AWS account.

```bash
aws rds describe-account-attributes
```

Output:

```json
{
   "AccountQuotas": [
      {
         "Max": 40,
         "Used": 4,
         "AccountQuotaName": "DBInstances"
      },
      {
         "Max": 40,
         "Used": 0,
         "AccountQuotaName": "ReservedDBInstances"
      },
      {
         "Max": 100000,
         "Used": 40,
         "AccountQuotaName": "AllocatedStorage"
      },
      {
         "Max": 25,
         "Used": 0,
         "AccountQuotaName": "DBSecurityGroups"
      },
      {
```
"Max": 20,
"Used": 0,
"AccountQuotaName": "AuthorizationsPerDBSecurityGroup"
},
{
"Max": 50,
"Used": 1,
"AccountQuotaName": "DBParameterGroups"
},
{
"Max": 100,
"Used": 3,
"AccountQuotaName": "ManualSnapshots"
},
{
"Max": 20,
"Used": 0,
"AccountQuotaName": "EventSubscriptions"
},
{
"Max": 50,
"Used": 1,
"AccountQuotaName": "DBSubnetGroups"
},
{
"Max": 20,
"Used": 1,
"AccountQuotaName": "OptionGroups"
},
{
"Max": 20,
"Used": 6,
"AccountQuotaName": "SubnetsPerDBSubnetGroup"
},
{
"Max": 5,
"Used": 0,
"AccountQuotaName": "ReadReplicasPerMaster"
},
{
"Max": 40,
"Used": 1,
"AccountQuotaName": "DBClusters"
},
Update parameters in a DB parameter group

The following code example shows how to update parameters in an Amazon RDS DB parameter group.

**AWS CLI**

**To modify a DB parameter group**

The following `modify-db-parameter-group` example changes the value of the `clr enabled` parameter in a DB parameter group. The `--apply-immediately` parameter causes the DB parameter group to be modified immediately, instead of waiting until the next maintenance window.

```bash
aws rds modify-db-parameter-group \
  --db-parameter-group-name test-sqlserver-se-2017 \
  --parameters "ParameterName='clr enabled',ParameterValue=1,ApplyMethod=immediate"
```

**Output:**

```json
{
  "DBParameterGroupName": "test-sqlserver-se-2017"
}
```
For more information, see [Modifying Parameters in a DB Parameter Group](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/ModifyingParameters.html) in the *Amazon RDS User Guide*.

- For API details, see [ModifyDBParameterGroup](https://docs.aws.amazon.com/cli/latest/reference/rds/modify-db-parameter-group.html) in *AWS CLI Command Reference*.

### add-option-to-option-group

The following code example shows how to use `add-option-to-option-group`.

#### AWS CLI

**To add an option to an option group**

The following `add-option-to-option-group` example adds an option to the specified option group.

```bash
aws rds add-option-to-option-group \
  --option-group-name myoptiongroup \
  --options OptionName=OEM,Port=5500,DBSecurityGroupMemberships=default \
  --apply-immediately
```

**Output:**

```json
{
  "OptionGroup": {
    "OptionGroupName": "myoptiongroup",
    "OptionGroupDescription": "Test Option Group",
    "EngineName": "oracle-ee",
    "MajorEngineVersion": "12.1",
    "Options": [
    {
      "OptionName": "Timezone",
      "OptionDescription": "Change time zone",
      "Persistent": true,
      "Permanent": false,
      "OptionSettings": [
      {
        "Name": "TIME_ZONE",
        "Value": "Australia/Sydney",
        "DefaultValue": "UTC",
        "Description": "Specifies the timezone the user wants to change the system time to",
        "ApplyType": "DYNAMIC",
```

---

**Actions and scenarios**
"DataType": "STRING",
"AllowedValues": "Africa/Cairo,Africa/Casablanca,Africa/Harare,Africa/Lagos,Africa/Luanda,Africa/Monrovia,Africa/Nairobi,Africa/Tripoli,Africa/Windhoek,America/Araguaina,America/Argentina/Buenos_Aires,America/Asuncion,America/Bogota,America/Caracas,America/Chicago,America/Chihuahua,America/Cuiba,America/Denver,America/Detroit,America/Fortaleza,America/Godthab,America/Guatemala,America/Halifax,America/Lima,America/Los_Angeles,America/Manaus,America/Matamoros,America/Mexico_City,America/Monterrey,America/Montevideo,America/New_York,America/Phoenix,America/Santiago,America/Sao_Paulo,America/Tijuana,America/Toronto,Asia/Amman,Asia/Ashgabat,Asia/Baghdad,Asia/Baku,Asia/Bangkok,Asia/Beirut,Asia/Calcutta,Asia/Damascus,Asia/Dhaka,Asia/Hong_Kong,Asia/Irkutsk,Asia/Jakarta,Asia/Jerusalem,Asia/Kabul,Asia/Karachi,Asia/Kathmandu,Asia/Kolkata,Asia/Krasnoyarsk,Asia/Magadan,Asia/Manila,Asia/Muscat,Asia/Novosibirsk,Asia/Rangoon,Asia/Riyadh,Asia/Seoul,Asia/Shanghai,Asia/Singapore,Asia/Taipei,Asia/Tehran,Asia/Tokyo,Asia/Ulaanbaatar,Asia/Vladivostok,Asia/Yakutsk,Asia/Yerevan,Atlantic/Azores,Atlantic/Cape_Verde,Australia/Adelaide,Australia/Brisbane,Australia/Darwin,Australia/Eucla,Australia/Hobart,Australia/Lord_Howe,Australia/Perth,Australia/Sydney,Brazil/DeNoronha,Brazil/East,Canada/Newfoundland,Canada/Saskatchewan,Etc/GMT-3,Europe/Amsterdam,Europe/Athens,Europe/Berlin,Europe/Dublin,Europe/Helsinki,Europe/Kaliningrad,Europe/London,Europe/Madrid,Europe/Moscow,Europe/Paris,Europe/Prague,Europe/Rome,Europe/Sarajevo,Pacific/Apia,Pacific/Auckland,Pacific/Chatham,Pacific/Fiji,Pacific/Guam,Pacific/Honolulu,Pacific/Kiritimati,Pacific/Marquesas,Pacific/Samoa,Pacific/Tongatapu,Pacific/Wake,US/Alaska,US/Central,US/East-Indiana,US/Eastern,US/Pacific,UTC",
"IsModifiable": true,
"IsCollection": false
],
"DBSecurityGroupMemberships": [],
"VpcSecurityGroupMemberships": []
},
{
"OptionName": "OEM",
"OptionDescription": "Oracle 12c EM Express",
"Persistent": false,
"Permanent": false,
"Port": 5500,
"OptionSettings": [],
"DBSecurityGroupMemberships": [
{
"DBSecurityGroupName": "default",
"Status": "authorized"
}
],
"Actions and scenarios": 4875
"VpcSecurityGroupMemberships": []
],
"AllowsVpcAndNonVpcInstanceMemberships": false,
"OptionGroupArn": "arn:aws:rds:us-east-1:123456789012:og:myoptiongroup"
}
}

For more information, see Adding an Option to an Option Group in the Amazon RDS User Guide.

- For API details, see AddOptionToOptionGroup in AWS CLI Command Reference.

**add-role-to-db-cluster**

The following code example shows how to use add-role-to-db-cluster.

**AWS CLI**

To associate an AWS Identity and Access Management (IAM) role with a DB cluster

The following add-role-to-db-cluster example associates a role with a DB cluster.

```
aws rds add-role-to-db-cluster \
--db-cluster-identifier mydbcluster \
--role-arn arn:aws:iam::123456789012:role/RDSLoadFromS3
```

This command produces no output.

For more information, see Associating an IAM role with an Amazon Aurora MySQL DB cluster in the Amazon Aurora User Guide.

- For API details, see AddRoleToDbCluster in AWS CLI Command Reference.

**add-role-to-db-instance**

The following code example shows how to use add-role-to-db-instance.

**AWS CLI**

To associate an AWS Identity and Access Management (IAM) role with a DB instance

The following add-role-to-db-instance example adds the role to an Oracle DB instance named test-instance.
aws rds add-role-to-db-instance \
   --db-instance-identifier test-instance \
   --feature-name S3_INTEGRATION \
   --role-arn arn:aws:iam::111122223333:role/rds-s3-integration-role

This command produces no output.

For more information, see Prerequisites for Amazon RDS Oracle Integration with Amazon S3 in the Amazon RDS User Guide.

- For API details, see AddRoleToDbInstance in AWS CLI Command Reference.

add-source-identifier-to-subscription

The following code example shows how to use add-source-identifier-to-subscription.

AWS CLI

To add a source identifier to a subscription

The following add-source-identifier example adds another source identifier to an existing subscription.

aws rds add-source-identifier-to-subscription \
   --subscription-name my-instance-events \
   --source-identifier test-instance-repl

Output:

```json
{
   "EventSubscription": {
      "SubscriptionCreationTime": "Tue Jul 31 23:22:01 UTC 2018",
      "CustSubscriptionId": "my-instance-events",
      "Enabled": false,
      "Status": "modifying",
      "EventCategoriesList": [
         "backup",
         "recovery"
      ],
      "CustomerAwsId": "123456789012",
```
"SnsTopicArn": "arn:aws:sns:us-east-1:123456789012:interesting-events",
"SourceType": "db-instance",
"SourceIdsList": [
   "test-instance",
   "test-instance-repl"
]
}
}

- For API details, see AddSourceIdentifierToSubscription in AWS CLI Command Reference.

**add-tags-to-resource**

The following code example shows how to use add-tags-to-resource.

**AWS CLI**

**To add tags to a resource**

The following add-tags-to-resource example add tags to an RDS database.

```bash
aws rds add-tags-to-resource \
   --resource-name arn:aws:rds:us-east-1:123456789012:db:database-mysql \
   --tags "[{"Key": "Name","Value": "MyDatabase"},{"Key": "Environment","Value": "test"}]"
```

This command produces no output.

For more information, see Tagging Amazon RDS Resources in the Amazon RDS User Guide.

- For API details, see AddTagsToResource in AWS CLI Command Reference.

**apply-pending-maintenance-action**

The following code example shows how to use apply-pending-maintenance-action.

**AWS CLI**

**To apply pending maintenance actions**

The following apply-pending-maintenance-action example applies the pending maintenance actions for a DB cluster.
aws rds apply-pending-maintenance-action \
--resource-identifier arn:aws:rds:us-east-1:123456789012:cluster:my-db-cluster \
--apply-action system-update \
--opt-in-type immediate

Output:

```json
{
   "ResourcePendingMaintenanceActions": {
      "ResourceIdentifier": "arn:aws:rds:us-east-1:123456789012:cluster:my-db-cluster",
      "PendingMaintenanceActionDetails": [
         {
            "Action": "system-update",
            "OptInStatus": "immediate",
            "CurrentApplyDate": "2021-01-23T01:07:36.100Z",
            "Description": "Upgrade to Aurora PostgreSQL 3.3.2"
         }
      ]
   }
}
```

For more information, see Maintaining a DB instance in the Amazon RDS User Guide and Maintaining an Amazon Aurora DB cluster in the Amazon Aurora User Guide.

- For API details, see ApplyPendingMaintenanceAction in AWS CLI Command Reference.

authorize-db-security-group-ingress

The following code example shows how to use authorize-db-security-group-ingress.

**AWS CLI**

**To associate an AWS Identity and Access Management (IAM) role with a DB instance**

The following authorize-db-security-group-ingress example configures the default security group with an ingress rule for the CIDR IP range 192.0.2.0/24.

```bash
aws rds authorize-db-security-group-ingress \
   --db-security-group-name default \
   --cidrip 192.0.2.0/24
```
Output:

```
{
   "DBSecurityGroup": {
      "OwnerId": "123456789012",
      "DBSecurityGroupName": "default",
      "DBSecurityGroupDescription": "default",
      "EC2SecurityGroups": [],
      "IPRanges": [
         {
            "Status": "authorizing",
            "CIDRIP": "192.0.2.0/24"
         }
      ],
      "DBSecurityGroupArn": "arn:aws:rds:us-east-1:111122223333:secgrp:default"
   }
}
```

For more information, see Authorizing Network Access to a DB Security Group from an IP Range in the Amazon RDS User Guide.

- For API details, see AuthorizeDbSecurityGroupIngress in AWS CLI Command Reference.

`backtrack-db-cluster`

The following code example shows how to use backtrack-db-cluster.

**AWS CLI**

To backtrack an Aurora DB cluster

The following backtrack-db-cluster example backtracks the specified DB cluster sample-cluster to March 19, 2018, at 10 a.m.

```
aws rds backtrack-db-cluster --db-cluster-identifier sample-cluster --backtrack-to 2018-03-19T10:00:00+00:00
```

This command outputs a JSON block that acknowledges the change to the RDS resource.

- For API details, see BacktrackDbCluster in AWS CLI Command Reference.
cancel-export-task

The following code example shows how to use cancel-export-task.

AWS CLI

To cancel a snapshot export to Amazon S3

The following cancel-export-task example cancels an export task in progress that is exporting a snapshot to Amazon S3.

aws rds cancel-export-task \
   --export-task-identifier my-s3-export-1

Output:

```json
{
   "ExportTaskIdentifier": "my-s3-export-1",
   "SnapshotTime": "2019-03-24T20:01:09.815Z",
   "S3Bucket": "mybucket",
   "S3Prefix": ",",
   "IamRoleArn": "arn:aws:iam::123456789012:role/service-role/export-snap-S3-role",
   "KmsKeyId": "arn:aws:kms:us-east-1:123456789012:key/abcd0000-7bfd-4594-af38-aabbccddeeff",
   "Status": "CANCELING",
   "PercentProgress": 0,
   "TotalExtractedDataInGB": 0
}
```

For more information, see Canceling a snapshot export task in the Amazon RDS User Guide or Canceling a snapshot export task in the Amazon Aurora User Guide.

- For API details, see CancelExportTask in AWS CLI Command Reference.

copy-db-cluster-parameter-group

The following code example shows how to use copy-db-cluster-parameter-group.

AWS CLI

To copy a DB cluster parameter group
The following `copy-db-cluster-parameter-group` example makes a copy of a DB cluster parameter group.

```bash
aws rds copy-db-cluster-parameter-group \
   --source-db-cluster-parameter-group-identifier mydbclusterpg \
   --target-db-cluster-parameter-group-identifier mydbclusterpgcopy \
   --target-db-cluster-parameter-group-description "Copy of mydbclusterpg parameter group"
```

Output:

```json
{
   "DBClusterParameterGroup": {
      "DBClusterParameterGroupName": "mydbclusterpgcopy",
      "DBParameterGroupFamily": "aurora-mysql5.7",
      "Description": "Copy of mydbclusterpg parameter group"
   }
}
```

For more information, see [Copying a DB Cluster Parameter Group](https://docs.aws.amazon.com/aurora/latest/userguide/aurora-copy-dbparametergroup.html) in the *Amazon Aurora Users Guide*.

- For API details, see [CopyDbClusterParameterGroup](https://docs.aws.amazon.com/cli/latest/reference/rds/copy-db-cluster-parameter-group.html) in *AWS CLI Command Reference*.

---

### copy-db-cluster-snapshot

The following code example shows how to use `copy-db-cluster-snapshot`.

**AWS CLI**

**To copy a DB cluster snapshot**

The following `copy-db-cluster-snapshot` example creates a copy of a DB cluster snapshot, including its tags.

```bash
aws rds copy-db-cluster-snapshot \
   --target-db-cluster-snapshot-identifier myclustersnapshotcopy \
   --copy-tags
```
Output:

```json
{
  "DBClusterSnapshot": {
    "AvailabilityZones": [
      "us-east-1a",
      "us-east-1b",
      "us-east-1e"
    ],
    "DBClusterSnapshotIdentifier": "myclustersnapshotcopy",
    "DBClusterIdentifier": "myaurora",
    "SnapshotCreateTime": "2019-06-04T09:16:42.649Z",
    "Engine": "aurora-mysql",
    "AllocatedStorage": 0,
    "Status": "available",
    "Port": 0,
    "VpcId": "vpc-6594f31c",
    "ClusterCreateTime": "2019-04-15T14:18:42.785Z",
    "MasterUsername": "myadmin",
    "EngineVersion": "5.7.mysql_aurora.2.04.2",
    "LicenseModel": "aurora-mysql",
    "SnapshotType": "manual",
    "PercentProgress": 100,
    "StorageEncrypted": true,
    "KmsKeyId": "arn:aws:kms:us-east-1:123456789012:key/AKIAIOSFODNN7EXAMPLE",
    "IAMDatabaseAuthenticationEnabled": false
  }
}
```

For more information, see [Copying a Snapshot](https://docs.aws.amazon.com/AmazonAurora/latest/UserGuide/Aurora-DB-ClusterSnapshot copies.html) in the *Amazon Aurora User Guide*.

- For API details, see [CopyDbClusterSnapshot](https://docs.aws.amazon.com/cli/latest/reference/rds/copy-db-cluster-snapshot.html) in *AWS CLI Command Reference*.

**copy-db-parameter-group**

The following code example shows how to use `copy-db-parameter-group`.

**AWS CLI**

```
To copy a DB cluster parameter group
```
The following `copy-db-parameter-group` example makes a copy of a DB parameter group.

```bash
aws rds copy-db-parameter-group \
    --source-db-parameter-group-identifier mydbpg \
    --target-db-parameter-group-identifier mydbpgcopy \
    --target-db-parameter-group-description "Copy of mydbpg parameter group"
```

Output:

```json
{
    "DBParameterGroup": {
        "DBParameterGroupName": "mydbpgcopy",
        "DBParameterGroupArn": "arn:aws:rds:us-east-1:814387698303:pg:mydbpgcopy",
        "DBParameterGroupFamily": "mysql5.7",
        "Description": "Copy of mydbpg parameter group"
    }
}
```

For more information, see [Copying a DB Parameter Group](https://docs.aws.amazon.com/AWSService/latest/YourGuide/) in the *Amazon RDS Users Guide*.

- For API details, see [CopyDbParameterGroup](https://docs.aws.amazon.com/cli/latest/reference/rds/copy-db-parameter-group.html) in *AWS CLI Command Reference*.

**copy-db-snapshot**

The following code example shows how to use `copy-db-snapshot`.

**AWS CLI**

**To copy a DB snapshot**

The following `copy-db-snapshot` example creates a copy of a DB snapshot.

```bash
aws rds copy-db-snapshot \
    --source-db-snapshot-identifier rds:database-mysql-2019-06-06-08-38 \
    --target-db-snapshot-identifier mydbsnapshotcopy
```

Output:

```json
{
    "DBSnapshot": {
        "VpcId": "vpc-6594f31c",
        "Status": "creating",
        "DBSnapshotIdentifier": "mydbsnapshotcopy",
        "DBSnapshotArn": "arn:aws:rds:us-east-1:814387698303:db:mydbsnapshotcopy",
        "CopyStrategy": " elementary",
        "CopyStatus": " completed",
        "CopyTime": "2019-06-08T09:39:07Z"
    }
}
```
The following code example shows how to use `copy-option-group`.

**AWS CLI**

To copy an option group

The following `copy-option-group` example makes a copy of an option group.

```
aws rds copy-option-group \
  --source-option-group-identifier myoptiongroup \
```
--target-option-group-identifier new-option-group \
--target-option-group-description "My option group copy"

Output:

```json
{
    "OptionGroup": {
        "Options": [],
        "OptionGroupName": "new-option-group",
        "MajorEngineVersion": "11.2",
        "OptionGroupDescription": "My option group copy",
        "AllowsVpcAndNonVpcInstanceMemberships": true,
        "EngineName": "oracle-ee",
        "OptionGroupArn": "arn:aws:rds:us-east-1:123456789012:og:new-option-group"
    }
}
```

For more information, see [Making a Copy of an Option Group](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/Making-a-Copy-of-an-Option-Group.html) in the *Amazon RDS User Guide*.

- For API details, see [CopyOptionGroup](https://docs.aws.amazon.com/cli/latest/reference/rds/copy-option-group.html) in *AWS CLI Command Reference*.

create-blue-green-deployment

The following code example shows how to use `create-blue-green-deployment`.

**AWS CLI**

**Example 1: To create a blue/green deployment for an RDS for MySQL DB instance**

The following `create-blue-green-deployment` example creates a blue/green deployment for a MySQL DB instance.

```bash
aws rds create-blue-green-deployment \\
  --blue-green-deployment-name bgd-cli-test-instance \\
  --source arn:aws:rds:us-east-1:123456789012:db:my-db-instance \\
  --target-engine-version 8.0 \\
  --target-db-parameter-group-name mysql-80-group
```

Output:

```json
{
    "BlueGreenDeployment": {
```
"BlueGreenDeploymentIdentifier": "bgd-v53303651eexfake",
"BlueGreenDeploymentName": "bgd-cli-test-instance",
"SwitchoverDetails": [
  {
    "SourceMember": "arn:aws:rds:us-east-1:123456789012:db:my-db-instance"
  },
  {
    "SourceMember": "arn:aws:rds:us-east-1:123456789012:db:my-db-instance-replica-1"
  },
  {
    "SourceMember": "arn:aws:rds:us-east-1:123456789012:db:my-db-instance-replica-2"
  },
  {
    "SourceMember": "arn:aws:rds:us-east-1:123456789012:db:my-db-instance-replica-3"
  }
],
"Tasks": [
  {
    "Name": "CREATING_READ_REPLICA_OF_SOURCE",
    "Status": "PENDING"
  },
  {
    "Name": "DB_ENGINE_VERSION_UPGRADE",
    "Status": "PENDING"
  },
  {
    "Name": "CONFIGURE_BACKUPS",
    "Status": "PENDING"
  },
  {
    "Name": "CREATING_TOPOLOGY_OF_SOURCE",
    "Status": "PENDING"
  }
],
"Status": "PROVISIONING",
"CreateTime": "2022-02-25T21:18:51.183000+00:00"}
For more information, see Creating a blue/green deployment in the Amazon RDS User Guide.

Example 2: To create a blue/green deployment for an Aurora MySQL DB cluster

The following create-blue-green-deployment example creates a blue/green deployment for an Aurora MySQL DB cluster.

```bash
aws rds create-blue-green-deployment \
  --blue-green-deployment-name my-blue-green-deployment \
  --source arn:aws:rds:us-east-1:123456789012:cluster:my-aurora-mysql-cluster \
  --target-engine-version 8.0 \
  --target-db-cluster-parameter-group-name ams-80-binlog-enabled \
  --target-db-parameter-group-name mysql-80-cluster-group
```

Output:

```
{
  "BlueGreenDeployment": {
    "BlueGreenDeploymentIdentifier": "bgd-wi89nwzlcccfake",
    "BlueGreenDeploymentName": "my-blue-green-deployment",
    "SwitchoverDetails": [
      {
        "SourceMember": "arn:aws:rds:us-east-1:123456789012:cluster:my-aurora-mysql-cluster",
        "Status": "PROVISIONING"
      },
      {
        "Status": "PROVISIONING"
      },
      {
        "Status": "PROVISIONING"
      },
      {
        "Status": "PROVISIONING"
      }
    ]
  }
}
```
The following code example shows how to use `create-db-cluster`.

For more information, see [Creating a blue/green deployment](https://docs.aws.amazon.com/AmazonAurora/latest/AuroraGlobalClustersUserGuide/creating-a-blue-green-deployment.html) in the *Amazon Aurora User Guide*.

- For API details, see [CreateBlueGreenDeployment](https://docs.aws.amazon.com/cli/latest/reference/rds/create-blue-green-deployment.html) in *AWS CLI Command Reference*.
Example 1: To create a MySQL 5.7-compatible DB cluster

The following `create-db-cluster` example creates a MySQL 5.7-compatible DB cluster using the default engine version. Replace the sample password `secret99` with a secure password. When you use the console to create a DB cluster, Amazon RDS automatically creates the writer DB instance for your DB cluster. However, when you use the AWS CLI to create a DB cluster, you must explicitly create the writer DB instance for your DB cluster using the `create-db-instance` AWS CLI command.

```
aws rds create-db-cluster \
   --db-cluster-identifier sample-cluster \
   --engine aurora-mysql \
   --engine-version 5.7 \
   --master-username admin \
   --master-user-password secret99 \
   --db-subnet-group-name default \
   --vpc-security-group-ids sg-0b9130572daf3dc16
```

Output:

```json
{
   "DBCluster": {
      "DBSubnetGroup": "default",
      "VpcSecurityGroups": [
         {
            "VpcSecurityGroupId": "sg-0b9130572daf3dc16",
            "Status": "active"
         }
      ],
      "AllocatedStorage": 1,
      "AssociatedRoles": [],
      "PreferredBackupWindow": "09:12-09:42",
      "ClusterCreateTime": "2023-02-27T23:21:33.048Z",
      "DeletionProtection": false,
      "IAMDatabaseAuthenticationEnabled": false,
      "ReadReplicaIdentifiers": [],
      "EngineMode": "provisioned",
      "Engine": "aurora-mysql",
      "StorageEncrypted": false,
      "MultiAZ": false,
```

Example 2: To create a PostgreSQL-compatible DB cluster

The following `create-db-cluster` example creates a PostgreSQL-compatible DB cluster using the default engine version. Replace the example password `secret99` with a secure password. When you use the console to create a DB cluster, Amazon RDS automatically creates the writer DB instance for your DB cluster. However, when you use the AWS CLI to create a DB cluster, you must explicitly create the writer DB instance for your DB cluster using the `create-db-instance` AWS CLI command.

```bash
aws rds create-db-cluster \
--db-cluster-identifier sample-pg-cluster \
--engine aurora-postgresql \
--master-username master \
--master-user-password secret99 \
--db-subnet-group-name default \
--vpc-security-group-ids sg-0b9130572daf3dc16
```
Output:

```
{
  "DBCluster": {
    "Endpoint": "sample-pg-cluster.cluster-cnpexample.us-east-1.rds.amazonaws.com",
    "HttpEndpointEnabled": false,
    "DBClusterMembers": [],
    "EngineMode": "provisioned",
    "CopyTagsToSnapshot": false,
    "HostedZoneId": "Z2R2ITUGPM61AM",
    "IAMDatabaseAuthenticationEnabled": false,
    "AllocatedStorage": 1,
    "VpcSecurityGroups": [
      {
        "VpcSecurityGroupId": "sg-0b9130572daf3dc16",
        "Status": "active"
      }
    ],
    "DeletionProtection": false,
    "StorageEncrypted": false,
    "BackupRetentionPeriod": 1,
    "PreferredBackupWindow": "09:56-10:26",
    "ClusterCreateTime": "2023-02-27T23:26:08.371Z",
    "DBClusterParameterGroup": "default.aurora-postgresql13",
    "EngineVersion": "13.7",
    "Engine": "aurora-postgresql",
    "Status": "creating",
    "DBClusterIdentifier": "sample-pg-cluster",
    "MultiAZ": false,
    "Port": 5432,
    "AssociatedRoles": [],
    "DbClusterResourceId": "cluster-ANPAJ4AE5446DAEXAMPLE",
    "PreferredMaintenanceWindow": "wed:03:33-wed:04:03",
    "ReaderEndpoint": "sample-pg-cluster.cluster-ro-cnpexample.us-east-1.rds.amazonaws.com",
    "MasterUsername": "master",
    "AvailabilityZones": [
      "us-east-1a",
      "us-east-1b",
      "us-east-1c"
    ]
  }
}
```
For more information, see [Creating an Amazon Aurora DB cluster](https://docs.aws.amazon.com/aurora/latest/userguide/) in the *Amazon Aurora User Guide*.

- For API details, see [CreateDbCluster](https://docs.aws.amazon.com/cli/latest/reference/rds/create-db-cluster.html) in *AWS CLI Command Reference*.

### create-db-cluster-endpoint

The following code example shows how to use `create-db-cluster-endpoint`.

**AWS CLI**

To create a custom DB cluster endpoint

The following `create-db-cluster-endpoint` example creates a custom DB cluster endpoint and associate it with the specified Aurora DB cluster.

```bash
aws rds create-db-cluster-endpoint \
  --db-cluster-endpoint-identifier mycustomendpoint \
  --endpoint-type reader \
  --db-cluster-identifier mydbcluster \
  --static-members dbinstance1 dbinstance2
```

**Output:**

```json
{
    "DBClusterEndpointIdentifier": "mycustomendpoint",
    "DBClusterIdentifier": "mydbcluster",
    "DBClusterEndpointResourceIdentifier": "cluster-endpoint-ANPAJ4AE5446DAEXAMPLE",
    "Endpoint": "mycustomendpoint.cluster-custom-cnpexample.us-east-1.rds.amazonaws.com",
    "Status": "creating",
    "EndpointType": "CUSTOM",
    "CustomEndpointType": "READER",
    "StaticMembers": [
        "dbinstance1",
        "dbinstance2"
    ]
}
```
For more information, see Amazon Aurora Connection Management in the Amazon Aurora User Guide.

- For API details, see CreateDbClusterEndpoint in AWS CLI Command Reference.

create-db-cluster-parameter-group

The following code example shows how to use create-db-cluster-parameter-group.

AWS CLI

To create a DB cluster parameter group

The following create-db-cluster-parameter-group example creates a DB cluster parameter group.

```
aws rds create-db-cluster-parameter-group \
  --db-cluster-parameter-group-name mydbclusterparametergroup \
  --db-parameter-group-family aurora5.6 \
  --description "My new cluster parameter group"
```

Output:

```
{
  "DBClusterParameterGroup": {
    "DBClusterParameterGroupName": "mydbclusterparametergroup",
    "DBParameterGroupFamily": "aurora5.6",
    "Description": "My new cluster parameter group",
    "DBClusterParameterGroupArn": "arn:aws:rds:us-east-1:123456789012:cluster-pg:mydbclusterparametergroup"
  }
}
```

For more information, see Creating a DB Cluster Parameter Group in the Amazon Aurora User Guide.
For API details, see `CreateDbClusterParameterGroup` in *AWS CLI Command Reference*.

**create-db-cluster-snapshot**

The following code example shows how to use `create-db-cluster-snapshot`.

**AWS CLI**

To create a DB cluster snapshot

The following `create-db-cluster-snapshot` example creates a DB cluster snapshot.

```bash
aws rds create-db-cluster-snapshot \
   --db-cluster-identifier mydbcluster \
   --db-cluster-snapshot-identifier mydbclustersnapshot
```

Output:

```
{
   "DBClusterSnapshot": {
      "AvailabilityZones": [
         "us-east-1a",
         "us-east-1b",
         "us-east-1e"
      ],
      "DBClusterSnapshotIdentifier": "mydbclustersnapshot",
      "DBClusterIdentifier": "mydbcluster",
      "SnapshotCreateTime": "2019-06-18T21:21:00.469Z",
      "Engine": "aurora-mysql",
      "AllocatedStorage": 1,
      "Status": "creating",
      "Port": 0,
      "VpcId": "vpc-6594f31c",
      "ClusterCreateTime": "2019-04-15T14:18:42.785Z",
      "MasterUsername": "myadmin",
      "EngineVersion": "5.7.mysql_aurora.2.04.2",
      "LicenseModel": "aurora-mysql",
      "SnapshotType": "manual",
      "PercentProgress": 0,
      "StorageEncrypted": true,
      "KmsKeyId": "arn:aws:kms:us-east-1:123456789012:key/AKIAIOSFODNN7EXAMPLE",
   }
}
```
For more information, see Creating a DB Cluster Snapshot in the Amazon Aurora User Guide.

- For API details, see CreateDbClusterSnapshot in AWS CLI Command Reference.

create-db-instance-read-replica

The following code example shows how to use create-db-instance-read-replica.

AWS CLI

To create a DB instance read replica

This example creates a read replica of an existing DB instance named test-instance. The read replica is named test-instance-repl.

```bash
aws rds create-db-instance-read-replica \
  --db-instance-identifier test-instance-repl \
  --source-db-instance-identifier test-instance
```

Output:

```json
{
  "DBInstance": {
    "IAMDatabaseAuthenticationEnabled": false,
    "MonitoringInterval": 0,
    "ReadReplicaSourceDBInstanceIdentifier": "test-instance",
    "DBInstanceIdentifier": "test-instance-repl",
    ...some output truncated...
  }
}
```

- For API details, see CreateDbInstanceReadReplica in AWS CLI Command Reference.

create-db-proxy

The following code example shows how to use create-db-proxy.
AWS CLI

To create a DB proxy for an RDS database

The following `create-db-proxy` example creates a DB proxy.

```bash
aws rds create-db-proxy \
  --db-proxy-name proxyExample \
  --engine-family MYSQL \
  --auth Description="proxydescription1",AuthScheme="SECRETS",SecretArn="arn:aws:secretsmanager:us-west-2:123456789123:secret:secretName-1234f",IAMAuth="DISABLED",ClientPasswordAuthType="MYSQL_NATIVE_PASSWORD" \
  --role-arn arn:aws:iam::123456789123:role/ProxyRole \
  --vpc-subnet-ids subnetgroup1 subnetgroup2
```

Output:

```json
{
  "DBProxy": {
    "DBProxyName": "proxyExample",
    "DBProxyArn": "arn:aws:rds:us-east-1:123456789012:db-proxy:prx-0123a01b12345c0ab",
    "EngineFamily": "MYSQL",
    "VpcId": "vpc-1234567",
    "VpcSecuritytGroupIds": [
      "sg-1234",
      "sg-5678",
      "sg-9101"
    ],
    "VpcSubnetIds": [
      "subnetgroup1",
      "subnetgroup2"
    ],
    "Auth": [
      {
        "Description": "proxydescription1",
        "AuthScheme": "SECRETS",
        "IAMAuth": "DISABLED"
      }
    ]
  }
}
```
For more information, see Creating an RDS Proxy in the Amazon RDS User Guide and Creating an RDS Proxy in the Amazon Aurora User Guide.

- For API details, see CreateDbProxy in AWS CLI Command Reference.

create-db-proxy-endpoint

The following code example shows how to use create-db-proxy-endpoint.

AWS CLI

To create a DB proxy endpoint for an RDS database

The following create-db-proxy-endpoint example creates a DB proxy endpoint.

```
aws rds create-db-proxy-endpoint \
   --db-proxy-name proxyExample \
   --db-proxy-endpoint-name "proxyep1" \
   --vpc-subnet-ids subnetgroup1 subnetgroup2
```

Output:

```
{
   "DBProxyEndpoint": {
      "DBProxyEndpointName": "proxyep1",
      "DBProxyEndpointArn": "arn:aws:rds:us-east-1:123456789012:db-proxy-endpoint:prx-endpoint-0123a01b12345c0ab",
      "DBProxyName": "proxyExample",
      "Status": "creating",
      "VpcId": "vpc-1234567",
      "VpcSecurityGroupIds": [\n         "sg-1234",
         "sg-5678"
      ]
   }
}
```
The following code example shows how to use `create-db-security-group`.

**AWS CLI**

To create an Amazon RDS DB security group

The following `create-db-security-group` command creates a new Amazon RDS DB security group:

```bash
aws rds create-db-security-group --db-security-group-name mysecgroup --db-security-group-description "My Test Security Group"
```

In the example, the new DB security group is named `mysecgroup` and has a description.

Output:

```json
{
    "DBSecurityGroup": {
        "OwnerId": "123456789012",
        "DBSecurityGroupName": "mysecgroup",
        "DBSecurityGroupDescription": "My Test Security Group",
        "VpcId": "vpc-a1b2c3d4",
        "EC2SecurityGroups": []
    }
}
```
For API details, see [CreateDbSecurityGroup](https://docs.aws.amazon.com/cli/latest/reference/rds/create-db-security-group.html) in *AWS CLI Command Reference*.

**create-db-subnet-group**

The following code example shows how to use `create-db-subnet-group`.

**AWS CLI**

**To create a DB subnet group**

The following `create-db-subnet-group` example creates a DB subnet group called `mysubnetgroup` using existing subnets.

```bash
aws rds create-db-subnet-group \
  --db-subnet-group-name mysubnetgroup \
  --db-subnet-group-description "test DB subnet group" \
  --subnet-ids \
  'subnet-0a1dc4e1a6f123456',subnet-070dd7eceb3aaaaaa,subnet-00f5b198bc0abcdef'
```

**Output:**

```json
{
  "DBSubnetGroup": {
    "DBSubnetGroupName": "mysubnetgroup",
    "DBSubnetGroupDescription": "test DB subnet group",
    "VpcId": "vpc-0f08e7610a1b2c3d4",
    "SubnetGroupStatus": "Complete",
    "Subnets": [ 
      {
        "SubnetIdentifier": "subnet-070dd7eceb3aaaaaa",
        "SubnetAvailabilityZone": {
          "Name": "us-west-2b"
        },
        "SubnetStatus": "Active"
      },
      {
        "SubnetIdentifier": "subnet-00f5b198bc0abcdef",
```
For more information, see Creating a DB Instance in a VPC in the Amazon RDS User Guide.

- For API details, see CreateDbSubnetGroup in AWS CLI Command Reference.

**create-event-subscription**

The following code example shows how to use create-event-subscription.

**AWS CLI**

**To create an event subscription**

The following create-event-subscription example creates a subscription for backup and recovery events for DB instances in the current AWS account. Notifications are sent to an Amazon Simple Notification Service topic, specified by --sns-topic-arn.

```
aws rds create-event-subscription \
  --subscription-name my-instance-events \
  --source-type db-instance \
  --event-categories '["backup","recovery"]' \
  --sns-topic-arn arn:aws:sns:us-east-1:123456789012:interesting-events
```

**Output:**

```
{
  ...
}
```
"EventSubscription": {
    "Status": "creating",
    "CustSubscriptionId": "my-instance-events",
    "SubscriptionCreationTime": "Tue Jul 31 23:22:01 UTC 2018",
    "EventCategoriesList": [
        "backup",
        "recovery"
    ],
    "SnsTopicArn": "arn:aws:sns:us-east-1:123456789012:interesting-events",
    "CustomerAwsId": "123456789012",
    "SourceType": "db-instance",
    "Enabled": true
}
}

- For API details, see [CreateEventSubscription](#) in *AWS CLI Command Reference*.

### create-global-cluster

The following code example shows how to use `create-global-cluster`.

**AWS CLI**

To create a global DB cluster

The following `create-global-cluster` example creates a new Aurora MySQL-compatible global DB cluster.

```bash
aws rds create-global-cluster \
   --global-cluster-identifier myglobalcluster \
   --engine aurora-mysql
```

Output:

```json
{
    "GlobalCluster": {
        "GlobalClusterIdentifier": "myglobalcluster",
        "GlobalClusterResourceId": "cluster-f0e523bfe07aabb",
        "GlobalClusterArn": "arn:aws:rds::123456789012:global-cluster:myglobalcluster",
```
create-option-group

The following code example shows how to use `create-option-group`.

AWS CLI

**To Create an Amazon RDS option group**

The following `create-option-group` command creates a new Amazon RDS option group for Oracle Enterprise Edition version 11.2`, is named `MyOptionGroup` and includes a description.

```
aws rds create-option-group \
  --option-group-name MyOptionGroup \
  --engine-name oracle-ee \
  --major-engine-version 11.2 \
  --option-group-description "Oracle Database Manager Database Control"
```

Output:

```
{
    "OptionGroup": {
        "OptionGroupName": "myoptiongroup",
        "OptionGroupDescription": "Oracle Database Manager Database Control",
        "EngineName": "oracle-ee",
        "MajorEngineVersion": "11.2",
        "Options": [],
        "AllowsVpcAndNonVpcInstanceMemberships": true,
    }
}
```
For API details, see [CreateOptionGroup](#) in *AWS CLI Command Reference*.

### delete-blue-green-deployment

The following code example shows how to use `delete-blue-green-deployment`.

#### AWS CLI

**Example 1: To delete resources in green environment for an RDS for MySQL DB instance**

The following delete-blue-green-deployment example deletes the resources in a green environment for an RDS for MySQL DB instance.

```bash
aws rds delete-blue-green-deployment \\
   --blue-green-deployment-identifier bgd-v53303651eexfake \\
   --delete-target
```

**Output:**

```json
{
   "BlueGreenDeployment": {
      "BlueGreenDeploymentIdentifier": "bgd-v53303651eexfake",
      "BlueGreenDeploymentName": "bgd-cli-test-instance",
      "SwitchoverDetails": [
         {
            "SourceMember": "arn:aws:rds:us-east-1:123456789012:db:my-db-instance",
            "TargetMember": "arn:aws:rds:us-east-1:123456789012:db:my-db-instance-green-rkfbpe",
            "Status": "AVAILABLE"
         },
         {
            "TargetMember": "arn:aws:rds:us-east-1:123456789012:db:my-db-instance-replica-1-green-j382ha",
            "Status": "AVAILABLE"
         }
      ]
   }
}
```
"Status": "AVAILABLE",
],
{
  "Status": "AVAILABLE"
},
{
  "TargetMember": "arn:aws:rds:us-east-1:123456789012:db:my-db-instance-replica-3-green-vlpz3t",
  "Status": "AVAILABLE"
}],
"Tasks": [
{
  "Name": "CREATING_READ_REPLICA_OF_SOURCE",
  "Status": "COMPLETED"
},
{
  "Name": "DB_ENGINE_VERSION_UPGRADE",
  "Status": "COMPLETED"
},
{
  "Name": "CONFIGURE_BACKUPS",
  "Status": "COMPLETED"
},
{
  "Name": "CREATING_TOPOLOGY_OF_SOURCE",
  "Status": "COMPLETED"
}
],
"Status": "DELETING",
"CreateTime": "2022-02-25T21:18:51.183000+00:00",
"DeleteTime": "2022-02-25T22:25:31.331000+00:00"
}

For more information, see [Deleting a blue/green deployment](#) in the [Amazon RDS User Guide](#).

**Example 2: To delete resources in green environment for an Aurora MySQL DB cluster**
The following delete-blue-green-deployment example deletes the resources in a green environment for an Aurora MySQL DB cluster.

```
aws rds delete-blue-green-deployment \
  --blue-green-deployment-identifier bgd-wi89nwzglccsfake \
  --delete-target
```

Output:

```json
{
  "BlueGreenDeployment": {
    "BlueGreenDeploymentIdentifier": "bgd-wi89nwzglccsfake",
    "BlueGreenDeploymentName": "my-blue-green-deployment",
    "SwitchoverDetails": [
      {
        "SourceMember": "arn:aws:rds:us-east-1:123456789012:cluster:my-aurora-mysql-cluster",
        "TargetMember": "arn:aws:rds:us-east-1:123456789012:cluster:my-aurora-mysql-cluster-green-3rnukl",
        "Status": "AVAILABLE"
      },
      {
        "Status": "AVAILABLE"
      },
      {
        "Status": "AVAILABLE"
      },
      {
```

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"TargetMember": "arn:aws:rds:us-east-1:123456789012:db:my-aurora-mysql-cluster-3-green-mkxies",
  "Status": "AVAILABLE"
},
{
  "Status": "AVAILABLE"
},
{
  "Status": "AVAILABLE"
}
],
"Tasks": [
  {
    "Name": "CREATING_READ_REPLICA_OF_SOURCE",
    "Status": "COMPLETED"
  },
  {
    "Name": "DB_ENGINE_VERSION_UPGRADE",
    "Status": "COMPLETED"
  },
  {
    "Name": "CREATE_DB_INSTANCES_FOR_CLUSTER",
    "Status": "COMPLETED"
  },
  {
    "Name": "CREATE_CUSTOM_ENDPOINTS",
    "Status": "COMPLETED"
  }
],
"Status": "DELETING",
"CreateTime": "2022-02-25T21:12:00.288000+00:00",
"DeleteTime": "2022-02-25T22:29:11.336000+00:00"
For more information, see [Deleting a blue/green deployment](amazonauroraguides) in the *Amazon Aurora User Guide*.

- For API details, see [DeleteBlueGreenDeployment](awscliREF) in *AWS CLI Command Reference*.

### delete-db-cluster

The following code example shows how to use `delete-db-cluster`.

#### AWS CLI

**Example 1: To delete a DB instance in a DB cluster**

The following `delete-db-instance` example deletes the final DB instance in a DB cluster. You can't delete a DB cluster if it contains DB instances that aren't in the **deleting** state. You can't take a final snapshot when deleting a DB instance in a DB cluster.

```bash
aws rds delete-db-instance \
   --db-instance-identifier database-3
```

**Output:**

```json
{
   "DBInstance": {
     "DBInstanceIdentifier": "database-3",
     "DBInstanceClass": "db.r4.large",
     "Engine": "aurora-postgresql",
     "DBInstanceStatus": "deleting",
     ...
   }
}
```

For more information, see [Deleting a DB Instance in an Aurora DB Cluster](amazonauroraguides) in the *Amazon Aurora User Guide*.

**Example 2: To delete a DB cluster**

The following `delete-db-cluster` example deletes the DB cluster named `mycluster` and takes a final snapshot named `mycluster-final-snapshot`. The status of the DB cluster is **available** while the snapshot is being taken. To follow the progress of the deletion, use the `describe-db-clusters` CLI command.
aws rds delete-db-cluster \
  --db-cluster-identifier mycluster \
  --no-skip-final-snapshot \
  --final-db-snapshot-identifier mycluster-final-snapshot

Output:

```
{
   "DBCluster": {
      "AllocatedStorage": 20,
      "AvailabilityZones": [
         "eu-central-1b",
         "eu-central-1c",
         "eu-central-1a"
      ],
      "BackupRetentionPeriod": 7,
      "DBClusterIdentifier": "mycluster",
      "DBClusterParameterGroup": "default.aurora-postgresql10",
      "DBSubnetGroup": "default-vpc-aa11bb22",
      "Status": "available",

      ...output omitted...

   }
}
```

For more information, see [Aurora Clusters with a Single DB Instance](https://docs.aws.amazon.com/AmazonAurora/latest/ug/about-aaurora-clusters.html) in the [Amazon Aurora User Guide](https://docs.aws.amazon.com/AmazonAurora/latest/ug/).  


### delete-db-cluster-endpoint

The following code example shows how to use delete-db-cluster-endpoint.

**AWS CLI**

**To delete a custom DB cluster endpoint**

The following delete-db-cluster-endpoint example deletes the specified custom DB cluster endpoint.
aws rds delete-db-cluster-endpoint \
    --db-cluster-endpoint-identifier mycustomendpoint

Output:

{
    "DBClusterEndpointIdentifier": "mycustomendpoint",
    "DBClusterIdentifier": "mydbcluster",
    "DBClusterEndpointResourceIdentifier": "cluster-endpoint-ANPAJ4AE5446DAEXAMPLE",
    "Endpoint": "mycustomendpoint.cluster-custom-cnpexample.us-east-1.rds.amazonaws.com",
    "Status": "deleting",
    "EndpointType": "CUSTOM",
    "CustomEndpointType": "READER",
    "StaticMembers": [
        "dbinstance1",
        "dbinstance2",
        "dbinstance3"
    ],
    "ExcludedMembers": [],
    "DBClusterEndpointArn": "arn:aws:rds:us-east-1:123456789012:cluster-endpoint:mycustomendpoint"
}

For more information, see Amazon Aurora Connection Management in the Amazon Aurora User Guide.

- For API details, see DeleteDbClusterEndpoint in AWS CLI Command Reference.

delete-db-cluster-parameter-group

The following code example shows how to use delete-db-cluster-parameter-group.

AWS CLI

To delete a DB cluster parameter group

The following delete-db-cluster-parameter-group example deletes the specified DB cluster parameter group.

aws rds delete-db-cluster-parameter-group \

This command produces no output.

For more information, see Working with DB Parameter Groups and DB Cluster Parameter Groups in the Amazon Aurora User Guide.

- For API details, see DeleteDbClusterParameterGroup in AWS CLI Command Reference.

**delete-db-cluster-snapshot**

The following code example shows how to use delete-db-cluster-snapshot.

**AWS CLI**

**To delete a DB cluster snapshot**

The following delete-db-cluster-snapshot example deletes the specified DB cluster snapshot.

```bash
aws rds delete-db-cluster-snapshot \
    --db-cluster-snapshot-identifier mydbclustersnapshot
```

**Output:**

```json
{
    "DBClusterSnapshot": {
        "AvailabilityZones": [
            "us-east-1a",
            "us-east-1b",
            "us-east-1e"
        ],
        "DBClusterSnapshotIdentifier": "mydbclustersnapshot",
        "DBClusterIdentifier": "mydbcluster",
        "SnapshotCreateTime": "2019-06-18T21:21:00.469Z",
        "Engine": "aurora-mysql",
        "AllocatedStorage": 0,
        "Status": "available",
        "Port": 0,
        "VpcId": "vpc-6594f31c",
        "ClusterCreateTime": "2019-04-15T14:18:42.785Z",
        "MasterUsername": "myadmin",
        "EngineVersion": "5.7.mysql_aurora.2.04.2"
    }
}
```
For more information, see [Deleting a Snapshot](https://docs.aws.amazon.com/AmazonAurora/latest/UserGuide/DeleteDbClusterSnapshot.html) in the *Amazon Aurora User Guide*.

- For API details, see `DeleteDbClusterSnapshot` in *AWS CLI Command Reference*.

**delete-db-instance-automated-backup**

The following code example shows how to use `delete-db-instance-automated-backup`.

**AWS CLI**

**To delete a replicated automated backup from a Region**

The following `delete-db-instance-automated-backup` example deletes the automated backup with the specified Amazon Resource Name (ARN).

```
aws rds delete-db-instance-automated-backup
   --db-instance-automated-backups-arn "arn:aws:rds:us-west-2:123456789012:auto-backup:ab-jkib2gfq5rv7replzadausbrktni2bn4example"
```

Output:

```
{
   "DBInstanceAutomatedBackup": {
      "DBInstanceArn": "arn:aws:rds:us-east-1:123456789012:db:new-orcl-db",
      "DbiResourceId": "db-JKIB2GFQ5RV7REPLZADAUSBRKTNI2BN4EXAMPLE",
      "Region": "us-east-1",
      "DBInstanceIdentifier": "new-orcl-db",
      "RestoreWindow": {},
      "AllocatedStorage": 20,
      "Status": "deleting",
      "Port": 1521,
      "AvailabilityZone": "us-east-1b",
```

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The following code example shows how to use `delete-db-proxy`.

**AWS CLI**

**To delete a DB proxy for an RDS database**

The following `delete-db-proxy` example deletes a DB proxy.

```bash
aws rds delete-db-proxy \  
  --db-proxy-name proxyExample
```

**Output:**

```json
{
  "DBProxy": {
    "DBProxyName": "proxyExample",
    "DBProxyArn": "arn:aws:rds:us-east-1:123456789012:db-proxy:prx-0123a01b12345c0ab",
    "Status": "deleting",
    "EngineFamily": "PostgreSQL",
    "Engine": "oracle-se2",
    "EngineVersion": "12.1.0.2.v21",
    "LicenseModel": "bring-your-own-license",
    "OptionGroupName": "default:oracle-se2-12-1",
    "Encrypted": false,
    "StorageType": "gp2",
    "IAMDatabaseAuthenticationEnabled": false,
    "BackupRetentionPeriod": 7,
    "DBInstanceAutomatedBackupsArn": "arn:aws:rds:us-west-2:123456789012:auto-backup:ab-jkib2gfq5rv7replzadausbktni2bn4example"
  }
}
```

For more information, see [Deleting replicated backups](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_WorkingWithDBProxies.html#how-to-delete) in the Amazon RDS User Guide.

- For API details, see [DeleteDbInstanceAutomatedBackup](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_WorkingWithDBProxies.html#how-to-delete) in AWS CLI Command Reference.
"VpcId": "vpc-1234567",
"VpcSecurityGroupIds": [
    "sg-1234",
    "sg-5678"
],
"VpcSubnetIds": [
    "subnetgroup1",
    "subnetgroup2"
],
"Auth": "[
  {
    "Description": "proxydescription`",
    "AuthScheme": "SECRETS",
    "IAMAuth": "DISABLED"
  }],
"RoleArn": "arn:aws:iam::12345678912:role/ProxyPostgreSQLRole",
"Endpoint": "proxyeExample.proxy-0d1e4fgihj.us-east-1.rds.amazonaws.com",
"RequireTLS": false,
"IdleClientTimeout": 1800,
"DebuggingLogging": false,
"CreatedDate": "2023-04-05T16:09:33.452000+00:00",
"UpdatedDate": "2023-04-13T01:49:38.568000+00:00"
}
}

For more information, see Deleting an RDS Proxy in the Amazon RDS User Guide and Deleting an RDS Proxy in the Amazon Aurora User Guide.

- For API details, see DeleteDbProxy in AWS CLI Command Reference.

**delete-db-proxy-endpoint**

The following code example shows how to use delete-db-proxy-endpoint.

**AWS CLI**

To delete a DB proxy endpoint for an RDS database

The following delete-db-proxy-endpoint example deletes a DB proxy endpoint for the target database.
aws rds delete-db-proxy-endpoint \
   --db-proxy-endpoint-name proxyEP1

Output:

```json
{
   "DBProxyEndpoint": {
      "DBProxyEndpointName": "proxyEP1",
      "DBProxyEndpointArn": "arn:aws:rds:us-east-1:123456789012:db-proxy-endpoint:prx-endpoint-0123a01b12345c0ab",
      "DBProxyName": "proxyExample",
      "Status": "deleting",
      "VpcId": "vpc-1234567",
      "VpcSecurityGroupIds": [
         "sg-1234",
         "sg-5678"
      ],
      "VpcSubnetIds": [
         "subnetgroup1",
         "subnetgroup2"
      ],
      "Endpoint": "proxyEP1.endpoint.proxy-ab0cd1efghij.us-east-1.rds.amazonaws.com",
      "CreatedDate": "2023-04-13T01:49:38.568000+00:00",
      "TargetRole": "READ_ONLY",
      "IsDefault": false
   }
}
```

For more information, see Deleting a proxy endpoint in the Amazon RDS User Guide and Deleting a proxy endpoint in the Amazon Aurora User Guide.

- For API details, see DeleteDbProxyEndpoint in AWS CLI Command Reference.

delte-db-security-group

The following code example shows how to use delete-db-security-group.

AWS CLI

To delete a DB security group
The following `delete-db-security-group` example deletes a DB security group named `mysecuritygroup`.

```
aws rds delete-db-security-group \
   --db-security-group-name mysecuritygroup
```

This command produces no output.

For more information, see [Working with DB security groups (EC2-Classic platform)](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_WorkingWithDBSecurityGroups.html) in the *Amazon RDS User Guide*.

- For API details, see [DeleteDbSecurityGroup](https://docs.aws.amazon.com/cli/latest/reference/rds/delete-db-security-group.html) in *AWS CLI Command Reference*.

### delete-db-snapshot

The following code example shows how to use `delete-db-snapshot`.

**AWS CLI**

**To delete a DB snapshot**

The following `delete-db-snapshot` example deletes the specified DB snapshot.

```
aws rds delete-db-snapshot \
   --db-snapshot-identifier mydbsnapshot
```

**Output:**

```
{
    "DBSnapshot": {
        "DBSnapshotIdentifier": "mydbsnapshot",
        "DBInstanceIdentifier": "database-mysql",
        "SnapshotCreateTime": "2019-06-18T22:08:40.702Z",
        "Engine": "mysql",
        "AllocatedStorage": 100,
        "Status": "deleted",
        "Port": 3306,
        "AvailabilityZone": "us-east-1b",
        "VpcId": "vpc-6594f31c",
        "InstanceCreateTime": "2019-04-30T15:45:53.663Z",
        "MasterUsername": "admin",
    }
}
```
For more information, see [Deleting a Snapshot](amazon-rds-user-guide) in the *Amazon RDS User Guide*.

- For API details, see [DeleteDbSnapshot](aws-cli-command-reference) in *AWS CLI Command Reference*.

**delete-db-subnet-group**

The following code example shows how to use `delete-db-subnet-group`.

**AWS CLI**

To delete a DB subnet group

The following `delete-db-subnet-group` example deletes the DB subnet group called `mysubnetgroup`.

```
aws rds delete-db-subnet-group --db-subnet-group-name mysubnetgroup
```

This command produces no output.

For more information, see [Working with a DB Instance in a VPC](amazon-rds-user-guide) in the *Amazon RDS User Guide*.

- For API details, see [DeleteDbSubnetGroup](aws-cli-command-reference) in *AWS CLI Command Reference*.

**delete-event-subscription**

The following code example shows how to use `delete-event-subscription`.

```bash
aws rds delete-event-subscription
```

This command produces no output.

For more information, see [Working with a DB Instance in a VPC](amazon-rds-user-guide) in the *Amazon RDS User Guide*.

- For API details, see [DeleteEventSubscription](aws-cli-command-reference) in *AWS CLI Command Reference*.
AWS CLI

To delete an event subscription

The following delete-event-subscription example deletes the specified event subscription.

```
aws rds delete-event-subscription --subscription-name my-instance-events
```

Output:

```
{
   "EventSubscription": {
      "CustomerAwsId": "123456789012",
      "Enabled": false,
      "SourceIdsList": [
         "test-instance"
      ],
      "SourceType": "db-instance",
      "EventCategoriesList": [
         "backup",
         "recovery"
      ],
      "CustSubscriptionId": "my-instance-events",
      "SnsTopicArn": "arn:aws:sns:us-east-1:123456789012:interesting-events",
      "Status": "deleting"
   }
}
```

- For API details, see [DeleteEventSubscription](https://docs.aws.amazon.com/cli/latest/reference/rds/delete-event-subscription.html) in *AWS CLI Command Reference*.

delete-global-cluster

The following code example shows how to use delete-global-cluster.

AWS CLI

To delete a global DB cluster
The following `delete-global-cluster` example deletes an Aurora MySQL-compatible global DB cluster. The output shows the cluster that you're deleting, but subsequent `describe-global-clusters` commands don't list that DB cluster.

```
aws rds delete-global-cluster \
   --global-cluster-identifier myglobalcluster
```

Output:

```json
{
   "GlobalCluster": {
      "GlobalClusterIdentifier": "myglobalcluster",
      "GlobalClusterResourceId": "cluster-f0e523bfe07aabb",
      "GlobalClusterArn": "arn:aws:rds::123456789012:global-cluster:myglobalcluster",
      "Status": "available",
      "Engine": "aurora-mysql",
      "EngineVersion": "5.7.mysql_aurora.2.07.2",
      "StorageEncrypted": false,
      "DeletionProtection": false,
      "GlobalClusterMembers": []
   }
}
```

For more information, see [Deleting an Aurora global database](https://docs.aws.amazon.com/AmazonAurora/latest/UserGuide/Amazon-Aurora--global-clusters.html) in the *Amazon Aurora User Guide*.

- For API details, see [DeleteGlobalCluster](https://docs.aws.amazon.com/cli/latest/reference/rds/delete-global-cluster.html) in *AWS CLI Command Reference*.

delete-option-group

The following code example shows how to use `delete-option-group`.

**AWS CLI**

**To delete an option group**

The following `delete-option-group` example deletes the specified option group.

```
aws rds delete-option-group \
   --option-group-name myoptiongroup
```

This command produces no output.
For more information, see [Deleting an Option Group](#) in the Amazon RDS User Guide.

- For API details, see [DeleteOptionGroup](#) in AWS CLI Command Reference.

### deregister-db-proxy-targets

The following code example shows how to use `deregister-db-proxy-targets`.

**AWS CLI**

**To deregister a DB proxy target from database target group**

The following `deregister-db-proxy-targets` example removes the association between the proxy `proxyExample` and its target.

```
aws rds deregister-db-proxy-targets \
   --db-proxy-name proxyExample \
   --db-instance-identifiers database-1
```

This command produces no output.

For more information, see [Deleting an RDS Proxy](#) in the Amazon RDS User Guide and [Deleting an RDS Proxy](#) in the Amazon Aurora User Guide.

- For API details, see [DeregisterDbProxyTargets](#) in AWS CLI Command Reference.

### describe-blue-green-deployments

The following code example shows how to use `describe-blue-green-deployments`.

**AWS CLI**

**Example 1: To describe a blue/green deployment of an RDS DB instance after creation completes**

The following `describe-blue-green-deployment` example retrieves the details of a blue/green deployment after creation completes.

```
aws rds describe-blue-green-deployments \
   --blue-green-deployment-identifier bgd-v53303651eexfake
```
Output:

```json
{
    "BlueGreenDeployments": [
        {
            "BlueGreenDeploymentIdentifier": "bgd-v53303651eexfake",
            "BlueGreenDeploymentName": "bgd-cli-test-instance",
            "SwitchoverDetails": [
                {
                    "SourceMember": "arn:aws:rds:us-east-1:123456789012:db:my-db-instance",
                    "TargetMember": "arn:aws:rds:us-east-1:123456789012:db:my-db-instance-green-rkfbpe",
                    "Status": "AVAILABLE"
                },
                {
                    "TargetMember": "arn:aws:rds:us-east-1:123456789012:db:my-db-instance-replica-1-green-j382ha",
                    "Status": "AVAILABLE"
                },
                {
                    "Status": "AVAILABLE"
                },
                {
                    "TargetMember": "arn:aws:rds:us-east-1:123456789012:db:my-db-instance-replica-3-green-vlpz3t",
                    "Status": "AVAILABLE"
                }
            ],
            "Tasks": [
                {
                    "Name": "CREATING_READ_REPLICA_OF_SOURCE",
                    "Status": "COMPLETED"
                }
            ]
        }
    ]
}
```
For more information, see [Viewing a blue/green deployment](Viewing%20a%20blue%2Fgreen%20deployment) in the *Amazon RDS User Guide*.

**Example 2: To describe a blue/green deployment for an Aurora MySQL DB cluster**

The following `describe-blue-green-deployment` example retrieves the details of a blue/green deployment.

```
aws rds describe-blue-green-deployments \
--blue-green-deployment-identifier bgd-wi89nwzglccsfake
```

**Output:**

```
{
   "BlueGreenDeployments": [
   {
      "BlueGreenDeploymentIdentifier": "bgd-wi89nwzglccsfake",
      "BlueGreenDeploymentName": "my-blue-green-deployment",
      "SwitchoverDetails": [
      {
```
<table>
<thead>
<tr>
<th>SourceMember</th>
<th>TargetMember</th>
<th>Status</th>
</tr>
</thead>
</table>

"Tasks": [ ]
"Name": "CREATING_READ_REPLICA_OF_SOURCE",
"Status": "COMPLETED"
},
{
 "Name": "DB_ENGINE_VERSION_UPGRADE",
 "Status": "COMPLETED"
},
{
 "Name": "CREATE_DB_INSTANCES_FOR_CLUSTER",
 "Status": "COMPLETED"
},
{
 "Name": "CREATE_CUSTOM_ENDPOINTS",
 "Status": "COMPLETED"
}
],
 "Status": "AVAILABLE",
 "CreateTime": "2022-02-25T21:12:00.288000+00:00"
}
]
}
}

For more information, see [Viewing a blue/green deployment](https://docs.aws.amazon.com/AWSSolutionsComposer/latest/UserGuide/blue-green-deployment.html) in the *Amazon Aurora User Guide*.

**Example 3: To describe a blue/green deployment for an Aurora MySQL cluster after switchover**

The following `describe-blue-green-deployment` example retrieves the details about a blue/green deployment after the green environment is promoted to be the production environment.

```bash
aws rds describe-blue-green-deployments \
   --blue-green-deployment-identifier bgd-wi89nwzglccsfake
```

**Output:**

```json
{
   "BlueGreenDeployments": [
      {
         "BlueGreenDeploymentIdentifier": "bgd-wi89nwzglccsfake",
         "BlueGreenDeploymentName": "my-blue-green-deployment",
```
"SwitchoverDetails": [
  {
    "SourceMember": "arn:aws:rds:us-east-1:123456789012:cluster:my-aurora-mysql-cluster-old1",
    "TargetMember": "arn:aws:rds:us-east-1:123456789012:cluster:my-aurora-mysql-cluster",
    "Status": "SWITCHOVER_COMPLETED"
  },
  {
    "TargetMember": "arn:aws:rds:us-east-1:123456789012:db:my-aurora-mysql-cluster-1",
    "Status": "SWITCHOVER_COMPLETED"
  },
  {
    "Status": "SWITCHOVER_COMPLETED"
  },
  {
    "SourceMember": "arn:aws:rds:us-east-1:123456789012:db:my-aurora-mysql-cluster-3-old1",
    "TargetMember": "arn:aws:rds:us-east-1:123456789012:db:my-aurora-mysql-cluster-3",
    "Status": "SWITCHOVER_COMPLETED"
  },
  {
    "TargetMember": "arn:aws:rds:us-east-1:123456789012:cluster-endpoint:my-excluded-member-endpoint",
    "Status": "SWITCHOVER_COMPLETED"
  },
  {
    "Status": "SWITCHOVER_COMPLETED"
}
For more information, see [Viewing a blue/green deployment](#) in the *Amazon Aurora User Guide*.

**Example 4: To describe a combined blue/green deployment**

The following `describe-blue-green-deployment` example retrieves the details of a combined blue/green deployment.

```bash
aws rds describe-blue-green-deployments
```

**Output:**

```json
{
    "BlueGreenDeployments": [
        {
            "BlueGreenDeploymentIdentifier": "bgd-wi89nwzgfakelccs",
            "BlueGreenDeploymentName": "my-blue-green-deployment",
```
"Target": "arn:aws:rds:us-east-1:123456789012:cluster:my-aurora-mysql-cluster-green-3rnuk1",
"SwitchoverDetails": [
  {
    "SourceMember": "arn:aws:rds:us-east-1:123456789012:cluster:my-aurora-mysql-cluster",
    "TargetMember": "arn:aws:rds:us-east-1:123456789012:cluster:my-aurora-mysql-cluster-green-3rnuk1",
    "Status": "AVAILABLE"
  },
  {
    "Status": "AVAILABLE"
  },
  {
    "Status": "AVAILABLE"
  },
  {
    "TargetMember": "arn:aws:rds:us-east-1:123456789012:db:my-aurora-mysql-cluster-3-green-mkxies",
    "Status": "AVAILABLE"
  },
  {
    "Status": "AVAILABLE"
  },
  {
    "TargetMember": "arn:aws:rds:us-east-1:123456789012:cluster-endpoint:my-reader-endpoint-green-nkx2t",
    "Status": "AVAILABLE"
  }
]
  "Status": "AVAILABLE"
},
"Tasks": [
  {
    "Name": "CREATING_READ_REPLICA_OF_SOURCE",
    "Status": "COMPLETED"
  },
  {
    "Name": "DB_ENGINE_VERSION_UPGRADE",
    "Status": "COMPLETED"
  },
  {
    "Name": "CREATE_DB_INSTANCES_FOR_CLUSTER",
    "Status": "COMPLETED"
  },
  {
    "Name": "CREATE_CUSTOM_ENDPOINTS",
    "Status": "COMPLETED"
  }
],
"Status": "AVAILABLE",
"CreateTime": "2022-02-25T21:12:00.288000+00:00"
},
{
  "BlueGreenDeploymentIdentifier": "bgd-v5330365fake1eex",
  "BlueGreenDeploymentName": "bgd-cli-test-instance",
  "SwitchoverDetails": [
    {
      "SourceMember": "arn:aws:rds:us-east-1:123456789012:db:my-db-instance-old1",
      "TargetMember": "arn:aws:rds:us-east-1:123456789012:db:my-db-instance",
      "Status": "SWITCHOVER_COMPLETED"
    },
    {
      "SourceMember": "arn:aws:rds:us-east-1:123456789012:db:my-db-instance-replica-1-old1",
      "TargetMember": "arn:aws:rds:us-east-1:123456789012:db:my-db-instance-replica-1",
      "Status": "SWITCHOVER_COMPLETED"
    }
  ]
}
"Status": "SWITCHOVER_COMPLETED"
},
{
  "TargetMember": "arn:aws:rds:us-east-1:123456789012:db:my-db-instance-replica-2",
  "Status": "SWITCHOVER_COMPLETED"
},
{
  "SourceMember": "arn:aws:rds:us-east-1:123456789012:db:my-db-instance-replica-3-old1",
  "TargetMember": "arn:aws:rds:us-east-1:123456789012:db:my-db-instance-replica-3",
  "Status": "SWITCHOVER_COMPLETED"
},
"Tasks": [
  {
    "Name": "CREATING_READ_REPLICA_OF_SOURCE",
    "Status": "COMPLETED"
  },
  {
    "Name": "DB_ENGINE_VERSION_UPGRADE",
    "Status": "COMPLETED"
  },
  {
    "Name": "CONFIGURE_BACKUPS",
    "Status": "COMPLETED"
  },
  {
    "Name": "CREATING_TOPOLOGY_OF_SOURCE",
    "Status": "COMPLETED"
  }
],
"Status": "SWITCHOVER_COMPLETED",
"CreateTime": "2022-02-25T22:33:22.225000+00:00"
]

For more information, see Viewing a blue/green deployment in the Amazon RDS User Guide and Viewing a blue/green deployment in the Amazon Aurora User Guide.
describe-certificates

The following code example shows how to use describe-certificates.

AWS CLI

To describe certificates

The following describe-certificates example retrieves the details of the certificate associated with the user's default region.

```
aws rds describe-certificates
```

Output:

```
{
   "Certificates": [
      {
         "Thumbprint": "34478a908a3ae45dcb6d1676d235e9875c62c63",
         "ValidFrom": "2015-02-05T21:54:04Z",
         "CertificateIdentifier": "rds-ca-2015",
         "ValidTill": "2020-03-05T21:54:04Z",
         "CertificateType": "CA",
         "CertificateArn": "arn:aws:rds:us-east-1::cert:rds-ca-2015"
      }
   ]
}
```

For API details, see DescribeCertificates in AWS CLI Command Reference.

describe-db-cluster-backtracks

The following code example shows how to use describe-db-cluster-backtracks.

AWS CLI

To describe backtracks for a DB cluster

The following describe-db-cluster-backtracks example retrieves details about the specified DB cluster.
aws rds describe-db-cluster-backtracks \
--db-cluster-identifier mydbcluster

Output:

```json
{
   "DBClusterBacktracks": [
      {
         "DBClusterIdentifier": "mydbcluster",
         "BacktrackIdentifier": "2f5f5294-0dd2-44c9-9f50-EXAMPLE",
         "BacktrackTo": "2021-02-12T04:59:22Z",
         "BacktrackedFrom": "2021-02-12T14:37:31.640Z",
         "BacktrackRequestCreationTime": "2021-02-12T14:36:18.819Z",
         "Status": "COMPLETED"
      },
      {
         "DBClusterIdentifier": "mydbcluster",
         "BacktrackIdentifier": "3c7a6421-af2a-4ea3-ae95-EXAMPLE",
         "BacktrackTo": "2021-02-11T22:53:46Z",
         "BacktrackedFrom": "2021-02-12T00:09:27.006Z",
         "BacktrackRequestCreationTime": "2021-02-12T14:36:18.819Z",
         "Status": "COMPLETED"
      }
   ]
}
```

For more information, see [Backtracking an Aurora DB cluster](https://docs.aws.amazon.com/AmazonAurora/latest/UserGuide/backtracking-cluster.html) in the *Amazon Aurora User Guide*.

- For API details, see [DescribeDbClusterBacktracks](https://docs.aws.amazon.com/cli/latest/reference/rds/describe-db-cluster-backtracks.html) in *AWS CLI Command Reference*.

### describe-db-cluster-endpoints

The following code example shows how to use `describe-db-cluster-endpoints`.

#### AWS CLI

**Example 1: To describe DB cluster endpoints**

The following `describe-db-cluster-endpoints` example retrieves details for your DB cluster endpoints. The most common kinds of Aurora clusters have two endpoints. One endpoint has type `WRITER`. You can use this endpoint for all SQL statements. The other
A new endpoint has type **READER**. You can use this endpoint only for SELECT and other read-only SQL statements.

```bash
aws rds describe-db-cluster-endpoints
```

**Output:**

```json
{
    "DBClusterEndpoints": [ 
    {
        "DBClusterIdentifier": "my-database-1",
        "Endpoint": "my-database-1.cluster-cnpexample.us-east-1.rds.amazonaws.com",
        "Status": "creating",
        "EndpointType": "WRITER"
    },
    {
        "DBClusterIdentifier": "my-database-1",
        "Endpoint": "my-database-1.cluster-ro-cnpexample.us-east-1.rds.amazonaws.com",
        "Status": "creating",
        "EndpointType": "READER"
    },
    {
        "DBClusterIdentifier": "mydbcluster",
        "Endpoint": "mydbcluster.cluster-cnpexamle.us-east-1.rds.amazonaws.com",
        "Status": "available",
        "EndpointType": "WRITER"
    },
    {
        "DBClusterIdentifier": "mydbcluster",
        "Endpoint": "mydbcluster.cluster-ro-cnpexample.us-east-1.rds.amazonaws.com",
        "Status": "available",
        "EndpointType": "READER"
    }
    ]
}
```

**Example 2: To describe DB cluster endpoints of a single DB cluster**
The following `describe-db-cluster-endpoints` example retrieves details for the DB cluster endpoints of a single specified DB cluster. Aurora Serverless clusters have only a single endpoint with a type of `WRITER`.

```bash
aws rds describe-db-cluster-endpoints \
   --db-cluster-identifier serverless-cluster
```

**Output:**
```
{
   "DBClusterEndpoints": [
   {
      "Status": "available",
      "Endpoint": "serverless-cluster.cluster-cnpexample.us-east-1.rds.amazonaws.com",
      "DBClusterIdentifier": "serverless-cluster",
      "EndpointType": "WRITER"
   }
   ]
}
```

For more information, see [Amazon Aurora Connection Management](https://docs.aws.amazon.com/AmazonAurora/latest/UserGuide/db-clusters.html) in the *Amazon Aurora User Guide*.

- For API details, see [DescribeDbClusterEndpoints](https://docs.aws.amazon.com/cli/latest/reference/rds/describe-db-cluster-endpoints.html) in *AWS CLI Command Reference*.

### `describe-db-cluster-parameter-groups`

The following code example shows how to use `describe-db-cluster-parameter-groups`.

**AWS CLI**

**To describe DB cluster parameter groups**

The following `describe-db-cluster-parameter-groups` example retrieves details for your DB cluster parameter groups.

```bash
aws rds describe-db-cluster-parameter-groups
```

**Output:**

---

**Actions and scenarios**
For more information, see Working with DB Parameter Groups and DB Cluster Parameter Groups in the Amazon Aurora User Guide.
For API details, see DescribeDbClusterParameterGroups in AWS CLI Command Reference.

**describe-db-cluster-parameters**

The following code example shows how to use describe-db-cluster-parameters.

**AWS CLI**

**Example 1: To describe the parameters in a DB cluster parameter group**

The following describe-db-cluster-parameters example retrieves details about the parameters in a DB cluster parameter group.

```bash
aws rds describe-db-cluster-parameters \
    --db-cluster-parameter-group-name mydbclusterpg
```

**Output:**

```json
{
    "Parameters": [
    {
        "ParameterName": "allow-suspicious-udfs",
        "Description": "Controls whether user-defined functions that have only an xxx symbol for the main function can be loaded",
        "Source": "engine-default",
        "ApplyType": "static",
        "DataType": "boolean",
        "AllowedValues": "0,1",
        "IsModifiable": false,
        "ApplyMethod": "pending-reboot",
        "SupportedEngineModes": ["provisioned"
    
    },
    {
        "ParameterName": "aurora_lab_mode",
        "ParameterValue": "0",
        "Description": "Enables new features in the Aurora engine.",
        "Source": "engine-default",
        "ApplyType": "static",
        "DataType": "boolean",
        "AllowedValues": "0,1",
        "IsModifiable": true,
```
Example 2: To list only the parameter names in a DB cluster parameter group

The following `describe-db-cluster-parameters` example retrieves only the names of the parameters in a DB cluster parameter group.

```bash
aws rds describe-db-cluster-parameters \
--db-cluster-parameter-group-name default.aurora-mysql5.7 \
--query 'Parameters[].{ParameterName:ParameterName}'
```

Output:

```json
[
  {
    "ParameterName": "allow-suspicious-udfs"
  },
  {
    "ParameterName": "aurora_binlog_read_buffer_size"
  },
  {
    "ParameterName": "aurora_binlog_replication_max_yield_seconds"
  },
  {
    "ParameterName": "aurora_binlog_use_large_read_buffer"
  },
  {
    "ParameterName": "aurora_lab_mode"
  },
  ...
]
```

Example 3: To describe only the modifiable parameters in a DB cluster parameter group
The following `describe-db-cluster-parameters` example retrieves the names of only the parameters that you can modify in a DB cluster parameter group.

```
aws rds describe-db-cluster-parameters \
   --db-cluster-parameter-group-name default.aurora-mysql5.7 \
   --query 'Parameters[].{ParameterName:ParameterName,IsModifiable:IsModifiable} | [?IsModifiable == `true`]'
```

Output:

```
[
  {
    "ParameterName": "aurora_binlog_read_buffer_size",
    "IsModifiable": true
  },
  {
    "ParameterName": "aurora_binlog_replication_max_yield_seconds",
    "IsModifiable": true
  },
  {
    "ParameterName": "aurora_binlog_use_large_read_buffer",
    "IsModifiable": true
  },
  {
    "ParameterName": "aurora_lab_mode",
    "IsModifiable": true
  },
  ...

...some output truncated...
]
```

**Example 4: To describe only the modifiable Boolean parameters in a DB cluster parameter group**

The following `describe-db-cluster-parameters` example retrieves the names of only the parameters that you can modify in a DB cluster parameter group and that have a Boolean data type.

```
aws rds describe-db-cluster-parameters \
   --db-cluster-parameter-group-name default.aurora-mysql5.7 \
```

Output:

```
[  
  {   
    "DataType": "boolean",   
    "ParameterName": "aurora_binlog_use_large_read_buffer",   
    "IsModifiable": true  
  },  
  {   
    "DataType": "boolean",   
    "ParameterName": "aurora_lab_mode",   
    "IsModifiable": true  
  },  
  {   
    "DataType": "boolean",   
    "ParameterName": "autocommit",   
    "IsModifiable": true  
  },  
  {   
    "DataType": "boolean",   
    "ParameterName": "automatic_sp_privileges",   
    "IsModifiable": true  
  },  
  ...

...some output truncated...
  ]
```

For more information, see [Working with DB Parameter Groups and DB Cluster Parameter Groups](#) in the Amazon Aurora User Guide.

- For API details, see [DescribeDbClusterParameters](#) in AWS CLI Command Reference.

**describe-db-cluster-snapshot-attributes**

The following code example shows how to use `describe-db-cluster-snapshot-attributes`.

**AWS CLI**

To describe the attribute names and values for a DB cluster snapshot
The following describe-db-cluster-snapshot-attributes example retrieves details of the attribute names and values for the specified DB cluster snapshot.

```
aws rds describe-db-cluster-snapshot-attributes \
  --db-cluster-snapshot-identifier myclustersnapshot
```

Output:

```
{
  "DBClusterSnapshotAttributesResult": {
    "DBClusterSnapshotIdentifier": "myclustersnapshot",
    "DBClusterSnapshotAttributes": [
      {
        "AttributeName": "restore",
        "AttributeValues": [
          "123456789012"
        ]
      }
    ]
  }
}
```

For more information, see [Sharing a DB Cluster Snapshot](https://docs.aws.amazon.com/AmazonAurora/latest/UserGuide/AmazonAurora-WAAS-Sharing-a-DB-Cluster-Snapshot.html) in the *Amazon Aurora User Guide*.  

• For API details, see [DescribeDbClusterSnapshotAttributes](https://docs.aws.amazon.com/cli/latest/reference/rds/describe-db-cluster-snapshot-attributes.html) in *AWS CLI Command Reference*.  

**describe-db-cluster-snapshots**

The following code example shows how to use describe-db-cluster-snapshots.

**AWS CLI**

**To describe a DB cluster snapshot for a DB cluster**

The following describe-db-cluster-snapshots example retrieves the details for the DB cluster snapshots for the specified DB cluster.

```
aws rds describe-db-cluster-snapshots \
  --db-cluster-identifier mydbcluster
```

Output:
```json
{
    "DBClusterSnapshots": [
        {
            "AvailabilityZones": [
                "us-east-1a",
                "us-east-1b",
                "us-east-1e"
            ],
            "DBClusterSnapshotIdentifier": "myclustersnapshotcopy",
            "DBClusterIdentifier": "mydbcluster",
            "SnapshotCreateTime": "2019-06-04T09:16:42.649Z",
            "Engine": "aurora-mysql",
            "AllocatedStorage": 0,
            "Status": "available",
            "Port": 0,
            "VpcId": "vpc-6594f31c",
            "ClusterCreateTime": "2019-04-15T14:18:42.785Z",
            "MasterUsername": "myadmin",
            "EngineVersion": "5.7.mysql_aurora.2.04.2",
            "LicenseModel": "aurora-mysql",
            "SnapshotType": "manual",
            "PercentProgress": 100,
            "StorageEncrypted": true,
            "KmsKeyId": "arn:aws:kms:us-east-1:123456789012:key/AKIAIOSFODNN7EXAMPLE",
            "IAMDatabaseAuthenticationEnabled": false
        },
        {
            "AvailabilityZones": [
                "us-east-1a",
                "us-east-1b",
                "us-east-1e"
            ],
            "DBClusterSnapshotIdentifier": "rds:mydbcluster-2019-06-20-09-16",
            "DBClusterIdentifier": "mydbcluster",
            "Engine": "aurora-mysql",
            "AllocatedStorage": 0,
            "Status": "available",
            "Port": 0,
            "VpcId": "vpc-6594f31c",
```
For more information, see **Creating a DB Cluster Snapshot** in the *Amazon Aurora User Guide*.

- For API details, see **DescribeDbClusterSnapshots** in *AWS CLI Command Reference*. 

### describe-db-clusters

The following code example shows how to use `describe-db-clusters`.

**AWS CLI**

**Example 1: To describe a DB cluster**

The following `describe-db-clusters` example retrieves the details of the specified DB cluster.

```
aws rds describe-db-clusters \
  --db-cluster-identifier mydbcluster
```

**Output:**

```
{
  "DBClusters": [
  {
    "AllocatedStorage": 1,
    "AvailabilityZones": [
      "us-east-1a",
      "us-east-1b",
    
```
"us-east-1e",
  "BackupRetentionPeriod": 1,
  "DatabaseName": "mydbcluster",
  "DBClusterIdentifier": "mydbcluster",
  "DBClusterParameterGroup": "default.aurora-mysql5.7",
  "DBSubnetGroup": "default",
  "Status": "available",
  "Endpoint": "mydbcluster.cluster-cnpexample.us-east-1.rds.amazonaws.com",
  "ReaderEndpoint": "mydbcluster.cluster-ro-cnpexample.us-east-1.rds.amazonaws.com",
  "MultiAZ": true,
  "Engine": "aurora-mysql",
  "EngineVersion": "5.7.mysql_aurora.2.04.2",
  "Port": 3306,
  "MasterUsername": "myadmin",
  "PreferredBackupWindow": "09:09-09:39",
  "PreferredMaintenanceWindow": "sat:04:09-sat:04:39",
  "ReadReplicaIdentifiers": [],
  "DBClusterMembers": [
    {
      "DBInstanceIdentifier": "dbinstance3",
      "IsClusterWriter": false,
      "DBClusterParameterGroupStatus": "in-sync",
      "PromotionTier": 1
    },
    {
      "DBInstanceIdentifier": "dbinstance1",
      "IsClusterWriter": false,
      "DBClusterParameterGroupStatus": "in-sync",
      "PromotionTier": 1
    },
    {
      "DBInstanceIdentifier": "dbinstance2",
      "IsClusterWriter": false,
      "DBClusterParameterGroupStatus": "in-sync",
      "PromotionTier": 1
    },
    {
      "DBInstanceIdentifier": "mydbcluster",
      "IsClusterWriter": false,
"DBClusterParameterGroupStatus": "in-sync",
"PromotionTier": 1
},
{
  "DBInstanceIdentifier": "mydbcluster-us-east-1b",
  "IsClusterWriter": false,
  "DBClusterParameterGroupStatus": "in-sync",
  "PromotionTier": 1
},
{
  "DBInstanceIdentifier": "mydbcluster",
  "IsClusterWriter": true,
  "DBClusterParameterGroupStatus": "in-sync",
  "PromotionTier": 1
}
],
"VpcSecurityGroups": [
  {
    "VpcSecurityGroupId": "sg-0b9130572daf3dc16",
    "Status": "active"
  }
],
"HostedZoneId": "Z2R2ITUGPM61AM",
"StorageEncrypted": true,
"KmsKeyId": "arn:aws:kms:us-east-1:814387698303:key/AKIAIOSFODNN7EXAMPLE",
"DbClusterResourceId": "cluster-AKIAIOSFODNN7EXAMPLE",
"DBClusterArn": "arn:aws:rds:us-east-1:123456789012:cluster:mydbcluster",
"AssociatedRoles": [],
"IAMDatabaseAuthenticationEnabled": false,
"ClusterCreateTime": "2019-04-15T14:18:42.785Z",
"EngineMode": "provisioned",
"DeletionProtection": false,
"HttpEndpointEnabled": false
}
]
}

**Example 2: To list certain attributes of all DB clusters**

The following describe-db-clusters example retrieves only the DBClusterIdentifier, Endpoint, and ReaderEndpoint attributes of all your DB clusters in the current AWS Region.
aws rds describe-db-clusters \
--query 'DBClusters[].{DBClusterIdentifier:DBClusterIdentifier,Endpoint:Endpoint,ReaderEndpoint:ReaderEndpoint}'

Output:

```
[
  {
    "Endpoint": "cluster-57-2020-05-01-2270.cluster-cnpexample.us-east-1.rds.amazonaws.com",
    "ReaderEndpoint": "cluster-57-2020-05-01-2270.cluster-ro-cnpexample.us-east-1.rds.amazonaws.com",
    "DBClusterIdentifier": "cluster-57-2020-05-01-2270"
  },
  {
    "Endpoint": "cluster-57-2020-05-01-4615.cluster-cnpexample.us-east-1.rds.amazonaws.com",
    "ReaderEndpoint": "cluster-57-2020-05-01-4615.cluster-ro-cnpexample.us-east-1.rds.amazonaws.com",
    "DBClusterIdentifier": "cluster-57-2020-05-01-4615"
  },
  {
    "Endpoint": "pg2-cluster.cluster-cnpexample.us-east-1.rds.amazonaws.com",
    "ReaderEndpoint": "pg2-cluster.cluster-ro-cnpexample.us-east-1.rds.amazonaws.com",
    "DBClusterIdentifier": "pg2-cluster"
  },
  ...output omitted...
]
```

**Example 3: To list DB clusters with a specific attribute**

The following describe-db-clusters example retrieves only the DBClusterIdentifier and Engine attributes of your DB clusters that use the aurora-postgresql DB engine.

```
aws rds describe-db-clusters \
--query 'DBClusters[].{DBClusterIdentifier:DBClusterIdentifier,Engine:Engine} | [?Engine == `aurora-postgresql`]'
```

Output:
[{
   "Engine": "aurora-postgresql",
   "DBClusterIdentifier": "pg2-cluster"
}]

For more information, see Amazon Aurora DB Clusters in the Amazon Aurora User Guide.

- For API details, see DescribeDbClusters in AWS CLI Command Reference.

describe-db-instance-automated-backups

The following code example shows how to use describe-db-instance-automated-backups.

AWS CLI

To describe the automated backups for a DB instance

The following describe-db-instance-automated-backups example displays details about the automated backups for the specified DB instance. The details include replicated automated backups in other AWS Regions.

```bash
aws rds describe-db-instance-automated-backups \\
   --db-instance-identifier new-orcl-db
```

Output:

```json
{
   "DBInstanceAutomatedBackups": [
      {
         "DBInstanceArn": "arn:aws:rds:us-east-1:123456789012:db:new-orcl-db",
         "DbiResourceId": "db-JKIB2GFQ5RV7REPLZA4EXAMPLE",
         "Region": "us-east-1",
         "DBInstanceIdentifier": "new-orcl-db",
         "RestoreWindow": {
            "EarliestTime": "2020-12-07T21:05:20.939Z",
            "LatestTime": "2020-12-07T21:05:20.939Z"
         },
         "AllocatedStorage": 20,
         "Status": "replicating",
         "Port": 1521,
      }
   ]
}
```
For more information, see [Finding information about replicated backups](#) in the [Amazon RDS User Guide](#).

- For API details, see [DescribeDbInstanceAutomatedBackups](#) in [AWS CLI Command Reference](#).

**describe-db-log-files**

The following code example shows how to use describe-db-log-files.

**AWS CLI**

**To describe the log files for a DB instance**

The following describe-db-log-files example retrieves details about the log files for the specified DB instance.

```bash
aws rds describe-db-log-files -\ 
   -db-instance-identifier test-instance
```

**Output:**

```json
{}
   "DescribeDBLogFiles": [ 
   
| "Size": 0, 
| "LastWritten": 1533060000000, 
| "LogFileName": "error/mysql-error-running.log"
   ]
}]
```
describe-db-proxies

The following code example shows how to use `describe-db-proxies`.

**AWS CLI**

To describe a DB proxy for an RDS database

The following `describe-db-proxies` example returns information about DB proxies.

```
aws rds describe-db-proxies
```
{  
  "DBProxies": [
    {
      "DBProxyName": "proxyExample1",
      "DBProxyArn": "arn:aws:rds:us-east-1:123456789012:db-proxy:prx-0123a0b12345c0ab",
      "Status": "available",
      "EngineFamily": "PostgreSQL",
      "VpcId": "vpc-1234567",
      "VpcSecurityGroupIds": [
        "sg-1234"
      ],
      "VpcSubnetIds": [
        "subnetgroup1",
        "subnetgroup2"
      ],
      "Auth": [
        {
          "Description": "proxydescription1",
          "AuthScheme": "SECRETS",
          "IAMAuth": "DISABLED"
        }
      ],
      "RoleArn": "arn:aws:iam::12345678912??:role/ProxyPostgreSQLRole",
      "Endpoint": "proxyExample1.proxy-ab0cd1efghij.us-east-1.rds.amazonaws.com",
      "RequireTLS": false,
      "IdleClientTimeout": 1800,
      "DebugLogging": false,
      "CreatedDate": "2023-04-05T16:09:33.452000+00:00",
      "UpdatedDate": "2023-04-13T01:49:38.568000+00:00"
    },
    {
      "DBProxyName": "proxyExample2",
      "DBProxyArn": "arn:aws:rds:us-east-1:123456789012:db-proxy:prx-1234a12b23456c1ab",
      "Status": "available",
      "EngineFamily": "PostgreSQL",
      "VpcId": "sg-1234567",
      "VpcSecurityGroupIds": [
    
  ]}
"sg-1234",
],
"VpcSubnetIds": [
   "subnetgroup1",
   "subnetgroup2"
],
"Auth": "[
   {
      "Description": "proxydescription2",
      "AuthScheme": "SECRETS",
      "IAMAuth": "DISABLED"
   }
],
"RoleArn": "arn:aws:iam::123456789123:role/ProxyPostgreSQLRole",
"Endpoint": "proxyExample2.proxy-ab0cd1efghij.us-east-1.rds.amazonaws.com",
"RequireTLS": false,
"IdleClientTimeout": 1800,
"DebuggingLogging": false,
"CreatedDate": "2022-01-05T16:19:33.452000+00:00",
"UpdatedDate": "2023-04-13T01:49:38.568000+00:00"
}
]
}

For more information, see Viewing an RDS Proxy in the Amazon RDS User Guide and Viewing an RDS Proxy in the Amazon Aurora User Guide.

- For API details, see DescribeDbProxies in AWS CLI Command Reference.

describe-db-proxy-endpoints

The following code example shows how to use describe-db-proxy-endpoints.

AWS CLI

To describe a DB proxy endpoints

The following describe-db-proxy-endpoints example returns information about DB proxy endpoints.
aws rds describe-db-proxy-endpoints

Output:

```json
{
    "DBProxyEndpoints": [
        {
            "DBProxyEndpointName": "proxyEndpoint1",
            "DBProxyEndpointArn": "arn:aws:rds:us-east-1:123456789012:db-proxy-endpoint:prx-endpoint-0123a01b12345c0ab",
            "DBProxyName": "proxyExample",
            "Status": "available",
            "VpcId": "vpc-1234567",
            "VpcSecurityGroupIds": [
                "sg-1234"
            ],
            "VpcSubnetIds": [
                "subnetgroup1",
                "subnetgroup2"
            ],
            "Endpoint": "proxyEndpoint1.endpoint.proxy-ab0cd1efghij.us-east-1.rds.amazonaws.com",
            "CreatedDate": "2023-04-05T16:09:33.452000+00:00",
            "TargetRole": "READ_WRITE",
            "IsDefault": false
        },
        {
            "DBProxyEndpointName": "proxyEndpoint2",
            "DBProxyEndpointArn": "arn:aws:rds:us-east-1:123456789012:db-proxy-endpoint:prx-endpoint-4567a01b12345c0ab",
            "DBProxyName": "proxyExample2",
            "Status": "available",
            "VpcId": "vpc1234567",
            "VpcSecurityGroupIds": [
                "sg-5678"
            ],
            "VpcSubnetIds": [
                "subnetgroup1",
                "subnetgroup2"
            ],
            "Endpoint": "proxyEndpoint2.endpoint.proxy-cd1ef2klmnop.us-east-1.rds.amazonaws.com",
            "CreatedDate": "2023-04-05T16:09:33.452000+00:00"
        }
    ]
}
```
For more information, see [Viewing a proxy endpoint](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/what-is-db-proxy.html) in the *Amazon RDS User Guide* and [Creating a proxy endpoint](https://docs.aws.amazon.com/Aurora/latest/UserGuide/aurora-proxy-create-proxy-endpoint.html) in the *Amazon Aurora User Guide*.

- For API details, see [DescribeDbProxyEndpoints](https://docs.aws.amazon.com/cli/latest/reference/rds/describe-db-proxy-endpoints.html) in *AWS CLI Command Reference*.

### describe-db-proxy-target-groups

The following code example shows how to use `describe-db-proxy-target-groups`.

**AWS CLI**

**To describe a DB proxy endpoints**

The following `describe-db-proxy-target-groups` example returns information about DB proxy target groups.

```
aws rds describe-db-proxy-target-groups \\n   --db-proxy-name proxyExample
```

**Output:**

```
{
   "TargetGroups":
   [ 
       {
           "DBProxyName": "proxyExample",
           "TargetGroupName": "default",
           "TargetGroupArn": "arn:aws:rds:us-east-1:123456789012:target-group:prx-tg-0123a01b12345c0ab",
           "IsDefault": true,
           "Status": "available",
           "ConnectionPoolConfig": {
               "MaxConnectionsPercent": 100,
               "MaxIdleConnectionsPercent": 50,
               "ConnectionBorrowTimeout": 120,
               "SessionPinningFilters": []
           }
       }
   ]
}
```
For more information, see **Viewing an RDS Proxy** in the *Amazon RDS User Guide* and **Viewing an RDS Proxy** in the *Amazon Aurora User Guide*.

- For API details, see **DescribeDbProxyTargetGroups** in *AWS CLI Command Reference*.

### describe-db-proxy-targets

The following code example shows how to use `describe-db-proxy-targets`.

#### AWS CLI

**To describe DB proxy targets**

The following `describe-db-proxy-targets` example returns information about DB proxy targets.

```
aws rds describe-db-proxy-targets \
   --db-proxy-name proxyExample
```

**Output:**

```json
{
   "Targets": [
      {
         "Endpoint": "database1.ab0cd1efghij.us-east-1.rds.amazonaws.com",
         "TrackedClusterId": "database1",
         "RdsResourceId": "database1-instance-1",
         "Port": 3306,
         "Type": "RDS_INSTANCE",
         "Role": "READ_WRITE",
         "TargetHealth": {
            "State": "UNAVAILABLE",
            "Reason": "PENDING_PROXY_CAPACITY",
            "Description": "DBProxy Target is waiting for proxy to scale to desired capacity"
         }
      }
   ]
}
```
For more information, see Viewing an RDS proxy in the Amazon RDS User Guide and Viewing an RDS proxy in the Amazon Aurora User Guide.

- For API details, see DescribeDbProxyTargets in AWS CLI Command Reference.

describe-db-security-groups

The following code example shows how to use describe-db-security-groups.

**AWS CLI**

**To list DB security groups**

The following describe-db-security-groups example lists DB security groups.

```bash
aws rds describe-db-security-groups
```

Output:

```json
{
  "DBSecurityGroups": [
    {
      "OwnerId": "123456789012",
      "DBSecurityGroupName": "default",
      "DBSecurityGroupDescription": "default",
      "EC2SecurityGroups": [],
      "IPRanges": [],
    },
    {
      "OwnerId": "123456789012",
      "DBSecurityGroupName": "mysecgroup",
      "DBSecurityGroupDescription": "My Test Security Group",
      "VpcId": "vpc-1234567f",
      "EC2SecurityGroups": [],
      "IPRanges": [],
    }
  ]
}
```
For more information, see [Listing Available DB Security Groups](#) in the *Amazon RDS User Guide*.

- For API details, see [DescribeDbSecurityGroups](#) in *AWS CLI Command Reference*.

### describe-db-snapshot-attributes

The following code example shows how to use `describe-db-snapshot-attributes`.

**AWS CLI**

**To describe the attribute names and values for a DB snapshot**

The following `describe-db-snapshot-attributes` example describes the attribute names and values for a DB snapshot.

```bash
aws rds describe-db-snapshot-attributes \
  --db-snapshot-identifier mydbsnapshot
```

**Output:**

```json
{
  "DBSnapshotAttributesResult": {
    "DBSnapshotIdentifier": "mydbsnapshot",
    "DBSnapshotAttributes": [
      {
        "AttributeName": "restore",
        "AttributeValues": [
          "123456789012",
          "210987654321"
        ]
      }
    ]
  }
}
```

For more information, see [Sharing a DB Snapshot](#) in the *Amazon RDS User Guide*.

- For API details, see [DescribeDbSnapshotAttributes](#) in *AWS CLI Command Reference*.
**describe-db-subnet-groups**

The following code example shows how to use `describe-db-subnet-groups`.

**AWS CLI**

**To describe a DB subnet group**

The following `describe-db-subnet-groups` example retrieves the details of the specified DB subnet group.

```
aws rds describe-db-subnet-groups
```

**Output:**

```
{
   "DBSubnetGroups": [
   {
      "DBSubnetGroupName": "mydbsubnetgroup",
      "DBSubnetGroupDescription": "My DB Subnet Group",
      "VpcId": "vpc-971c12ee",
      "SubnetGroupStatus": "Complete",
      "Subnets": [
         {
            "SubnetIdentifier": "subnet-d8c8e7f4",
            "SubnetAvailabilityZone": {
               "Name": "us-east-1a"
            },
            "SubnetStatus": "Active"
         },
         {
            "SubnetIdentifier": "subnet-718fdc7d",
            "SubnetAvailabilityZone": {
               "Name": "us-east-1f"
            },
            "SubnetStatus": "Active"
         },
         {
            "SubnetIdentifier": "subnet-cbc8e7e7",
            "SubnetAvailabilityZone": {
               "Name": "us-east-1a"
            },
            "SubnetStatus": "Active"
         }
      ]
   }
   ]
}
```
For more information, see Amazon Virtual Private Cloud VPCs and Amazon RDS in the Amazon RDS User Guide.

- For API details, see DescribeDbSubnetGroups in AWS CLI Command Reference.

describe-engine-default-cluster-parameters

The following code example shows how to use describe-engine-default-cluster-parameters.

AWS CLI

To describe the default engine and system parameter information for the Aurora database engine

The following describe-engine-default-cluster-parameters example retrieves the details of the default engine and system parameter information for Aurora DB clusters with MySQL 5.7 compatibility.

```bash
aws rds describe-engine-default-cluster-parameters \
  --db-parameter-group-family aurora-mysql5.7
```

Output:

```json
{
  "EngineDefaults": {
    "Parameters": [
      // Parameters
    ]
  }
}
```
For more information, see Working with DB Parameter Groups and DB Cluster Parameter Groups in the Amazon Aurora User Guide.

For API details, see DescribeEngineDefaultClusterParameters in AWS CLI Command Reference.

describe-engine-default-parameters

The following code example shows how to use describe-engine-default-parameters.

AWS CLI

To describe the default engine and system parameter information for the database engine

The following describe-engine-default-parameters example retrieves details for the default engine and system parameter information for MySQL 5.7 DB instances.

```bash
aws rds describe-engine-default-parameters \
    --db-parameter-group-family mysql5.7
```

Output:

```json
{
    "EngineDefaults": {
        "Parameters": [
            {
                "ParameterName": "allow-suspicious-udfs",
                "Description": "IAM role ARN used to load data from AWS S3",
                "Source": "engine-default",
                "ApplyType": "dynamic",
                "DataType": "string",
                "IsModifiable": true,
                "SupportedEngineModes": ["provisioned"]
            }
        ]
    }
}
```
"Description": "Controls whether user-defined functions that have only an xxx symbol for the main function can be loaded",
"Source": "engine-default",
"ApplyType": "static",
"DataType": "boolean",
"AllowedValues": "0,1",
"IsModifiable": false
},
...some output truncated...
]}
}

For more information, see Working with DB Parameter Groups in the Amazon RDS User Guide.

- For API details, see DescribeEngineDefaultParameters in AWS CLI Command Reference.

describe-event-categories

The following code example shows how to use describe-event-categories.

AWS CLI

To describe event categories

The following describe-event-categories example retrieves details about the event categories for all available event sources.

aws rds describe-event-categories

Output:

{
   "EventCategoriesMapList": [
   {
      "SourceType": "db-instance",
      "EventCategories": [
      "deletion",
      "read replica",
      "failover",
      "restoration",
      "maintenance",
      "low storage",
      ]
   }
   ]
}
"configuration change",
"backup",
"creation",
"availability",
"recovery",
"failure",
"backtrack",
"notification"
]
},
{
  "SourceType": "db-security-group",
  "EventCategories": [
    "configuration change",
    "failure"
  ]
},
{
  "SourceType": "db-parameter-group",
  "EventCategories": [
    "configuration change"
  ]
},
{
  "SourceType": "db-snapshot",
  "EventCategories": [
    "deletion",
    "creation",
    "restoration",
    "notification"
  ]
},
{
  "SourceType": "db-cluster",
  "EventCategories": [
    "failover",
    "failure",
    "notification"
  ]
},
{
  "SourceType": "db-cluster-snapshot",
  "EventCategories": [
    "backup"
describe-event-subscriptions

The following code example shows how to use describe-event-subscriptions.

AWS CLI

To describe event subscriptions

This example describes all of the Amazon RDS event subscriptions for the current AWS account.

```
aws rds describe-event-subscriptions
```

Output:

```
{
  "EventSubscriptionsList": [
    {
      "EventCategoriesList": [
        "backup",
        "recovery"
      ],
      "Enabled": true,
      "Status": "creating",
      "SourceType": "db-instance",
      "CustomerAwsId": "123456789012",
      "CustSubscriptionId": "my-instance-events",
      "SnsTopicArn": "arn:aws:sns:us-east-1:123456789012:interesting-events"
    },
    ...some output truncated...
  ]
}
```

- For API details, see `DescribeEventCategories` in AWS CLI Command Reference.
• For API details, see DescribeEventSubscriptions in AWS CLI Command Reference.

describe-events

The following code example shows how to use describe-events.

AWS CLI

To describe events

The following describe-events example retrieves details for the events that have occurred for the specified DB instance.

```bash
aws rds describe-events \
  --source-identifier test-instance \
  --source-type db-instance
```

Output:

```
{
  "Events": [
    {
      "SourceType": "db-instance",
      "SourceIdentifier": "test-instance",
      "EventCategories": [
        "backup"
      ],
      "Message": "Backing up DB instance",
      "Date": "2018-07-31T23:09:23.983Z",
      "SourceArn": "arn:aws:rds:us-east-1:123456789012:db:test-instance"
    },
    {
      "SourceType": "db-instance",
      "SourceIdentifier": "test-instance",
      "EventCategories": [
        "backup"
      ],
      "Message": "Finished DB Instance backup",
      "Date": "2018-07-31T23:15:13.049Z",
      "SourceArn": "arn:aws:rds:us-east-1:123456789012:db:test-instance"
    }
  ]
}
```
describe-export-tasks

The following code example shows how to use describe-export-tasks.

AWS CLI

To describe snapshot export tasks

The following describe-export-tasks example returns information about snapshot exports to Amazon S3.

```bash
aws rds describe-export-tasks
```

Output:

```json
{
   "ExportTasks": [
   {
       "ExportTaskIdentifier": "test-snapshot-export",
       "SnapshotTime": "2020-03-02T18:26:28.163Z",
       "TaskStartTime": "2020-03-02T18:57:56.896Z",
       "TaskEndTime": "2020-03-02T19:10:31.985Z",
       "S3Bucket": "mybucket",
       "S3Prefix": "",
       "IamRoleArn": "arn:aws:iam::123456789012:role/service-role/ExportRole",
       "KmsKeyId": "arn:aws:kms:us-west-2:123456789012:key/abcd0000-7fca-4128-82f2-aabbcdddeeff",
       "Status": "COMPLETE",
       "PercentProgress": 100,
       "TotalExtractedDataInGB": 0
   },
   {
       "ExportTaskIdentifier": "my-s3-export",
       "SnapshotTime": "2020-03-27T20:48:42.023Z",
   }
   ]
}
```
For more information, see [Monitoring Snapshot Exports](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/MonitoringTools.ECRV2.html) in the *Amazon RDS User Guide*.

- For API details, see [DescribeExportTasks](https://docs.aws.amazon.com/cli/latest/reference/rds/describe-export-task.html) in *AWS CLI Command Reference*.

### describe-global-clusters

The following code example shows how to use `describe-global-clusters`.

#### AWS CLI

**To describe global DB clusters**

The following `describe-global-clusters` example lists Aurora global DB clusters in the current AWS Region.

```bash
aws rds describe-global-clusters
```

**Output:**

```
{
   "GlobalClusters": [
      {
         "GlobalClusterIdentifier": "myglobalcluster",
         "GlobalClusterResourceId": "cluster-f5982077e3b5aabb",
         "GlobalClusterArn": "arn:aws:rds::123456789012:global-cluster:myglobalcluster",
         "Status": "available",
         "Engine": "aurora-mysql",
         "EngineVersion": "5.7.mysql_aurora.2.07.2",
         "StorageEncrypted": false,
         "DeletionProtection": false
      }
   ]
}
```
"GlobalClusterMembers": []
]
}
}

For more information, see Managing an Aurora global database in the Amazon Aurora User Guide.

- For API details, see DescribeGlobalClusters in AWS CLI Command Reference.

describe-option-group-options

The following code example shows how to use describe-option-group-options.

**AWS CLI**

**To describe all available options**

The following describe-option-group-options example lists two options for an Oracle Database 19c instance.

```bash
aws rds describe-option-group-options \
  --engine-name oracle-ee \
  --major-engine-version 19 \
  --max-items 2
```

Output:

```json
{
   "OptionGroupOptions": [
   {
      "Name": "APEX",
      "Description": "Oracle Application Express Runtime Environment",
      "EngineName": "oracle-ee",
      "MajorEngineVersion": "19",
      "MinimumRequiredMinorEngineVersion": "0.0.0.ru-2019-07.rur-2019-07.r1",
      "PortRequired": false,
      "OptionsDependedOn": [],
      "OptionsConflictsWith": [],
      "Persistent": false,
      "Permanent": false,
      "RequiresAutoMinorEngineVersionUpgrade": false,
```
For more information, see Listing the Options and Option Settings for an Option Group in the Amazon RDS User Guide.

- For API details, see DescribeOptionGroupOptions in AWS CLI Command Reference.

describe-option-groups

The following code example shows how to use describe-option-groups.
To describe the available option groups

The following describe-option-groups example lists the options groups for an Oracle Database 19c instance.

```
aws rds describe-option-groups \
   --engine-name oracle-ee \
   --major-engine-version 19
```

Output:

```
{
   "OptionGroupsList": [
      {
         "OptionGroupName": "default:oracle-ee-19",
         "OptionGroupDescription": "Default option group for oracle-ee 19",
         "EngineName": "oracle-ee",
         "MajorEngineVersion": "19",
         "Options": [],
         "AllowsVpcAndNonVpcInstanceMemberships": true,
      }
   ]
}
```

For more information, see Listing the Options and Option Settings for an Option Group in the Amazon RDS User Guide.

- For API details, see DescribeOptionGroups in AWS CLI Command Reference.

describe-pending-maintenance-actions

The following code example shows how to use describe-pending-maintenance-actions.

AWS CLI

To list resources with at least one pending maintenance action

The following describe-pending-maintenance-actions example lists the pending maintenance action for a DB instance.
aws rds describe-pending-maintenance-actions

Output:

```
{
   "PendingMaintenanceActions": [
      {
         "PendingMaintenanceActionDetails": [
            {
               "Action": "system-update",
               "Description": "Upgrade to Aurora PostgreSQL 2.4.2"
            }
         ]
      }
   ]
}
```

For more information, see [Maintaining a DB Instance](https://docs.aws.amazon.com/rds/latest/userguide/MaintainDBInstance.html) in the *Amazon RDS User Guide*.

- For API details, see [DescribePendingMaintenanceActions](https://docs.aws.amazon.com/cli/latest/reference/rds/describe-pending-maintenance-actions.html) in *AWS CLI Command Reference*.

### describe-reserved-db-instances

The following code example shows how to use `describe-reserved-db-instances`.

**AWS CLI**

**To describe reserved DB instances**

The following `describe-reserved-db-instances` example retrieves details about any reserved DB instances in the current AWS account.

```
aws rds describe-reserved-db-instances
```

Output:

```
{
   "ReservedDBInstances": [
      {
         "ReservedDBInstanceId": "myreservedinstance",
         "PendingMaintenanceActionDetails": [
            {
               "Action": "system-update",
               "Description": "Upgrade to Aurora PostgreSQL 2.4.2"
            }
         ]
      }
   ]
}
```
"ReservedDBInstancesOfferingId": "12ab34cd-59af-4b2c-a660-1abcdef23456",
"DBInstanceClass": "db.t3.micro",
"Duration": 31536000,
"FixedPrice": 0.0,
"UsagePrice": 0.0,
"CurrencyCode": "USD",
"DBInstanceCount": 1,
"ProductDescription": "sqlserver-ex(li)",
"OfferingType": "No Upfront",
"MultiAZ": false,
"State": "payment-pending",
"RecurringCharges": [
  {
    "RecurringChargeAmount": 0.014,
    "RecurringChargeFrequency": "Hourly"
  }
],
"LeaseId": "a1b2c3d4-6b69-4a59-be89-5e11aa446666"
]
]
}

For more information, see [Reserved DB Instances for Amazon RDS](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/rds-db-instance-offering.html) in the [Amazon RDS User Guide](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/).

- For API details, see [DescribeReservedDbInstances](https://docs.aws.amazon.com/AmazonRDS/latest/APIReference/API_DescribeReservedDbInstances.html) in [AWS CLI Command Reference](https://docs.aws.amazon.com/cli/latest/guide/)

**describe-reserved-db-instances-offerings**

The following code example shows how to use `describe-reserved-db-instances-offerings`.

**AWS CLI**

To **describe reserved DB instance offerings**

The following `describe-reserved-db-instances-offerings` example retrieves details about reserved DB instance options for `oracle`.

```
aws rds describe-reserved-db-instances-offerings \
```
--product-description oracle

Output:

```json
{
   "ReservedDBInstancesOfferings": [
      {
         "CurrencyCode": "USD",
         "UsagePrice": 0.0,
         "ProductDescription": "oracle-se2(li)",
         "ReservedDBInstancesOfferingId": "005bdee3-9ef4-4182-aa0c-58ef7cb6c2f8",
         "MultiAZ": true,
         "DBInstanceClass": "db.m4.xlarge",
         "OfferingType": "Partial Upfront",
         "RecurringCharges": [
            {
               "RecurringChargeAmount": 0.594,
               "RecurringChargeFrequency": "Hourly"
            }
         ],
         "FixedPrice": 4089.0,
         "Duration": 31536000
      }
   ]
}
...some output truncated...
```

For API details, see [DescribeReservedDbInstancesOfferings](aws/cli/command-reference) in AWS CLI Command Reference.

describe-source-regions

The following code example shows how to use describe-source-regions.

AWS CLI

**To describe source Regions**

The following describe-source-regions example retrieves details about all source AWS Regions. It also shows that automated backups can be replicated only from US West (Oregon) to the destination AWS Region, US East (N. Virginia).

```bash
aws rds describe-source-regions \
   --region us-east-1
```
Output:

```json
{
    "SourceRegions": [
    {
      "RegionName": "af-south-1",
      "Endpoint": "https://rds.af-south-1.amazonaws.com",
      "Status": "available",
      "SupportsDBInstanceAutomatedBackupsReplication": false
    },
    {
      "RegionName": "ap-east-1",
      "Endpoint": "https://rds.ap-east-1.amazonaws.com",
      "Status": "available",
      "SupportsDBInstanceAutomatedBackupsReplication": false
    },
    {
      "RegionName": "ap-northeast-1",
      "Endpoint": "https://rds.ap-northeast-1.amazonaws.com",
      "Status": "available",
      "SupportsDBInstanceAutomatedBackupsReplication": true
    },
    {
      "RegionName": "ap-northeast-2",
      "Endpoint": "https://rds.ap-northeast-2.amazonaws.com",
      "Status": "available",
      "SupportsDBInstanceAutomatedBackupsReplication": true
    },
    {
      "RegionName": "ap-northeast-3",
      "Endpoint": "https://rds.ap-northeast-3.amazonaws.com",
      "Status": "available",
      "SupportsDBInstanceAutomatedBackupsReplication": false
    },
    {
      "RegionName": "ap-south-1",
      "Endpoint": "https://rds.ap-south-1.amazonaws.com",
      "Status": "available",
      "SupportsDBInstanceAutomatedBackupsReplication": true
    },
    {
      "RegionName": "ap-southeast-1",
      "Endpoint": "https://rds.ap-southeast-1.amazonaws.com",
      "Status": "available",
      "SupportsDBInstanceAutomatedBackupsReplication": false
    }
  ]
}
```
"SupportsDBInstanceAutomatedBackupsReplication": true
},
{
"RegionName": "ap-southeast-2",
"Endpoint": "https://rds.ap-southeast-2.amazonaws.com",
"Status": "available",
"SupportsDBInstanceAutomatedBackupsReplication": true
},
{
"RegionName": "ap-southeast-3",
"Status": "available",
"SupportsDBInstanceAutomatedBackupsReplication": false
},
{
"RegionName": "ca-central-1",
"Endpoint": "https://rds.ca-central-1.amazonaws.com",
"Status": "available",
"SupportsDBInstanceAutomatedBackupsReplication": true
},
{
"RegionName": "eu-north-1",
"Endpoint": "https://rds.eu-north-1.amazonaws.com",
"Status": "available",
"SupportsDBInstanceAutomatedBackupsReplication": true
},
{
"RegionName": "eu-south-1",
"Endpoint": "https://rds.eu-south-1.amazonaws.com",
"Status": "available",
"SupportsDBInstanceAutomatedBackupsReplication": false
},
{
"RegionName": "eu-west-1",
"Endpoint": "https://rds.eu-west-1.amazonaws.com",
"Status": "available",
"SupportsDBInstanceAutomatedBackupsReplication": true
},
{
"RegionName": "eu-west-2",
"Endpoint": "https://rds.eu-west-2.amazonaws.com",
"Status": "available",
"SupportsDBInstanceAutomatedBackupsReplication": true
},
{
"RegionName": "us-east-1",
"Endpoint": "https://rds.us-east-1.amazonaws.com",
"Status": "available",
"SupportsDBInstanceAutomatedBackupsReplication": true
},
{
"RegionName": "us-west-1",
"Endpoint": "https://rds.us-west-1.amazonaws.com",
"Status": "available",
"SupportsDBInstanceAutomatedBackupsReplication": true
},
{
"RegionName": "us-west-2",
"Endpoint": "https://rds.us-west-2.amazonaws.com",
"Status": "available",
"SupportsDBInstanceAutomatedBackupsReplication": true
}
}
{
    "RegionName": "eu-west-3",
    "Endpoint": "https://rds.eu-west-3.amazonaws.com",
    "Status": "available",
    "SupportsDBInstanceAutomatedBackupsReplication": true
},
{
    "RegionName": "me-central-1",
    "Endpoint": "https://rds.me-central-1.amazonaws.com",
    "Status": "available",
    "SupportsDBInstanceAutomatedBackupsReplication": false
},
{
    "RegionName": "me-south-1",
    "Endpoint": "https://rds.me-south-1.amazonaws.com",
    "Status": "available",
    "SupportsDBInstanceAutomatedBackupsReplication": false
},
{
    "RegionName": "sa-east-1",
    "Endpoint": "https://rds.sa-east-1.amazonaws.com",
    "Status": "available",
    "SupportsDBInstanceAutomatedBackupsReplication": true
},
{
    "RegionName": "us-east-2",
    "Endpoint": "https://rds.us-east-2.amazonaws.com",
    "Status": "available",
    "SupportsDBInstanceAutomatedBackupsReplication": true
},
{
    "RegionName": "us-west-1",
    "Endpoint": "https://rds.us-west-1.amazonaws.com",
    "Status": "available",
    "SupportsDBInstanceAutomatedBackupsReplication": true
},
{
    "RegionName": "us-west-2",
    "Endpoint": "https://rds.us-west-2.amazonaws.com",
    "Status": "available",
    "SupportsDBInstanceAutomatedBackupsReplication": true
}
For more information, see Finding information about replicated backups in the Amazon RDS User Guide.

- For API details, see DescribeSourceRegions in AWS CLI Command Reference.

**describe-valid-db-instance-modifications**

The following code example shows how to use `describe-valid-db-instance-modifications`.

**AWS CLI**

To describe valid modifications for a DB instance

The following `describe-valid-db-instance-modifications` example retrieves details about the valid modifications for the specified DB instance.

```bash
aws rds describe-valid-db-instance-modifications \
--db-instance-identifier test-instance
```

Output:

```json
{
    "ValidDBInstanceModificationsMessage": {
        "ValidProcessorFeatures": [],
        "Storage": [
            {
                "StorageSize": [
                    {
                        "Step": 1,
                        "To": 20,
                        "From": 20
                    },
                    {
                        "Step": 1,
                        "To": 6144,
                        "From": 22
                    }
                ],
                "ProvisionedIops": [
                    {
                        ...
                    }
                ]
            }
        }
    }
}
```
"Step": 1,
"To": 0,
"From": 0
},
"IopsToStorageRatio": [
{
  "To": 0.0,
  "From": 0.0
}
],
"StorageType": "gp2"
},
{
  "StorageSize": [
    {
      "Step": 1,
      "To": 6144,
      "From": 100
    }
  ],
  "ProvisionedIops": [
    {
      "Step": 1,
      "To": 40000,
      "From": 1000
    }
  ],
  "IopsToStorageRatio": [
    {
      "To": 50.0,
      "From": 1.0
    }
  ],
  "StorageType": "io1"
},
{
  "StorageSize": [
    {
      "Step": 1,
      "To": 20,
      "From": 20
    },
    {
      "Step": 0,
      "To": 0,
      "From": 0
    }
  ]}
For API details, see DescribeValidDbInstanceModifications in AWS CLI Command Reference.

download-db-log-file-portion

The following code example shows how to use download-db-log-file-portion.

AWS CLI

To download a DB log file

The following download-db-log-file-portion example downloads only the latest part of your log file, saving it to a local file named tail.txt.

```bash
aws rds download-db-log-file-portion 
  --db-instance-identifier test-instance 
  --log-file-name log.txt 
  --output text > tail.txt
```
To download the entire file, you need to include the `--starting-token 0` parameter. The following example saves the output to a local file named `full.txt`.

```bash
aws rds download-db-log-file-portion \
    --db-instance-identifier test-instance \
    --log-file-name log.txt \
    --starting-token 0 \
    --output text > full.txt
```

The saved file might contain blank lines. They appear at the end of each part of the log file while being downloaded. This generally doesn't cause any trouble in your log file analysis.

- For API details, see [DownloadDbLogFilePortion](#) in [AWS CLI Command Reference](#).

**generate-auth-token**

The following code example shows how to use `generate-auth-token`.

**AWS CLI**

**To generate an authentication token**

The following `generate-db-auth-token` example generates an authentication token for use with IAM database authentication.

```bash
aws rds generate-db-auth-token \
    --hostname aurmysql-test.cdgmuqiadpid.us-west-2.rds.amazonaws.com \
    --port 3306 \
    --region us-east-1 \
    --username jane_doe
```

**Output:**

```
aurmysql-test.cdgmuqiadpid.us-west-2.rds.amazonaws.com:3306/?
Action=connect&DBUser=jane_doe&X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=AKIAIESZCNJ3OEXAMPLE%2F20180731%2Fus-east-1%2Frds-db%2Faws4_request&X-Amz-Date=20180731T235209Z&X-Amz-Expires=900&X-Amz-SignedHeaders=host&X-Amz-Signature=5a8753ebEXAMPLEa2c724e5667797EXAMPLE9d6ec6e3f427191fa41aeEXAMPLE
```

- For API details, see [GenerateAuthToken](#) in [AWS CLI Command Reference](#).
**generate-db-auth-token**

The following code example shows how to use `generate-db-auth-token`.

**AWS CLI**

**To generate an IAM authentication token**

The following `generate-db-auth-token` example generates IAM authentication token to connect to a database.

```
aws rds generate-db-auth-token \
    --hostname mydb.123456789012.us-east-1.rds.amazonaws.com \
    --port 3306 \
    --region us-east-1 \
    --username db_user
```

Output:

```
mydb.123456789012.us-east-1.rds.amazonaws.com:3306/?
Action=connect&DBUser=db_user&X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=AKIAIEXAMPLE%2Fus-east-1%2Frds-db%2Faws4_request&X-Amz-Date=20210123T011543Z&X-Amz-Expires=900&X-Amz-SignedHeaders=host&X-Amz-Signature=88987EXAMPLE1EXAMPLE2EXAMPLE3EXAMPLE4EXAMPLE5EXAMPLE6
```

For more information, see [Connecting to your DB instance using IAM authentication](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/RDS.IAM-authentication.html) in the *Amazon RDS User Guide* and [Connecting to your DB cluster using IAM authentication](https://docs.aws.amazon.com/AmazonAurora/latest/UserGuide/Aurora.IAM-authentication.html) in the *Amazon Aurora User Guide*.

- For API details, see [GenerateDbAuthToken](https://docs.aws.amazon.com/cli/latest/reference/rds/generate-db-auth-token.html) in *AWS CLI Command Reference*.

**list-tags-for-resource**

The following code example shows how to use `list-tags-for-resource`.

**AWS CLI**

**To list tags on an Amazon RDS resource**

The following `list-tags-for-resource` example lists all tags on a DB instance.

```
aws rds list-tags-for-resource \
```

Actions and scenarios
modify-certificates

The following code example shows how to use modify-certificates.

AWS CLI

To temporarily override the system-default SSL/TLS certificate for new DB instances

The following modify-certificates example temporarily overrides the system-default SSL/TLS certificate for new DB instances.

```
aws rds modify-certificates \
   --certificate-identifier rds-ca-2019
```

Output:

```
{
   "Certificate": {
      "CertificateIdentifier": "rds-ca-2019",
      "CertificateType": "CA",
   }
}
```
The following code example shows how to use `modify-current-db-cluster-capacity`.

### AWS CLI

#### To scale the capacity of an Aurora Serverless DB cluster

The following `modify-current-db-cluster-capacity` example scales the capacity of an Aurora Serverless DB cluster to 8.

```
aws rds modify-current-db-cluster-capacity \
   --db-cluster-identifier mydbcluster \
   --capacity 8
```

**Output:**

```json
{
   "DBClusterIdentifier": "mydbcluster",
   "PendingCapacity": 8,
   "CurrentCapacity": 1,
   "SecondsBeforeTimeout": 300,
   "TimeoutAction": "ForceApplyCapacityChange"
}
```

For more information, see [Scaling Aurora Serverless v1 DB cluster capacity manually](https://docs.aws.amazon.com/aurora/latest/userguide/aurora-serverless-manual-scaling.html) in the *Amazon Aurora User Guide*. 
• For API details, see ModifyCurrentDbClusterCapacity in AWS CLI Command Reference.

modify-db-cluster

The following code example shows how to use modify-db-cluster.

AWS CLI

To modify a DB cluster

The following modify-db-cluster example changes the master user password for the DB cluster named cluster-2 and sets the backup retention period to 14 days. The --apply-immediately parameter causes the changes to be made immediately, instead of waiting until the next maintenance window.

```
aws rds modify-db-cluster \
  --db-cluster-identifier cluster-2 \
  --backup-retention-period 14 \
  --master-user-password newpassword99 \
  --apply-immediately
```

Output:

```
{
  "DBCluster": {
    "AllocatedStorage": 1,
    "AvailabilityZones": [
      "eu-central-1b",
      "eu-central-1c",
      "eu-central-1a"
    ],
    "BackupRetentionPeriod": 14,
    "DatabaseName": "",
    "DBClusterIdentifier": "cluster-2",
    "DBClusterParameterGroup": "default.aurora5.6",
    "DBSubnetGroup": "default-vpc-2305ca49",
    "Status": "available",
    "EarliestRestorableTime": "2020-06-03T02:07:29.637Z",
    "Endpoint": "cluster-2.cluster-############.eu-central-1.rds.amazonaws.com",
    "ReaderEndpoint": "cluster-2.cluster-ro-############.eu-central-1.rds.amazonaws.com",
    "MultiAZ": false,
  }
}```
For more information, see [Modifying an Amazon Aurora DB Cluster](https://docs.aws.amazon.com/aurora/latest/userguide/UnicodeSupport.html) in the *Amazon Aurora User Guide*.

- For API details, see [ModifyDbCluster](https://docs.aws.amazon.com/cli/latest/reference/rds/modify-db-cluster.html) in *AWS CLI Command Reference*. 
modify-db-cluster-endpoint

The following code example shows how to use modify-db-cluster-endpoint.

AWS CLI

**To modify a custom DB cluster endpoint**

The following modify-db-cluster-endpoint example modifies the specified custom DB cluster endpoint.

```bash
aws rds modify-db-cluster-endpoint \\
   --db-cluster-endpoint-identifier mycustomendpoint \\
   --static-members dbinstance1 dbinstance2 dbinstance3
```

Output:

```json
{
   "DBClusterEndpointIdentifier": "mycustomendpoint",
   "DBClusterIdentifier": "mydbcluster",
   "DBClusterEndpointResourceIdentifier": "cluster-endpoint-ANPAJ4AE5446DAEXAMPLE",
   "Endpoint": "mycustomendpoint.cluster-custom-cnpexample.us-east-1.rds.amazonaws.com",
   "Status": "modifying",
   "EndpointType": "CUSTOM",
   "CustomEndpointType": "READER",
   "StaticMembers": [
      "dbinstance1",
      "dbinstance2",
      "dbinstance3"
   ],
   "ExcludedMembers": [],
   "DBClusterEndpointArn": "arn:aws:rds:us-east-1:123456789012:cluster-endpoint:mycustomendpoint"
}
```

For more information, see [Amazon Aurora Connection Management](https://docs.aws.amazon.com/AmazonAurora/latest/UserGuide/guides.ConnectionManagement.html) in the *Amazon Aurora User Guide*.

- For API details, see [ModifyDbClusterEndpoint](https://docs.aws.amazon.com/cli/latest/reference/rds/modify-db-cluster-endpoint.html) in *AWS CLI Command Reference*. 
modify-db-cluster-parameter-group

The following code example shows how to use modify-db-cluster-parameter-group.

AWS CLI

To modify parameters in a DB cluster parameter group

The following modify-db-cluster-parameter-group example modifies the values of parameters in a DB cluster parameter group.

```
aws rds modify-db-cluster-parameter-group \
    --db-cluster-parameter-group-name mydbclusterpg \
    --parameters
    "ParameterName=server_audit_logging,ParameterValue=1,ApplyMethod=immediate" \
    "ParameterName=server_audit_logs_upload,ParameterValue=1,ApplyMethod=immediate"
```

Output:

```
{
    "DBClusterParameterGroupName": "mydbclusterpg"
}
```

For more information, see Working with DB parameter groups and DB cluster parameter groups in the Amazon Aurora User Guide.

- For API details, see ModifyDbClusterParameterGroup in AWS CLI Command Reference.

modify-db-cluster-snapshot-attribute

The following code example shows how to use modify-db-cluster-snapshot-attribute.

AWS CLI

To modify a DB cluster snapshot attribute

The following modify-db-cluster-snapshot-attribute example makes changes to the specified DB cluster snapshot attribute.

```
aws rds modify-db-cluster-snapshot-attribute \
```
--db-cluster-snapshot-identifier myclustersnapshot \
--attribute-name restore \
--values-to-add 123456789012

Output:

{ 
  "DBClusterSnapshotAttributesResult": { 
    "DBClusterSnapshotIdentifier": "myclustersnapshot", 
    "DBClusterSnapshotAttributes": [ 
      { 
        "AttributeName": "restore", 
        "AttributeValues": [ 
          "123456789012" 
        ] 
      } 
    ] 
  } 
}

For more information, see [Restoring from a DB Cluster Snapshot](https://docs.aws.amazon.com/AmazonAurora/latest/UserGuide/rds-db-cluster-snapshots.html) in the *Amazon Aurora User Guide*.

- For API details, see [ModifyDbClusterSnapshotAttribute](https://docs.aws.amazon.com/AmazonAurora/latest/ApiGuide/AWSSDK.rdsModifyDbClusterSnapshotAttribute.html) in *AWS CLI Command Reference*.

modify-db-proxy

The following code example shows how to use modify-db-proxy.

**AWS CLI**

To modify a DB proxy for an RDS database

The following modify-db-proxy example modifies a DB proxy named `proxyExample` to require SSL for its connections.

```
aws rds modify-db-proxy \
  --db-proxy-name proxyExample \
  --require-tls
```

Output:
For more information, see Modify an RDS Proxy in the Amazon RDS User Guide and Creating an RDS Proxy in the Amazon Aurora User Guide.

- For API details, see ModifyDbProxy in AWS CLI Command Reference.

modify-db-proxy-endpoint

The following code example shows how to use modify-db-proxy-endpoint.
AWS CLI

To modify a DB proxy endpoint for an RDS database

The following `modify-db-proxy-endpoint` example modifies a DB proxy endpoint `proxyEndpoint` to set the read-timeout to 65 seconds.

```
aws rds modify-db-proxy-endpoint \
  --db-proxy-endpoint-name proxyEndpoint \
  --cli-read-timeout 65
```

Output:

```
{
  "DBProxyEndpoint":
    {
      "DBProxyEndpointName": "proxyEndpoint",
      "DBProxyEndpointArn": "arn:aws:rds:us-east-1:123456789012:db-proxy-endpoint:prx-endpoint-0123a01b12345c0ab",
      "DBProxyName": "proxyExample",
      "Status": "available",
      "VpcId": "vpc-1234567",
      "VpcSecurityGroupIds": [
        "sg-1234"
      ],
      "VpcSubnetIds": [
        "subnetgroup1",
        "subnetgroup2"
      ],
      "Endpoint": "proxyEndpoint.endpoint.proxyExample-ab0cd1efghij.us-east-1.rds.amazonaws.com",
      "CreateDate": "2023-04-05T16:09:33.452000+00:00",
      "TargetRole": "READ_WRITE",
      "IsDefault": "false"
    }
}
```

For more information, see Modifying a proxy endpoint in the Amazon RDS User Guide and Modifying a proxy endpoint in the Amazon Aurora User Guide.

- For API details, see ModifyDbProxyEndpoint in AWS CLI Command Reference.
modify-db-proxy-target-group

The following code example shows how to use modify-db-proxy-target-group.

**AWS CLI**

**To modify a DB proxy endpoints**

The following modify-db-proxy-target-group example modifies a DB proxy target group to set the maximum connections to 80 percent and maximum idle connections to 10 percent.

```
aws rds modify-db-proxy-target-group \
  --target-group-name default \
  --db-proxy-name proxyExample \
  --connection-pool-config MaxConnectionsPercent=80,MaxIdleConnectionsPercent=10
```

Output:

```
{
  "DBProxyTargetGroup": {
    "DBProxyName": "proxyExample",
    "TargetGroupName": "default",
    "TargetGroupArn": "arn:aws:rds:us-east-1:123456789012:target-group:prx-tg-0123a01b12345c0ab",
    "IsDefault": true,
    "Status": "available",
    "ConnectionPoolConfig": {
      "MaxConnectionsPercent": 80,
      "MaxIdleConnectionsPercent": 10,
      "ConnectionBorrowTimeout": 120,
      "SessionPinningFilters": []
    },
    "CreatedDate": "2023-05-02T18:41:19.495000+00:00",
    "UpdatedDate": "2023-05-02T18:41:21.762000+00:00"
  }
}
```

For more information, see Modifying an RDS Proxy in the Amazon RDS User Guide and Modifying an RDS Proxy in the Amazon Aurora User Guide.

- For API details, see ModifyDbProxyTargetGroup in AWS CLI Command Reference.
modify-db-snapshot

The following code example shows how to use modify-db-snapshot.

AWS CLI

To modify a DB snapshot

The following modify-db-snapshot example upgrades a PostgreSQL 10.6 snapshot named db5-snapshot-upg-test to PostgreSQL 11.7. The new DB engine version is shown after the snapshot has finished upgrading and its status is available.

```
aws rds modify-db-snapshot \\
   --db-snapshot-identifier db5-snapshot-upg-test \\
   --engine-version 11.7
```

Output:

```
{
   "DBSnapshot": {
      "DBSnapshotIdentifier": "db5-snapshot-upg-test",
      "DBInstanceIdentifier": "database-5",
      "SnapshotCreateTime": "2020-03-27T20:49:17.092Z",
      "Engine": "postgres",
      "AllocatedStorage": 20,
      "Status": "upgrading",
      "Port": 5432,
      "AvailabilityZone": "us-west-2a",
      "VpcId": "vpc-2ff27557",
      "InstanceCreateTime": "2020-03-27T19:59:04.735Z",
      "MasterUsername": "postgres",
      "EngineVersion": "10.6",
      "LicenseModel": "postgresql-license",
      "SnapshotType": "manual",
      "OptionGroupName": "default:postgres-11",
      "PercentProgress": 100,
      "StorageType": "gp2",
      "Encrypted": false,
      "IAMDatabaseAuthenticationEnabled": false,
      "ProcessorFeatures": [],
      "DbiResourceId": "db-GJMF75LM42IL6BTRE4UZJ5YM4"
   }
}
```
modify-db-snapshot-attribute

The following code example shows how to use modify-db-snapshot-attribute.

AWS CLI

Example 1: To enable two AWS accounts to restore a DB snapshot

The following modify-db-snapshot-attribute example grants permission to two AWS accounts, with the identifiers 111122223333 and 444455556666, to restore the DB snapshot named mydbsnapshot.

```bash
aws rds modify-db-snapshot-attribute \
    --db-snapshot-identifier mydbsnapshot \
    --attribute-name restore \
    --values-to-add "111122223333","444455556666"
```

Output:

```json
{
    "DBSnapshotAttributesResult": {
        "DBSnapshotIdentifier": "mydbsnapshot",
        "DBSnapshotAttributes": [
            {
                "AttributeName": "restore",
                "AttributeValue": "111122223333",
                "AttributeValues": [
                    "111122223333",
                    "444455556666"
                ]
            }
        ]
    }
}
```

For more information, see [Sharing a Snapshot](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/Concepts.SharingSnapshot.html) in the *Amazon RDS User Guide*.

For more information, see [Upgrading a PostgreSQL DB Snapshot](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/InstallingUpgradingPostgreSQL.html) in the *Amazon RDS User Guide*.

- For API details, see [ModifyDbSnapshot](https://docs.aws.amazon.com/cli/latest/reference/rds/modify-db-snapshot-attribute.html) in *AWS CLI Command Reference*.
Example 2: To prevent an AWS account from restoring a DB snapshot

The following modify-db-snapshot-attribute example removes permission from a particular AWS account to restore the DB snapshot named mydbsnapshot. When specifying a single account, the account identifier can't be surrounded by quotations marks or braces.

```bash
aws rds modify-db-snapshot-attribute \
   --db-snapshot-identifier mydbsnapshot \
   --attribute-name restore \
   --values-to-remove 444455556666
```

Output:

```json
{
   "DBSnapshotAttributesResult": {
      "DBSnapshotIdentifier": "mydbsnapshot",
      "DBSnapshotAttributes": [
         {
            "AttributeName": "restore",
            "AttributeValues": [
               "111122223333"
            ]
         }
      ]
   }
}
```

For more information, see [Sharing a Snapshot](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/using-snapshots.restore-db-snapshot.html) in the Amazon RDS User Guide.


modify-db-snapshot-attributes

The following code example shows how to use modify-db-snapshot-attributes.

AWS CLI

To modify a DB snapshot attribute

The following modify-db-snapshot-attribute example permits two AWS account identifiers, 111122223333 and 444455556666, to restore the DB snapshot named mydbsnapshot.
aws rds modify-db-snapshot-attribute \
   --db-snapshot-identifier mydbsnapshot \
   --attribute-name restore \
   --values-to-add '["111122223333","444455556666"]'

Output:

```json
{
   "DBSnapshotAttributesResult": {
      "DBSnapshotIdentifier": "mydbsnapshot",
      "DBSnapshotAttributes": [
         {
            "AttributeName": "restore",
            "AttributeValues": [
               "111122223333",
               "444455556666"
            ]
         }
      ]
   }
}
```

For more information, see [Sharing a Snapshot](#) in the [Amazon RDS User Guide](#).
- For API details, see [ModifyDbSnapshotAttributes](#) in [AWS CLI Command Reference](#).

### modify-db-subnet-group

The following code example shows how to use `modify-db-subnet-group`.

**AWS CLI**

#### To modify a DB subnet group

The following `modify-db-subnet-group` example adds a subnet with the ID `subnet-08e41f9e230222222` to the DB subnet group named `mysubnetgroup`. To keep the existing subnets in the subnet group, include their IDs as values in the `--subnet-ids` option. Make sure to have subnets with at least two different Availability Zones in the DB subnet group.

```bash
aws rds modify-db-subnet-group \
   --db-subnet-group-name mysubnetgroup \
```
--subnet-ids
'[
"subnet-0a1dc4e1a6f123456",
"subnet-070dd7ecb3aaaaaa",
"subnet-00f5b198bc0abcdef",
"subnet-08e41f9e230222222"
]'

Output:

```json
{
    "DBSubnetGroup": {
        "DBSubnetGroupName": "mysubnetgroup",
        "DBSubnetGroupDescription": "test DB subnet group",
        "VpcId": "vpc-0f08e7610a1b2c3d4",
        "SubnetGroupStatus": "Complete",
        "Subnets": [
            {
                "SubnetIdentifier": "subnet-08e41f9e230222222",
                "SubnetAvailabilityZone": {
                    "Name": "us-west-2a"
                },
                "SubnetStatus": "Active"
            },
            {
                "SubnetIdentifier": "subnet-070dd7ecb3aaaaaa",
                "SubnetAvailabilityZone": {
                    "Name": "us-west-2b"
                },
                "SubnetStatus": "Active"
            },
            {
                "SubnetIdentifier": "subnet-00f5b198bc0abcdef",
                "SubnetAvailabilityZone": {
                    "Name": "us-west-2d"
                },
                "SubnetStatus": "Active"
            },
            {
                "SubnetIdentifier": "subnet-0a1dc4e1a6f123456",
                "SubnetAvailabilityZone": {
                    "Name": "us-west-2b"
                },
                "SubnetStatus": "Active"
            }
        ],
}
```
modify-event-subscription

The following code example shows how to use modify-event-subscription.

AWS CLI

To modify an event subscription

The following modify-event-subscription example disables the specified event subscription, so that it no longer publishes notifications to the specified Amazon Simple Notification Service topic.

```
aws rds modify-event-subscription \
    --subscription-name my-instance-events \
    --no-enabled
```

Output:

```
{
    "EventSubscription": {
        "EventCategoriesList": ["backup", "recovery"],
        "CustomerAwsId": "123456789012",
        "SourceType": "db-instance",
        "SubscriptionCreationTime": "Tue Jul 31 23:22:01 UTC 2018",
        "SnsTopicArn": "arn:aws:sns:us-east-1:123456789012:interesting-events",
        "CustSubscriptionId": "my-instance-events",
        "Status": "modifying",
        "Enabled": false
    }
}
```
modify-global-cluster

The following code example shows how to use modify-global-cluster.

AWS CLI

To modify a global DB cluster

The following modify-global-cluster example enables deletion protection for an Aurora MySQL-compatible global DB cluster.

```bash
aws rds modify-global-cluster \\
    --global-cluster-identifier myglobalcluster \\
    --deletion-protection
```

Output:

```json
{
    "GlobalCluster": {
        "GlobalClusterIdentifier": "myglobalcluster",
        "GlobalClusterResourceId": "cluster-f0e523bfe07aabb",
        "GlobalClusterArn": "arn:aws:rds::123456789012:global-cluster:myglobalcluster",
        "Status": "available",
        "Engine": "aurora-mysql",
        "EngineVersion": "5.7.mysql_aurora.2.07.2",
        "StorageEncrypted": false,
        "DeletionProtection": true,
        "GlobalClusterMembers": []
    }
}
```

For more information, see Managing an Aurora global database in the Amazon Aurora User Guide.

• For API details, see ModifyGlobalCluster in AWS CLI Command Reference.

promote-read-replica

The following code example shows how to use promote-read-replica.

Actions and scenarios
**AWS CLI**

**To promote a read replica**

The following `promote-read-replica` example promotes the specified read replica to become a standalone DB instance.

```bash
aws rds promote-read-replica \
--db-instance-identifier test-instance-repl
```

**Output:**

```
{
    "DBInstance": {
        "StorageType": "standard",
        "ReadReplicaSourceDBInstanceIdentifier": "test-instance",
        "DBInstanceStatus": "modifying",
        ...
    }
}
```

- For API details, see [PromoteReadReplica](#) in *AWS CLI Command Reference*.

**promote-read-replica-db-cluster**

The following code example shows how to use `promote-read-replica-db-cluster`.

**AWS CLI**

**To promote a DB cluster read replica**

The following `promote-read-replica-db-cluster` example promotes the specified read replica to become a standalone DB cluster.

```bash
aws rds promote-read-replica-db-cluster \
--db-cluster-identifier mydbcluster-1
```

**Output:**

```
{
    "DBCluster": {
        ...
    }
}
```
"AllocatedStorage": 1,
"AvailabilityZones": [
    "us-east-1a",
    "us-east-1b",
    "us-east-1c"
],
"BackupRetentionPeriod": 1,
"DatabaseName": "",
"DBClusterIdentifier": "mydbcluster-1",
...some output truncated...
}
}

For more information, see Promoting a read replica to be a DB cluster in the Amazon Aurora User Guide.

- For API details, see PromoteReadReplicaDbCluster in AWS CLI Command Reference.

purchase-reserved-db-instance

The following code example shows how to use purchase-reserved-db-instance.

AWS CLI

To purchase a reserved DB instance offering

The following purchase-reserved-db-instances-offering example purchases a reserved DB instance offering. The reserved-db-instances-offering-id must be a valid offering ID, as returned by the describe-reserved-db-instances-offering command.

```
aws rds purchase-reserved-db-instances-offering --reserved-db-instances-offering-id 438012d3-4a52-4cc7-b2e3-8dff72e0e706
```

- For API details, see PurchaseReservedDbInstance in AWS CLI Command Reference.

purchase-reserved-db-instances-offerings

The following code example shows how to use purchase-reserved-db-instances-offerings.

AWS CLI

Example 1: To find a reserved DB instance to purchase
The following `describe-reserved-db-instances-offerings` example lists the available reserved MySQL DB instances with the `db.t2.micro` instance class and a duration of one year. The offering ID is required for purchasing a reserved DB instance.

```bash
aws rds describe-reserved-db-instances-offerings \
   --product-description mysql \n   --db-instance-class db.t2.micro \n   --duration 1
```

Output:

```json
{
   "ReservedDBInstancesOfferings": [
      {
         "ReservedDBInstancesOfferingId": "8ba30be1-b9ec-447f-8f23-6114e3f4c7b4",
         "DBInstanceClass": "db.t2.micro",
         "Duration": 31536000,
         "FixedPrice": 51.0,
         "UsagePrice": 0.0,
         "CurrencyCode": "USD",
         "ProductDescription": "mysql",
         "OfferingType": "Partial Upfront",
         "MultiAZ": false,
         "RecurringCharges": [
            {
               "RecurringChargeAmount": 0.006,
               "RecurringChargeFrequency": "Hourly"
            }
         ],
      },
      ...
   ]
}
```

For more information, see [Reserved DB Instances for Amazon RDS](https://docs.aws.amazon.com/rds/latest/userguide/) in the *Amazon RDS User Guide*.

**Example 2: To purchase a reserved DB instance**

The following `purchase-reserved-db-instances-offering` example shows how to buy the reserved DB instance offering from the previous example.
aws rds purchase-reserved-db-instances-offering --reserved-db-instances-offering-id 8ba30be1-b9ec-447f-8f23-6114e3f4c7b4

Output:

```json
{
   "ReservedDBInstance": {
      "ReservedDBInstanceId": "ri-2020-06-29-16-54-57-670",
      "ReservedDBInstancesOfferingId": "8ba30be1-b9ec-447f-8f23-6114e3f4c7b4",
      "DBInstanceClass": "db.t2.micro",
      "StartTime": "2020-06-29T16:54:57.670Z",
      "Duration": 31536000,
      "FixedPrice": 51.0,
      "UsagePrice": 0.0,
      "CurrencyCode": "USD",
      "DBInstanceCount": 1,
      "ProductDescription": "mysql",
      "OfferingType": "Partial Upfront",
      "MultiAZ": false,
      "State": "payment-pending",
      "RecurringCharges": [
         {
            "RecurringChargeAmount": 0.006,
            "RecurringChargeFrequency": "Hourly"
         }
      ],
   }
}
```

For more information, see [Reserved DB Instances for Amazon RDS](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_reservedDBInstances-offering.html) in the *Amazon RDS User Guide*.

- For API details, see [PurchaseReservedDbInstancesOfferings](https://docs.aws.amazon.com/cli/latest/reference/rds/purchase-reserved-db-instances-offering.html) in *AWS CLI Command Reference*.

### register-db-proxy-targets

The following code example shows how to use `register-db-proxy-targets`.

#### AWS CLI

To register a DB proxy with a database
The following `register-db-proxy-targets` example creates the association between a database and a proxy.

```bash
aws rds register-db-proxy-targets \
   --db-proxy-name proxyExample \
   --db-cluster-identifiers database-5
```

Output:

```
{
   "DBProxyTargets": [
   {
      "RdsResourceId": "database-5",
      "Port": 3306,
      "Type": "TRACKED_CLUSTER",
      "TargetHealth": {
        "State": "REGISTERING"
      }
    },
    {
      "Endpoint": "database-5instance-1.ab0cd1efghij.us-east-1.rds.amazonaws.com",
      "RdsResourceId": "database-5",
      "Port": 3306,
      "Type": "RDS_INSTANCE",
      "TargetHealth": {
        "State": "REGISTERING"
      }
    }
   ]
}
```

For more information, see [Creating an RDS proxy](https://docs.aws.amazon.com/rds/latest/userguide/what-is-rds-proxies.html) in the *Amazon RDS User Guide* and [Creating an RDS proxy](https://docs.aws.amazon.com/aurora/latest/userguide/rds-proxy-create.html) in the *Amazon Aurora User Guide*.

- For API details, see [RegisterDbProxyTargets](https://docs.aws.amazon.com/cli/latest/reference/rds/register-db-proxy-targets.html) in *AWS CLI Command Reference*.

### remove-from-global-cluster

The following code example shows how to use `remove-from-global-cluster`.

---

**Actions and scenarios**

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AWS CLI

To detach an Aurora secondary cluster from an Aurora global database cluster

The following `remove-from-global-cluster` example detaches an Aurora secondary cluster from an Aurora global database cluster. The cluster changes from being read-only to a standalone cluster with read-write capability.

```
aws rds remove-from-global-cluster \
  --region us-west-2 \
  --global-cluster-identifier myglobalcluster \
```

Output:

```
{
  "GlobalCluster": {
    "GlobalClusterIdentifier": "myglobalcluster",
    "GlobalClusterResourceId": "cluster-abc123def456gh",
    "GlobalClusterArn": "arn:aws:rds::123456789012:global-cluster:myglobalcluster",
    "Status": "available",
    "Engine": "aurora-postgresql",
    "EngineVersion": "10.11",
    "StorageEncrypted": true,
    "DeletionProtection": false,
    "GlobalClusterMembers": [
      {
        "Readers": [
        ],
        "IsWriter": true
      },
      {
        "Readers": [],
        "IsWriter": false,
        "GlobalWriteForwardingStatus": "disabled"
      }
    ]
  }
}
```
For more information, see [Removing a cluster from an Amazon Aurora global database](https://docs.aws.amazon.com/aurora/latest/userguide/cluster-globalsearch.html) in the *Amazon Aurora User Guide*.

- For API details, see [RemoveFromGlobalCluster](https://docs.aws.amazon.com/cli/latest/reference/rds/remove-from-global-cluster.html) in *AWS CLI Command Reference*.

### remove-option-from-option-group

The following code example shows how to use `remove-option-from-option-group`.

**AWS CLI**

**To delete an option from an option group**

The following `remove-option-from-option-group` example removes the OEM option from `myoptiongroup`.

```bash
aws rds remove-option-from-option-group \
  --option-group-name myoptiongroup \
  --options OEM \
  --apply-immediately
```

**Output:**

```
{
   "OptionGroup": {
      "OptionGroupName": "myoptiongroup",
      "OptionGroupDescription": "Test",
      "EngineName": "oracle-ee",
      "MajorEngineVersion": "19",
      "Options": [],
      "AllowsVpcAndNonVpcInstanceMemberships": true,
      "OptionGroupArn": "arn:aws:rds:us-east-1:123456789012:og:myoptiongroup"
   }
}
```

For more information, see [Removing an Option from an Option Group](https://docs.aws.amazon.com/aurora/latest/userguide/option-group.html) in the *Amazon Aurora User Guide*.

- For API details, see [RemoveOptionFromOptionGroup](https://docs.aws.amazon.com/cli/latest/reference/rds/remove-option-from-option-group.html) in *AWS CLI Command Reference*. 
remove-role-from-db-cluster

The following code example shows how to use remove-role-from-db-cluster.

**AWS CLI**

To disassociate an AWS Identity and Access Management (IAM) role from a DB cluster

The following remove-role-from-db-cluster example removes a role from a DB cluster.

```bash
aws rds remove-role-from-db-cluster \
--db-cluster-identifier mydbcluster \
--role-arn arn:aws:iam::123456789012:role/RDSLoadFromS3
```

This command produces no output.

For more information, see Associating an IAM role with an Amazon Aurora MySQL DB cluster in the Amazon Aurora User Guide.

- For API details, see RemoveRoleFromDbCluster in AWS CLI Command Reference.

remove-role-from-db-instance

The following code example shows how to use remove-role-from-db-instance.

**AWS CLI**

To disassociate an AWS Identity and Access Management (IAM) role from a DB instance

The following remove-role-from-db-instance example removes the role named rds-s3-integration-role from an Oracle DB instance named test-instance.

```bash
aws rds remove-role-from-db-instance \
--db-instance-identifier test-instance \
--feature-name S3_INTEGRATION \
--role-arn arn:aws:iam::111122223333:role/rds-s3-integration-role
```

This command produces no output.

For more information, see Disabling RDS SQL Server Integration with S3 in the Amazon RDS User Guide.
For API details, see **RemoveRoleFromDbInstance** in *AWS CLI Command Reference*.

**remove-source-identifier-from-subscription**

The following code example shows how to use `remove-source-identifier-from-subscription`.

**AWS CLI**

To remove a source identifier from a subscription

The following `remove-source-identifier` example removes the specified source identifier from an existing subscription.

```
aws rds remove-source-identifier-from-subscription \
   --subscription-name my-instance-events \
   --source-identifier test-instance-repl
```

Output:

```json
{
   "EventSubscription": {
      "SubscriptionCreationTime": "Tue Jul 31 23:22:01 UTC 2018",
      "EventCategoriesList": [
         "backup",
         "recovery"
      ],
      "SnsTopicArn": "arn:aws:sns:us-east-1:123456789012:interesting-events",
      "Status": "modifying",
      "CustSubscriptionId": "my-instance-events",
      "CustomerAwsId": "123456789012",
      "SourceIdsList": [
         "test-instance"
      ],
      "SourceType": "db-instance",
      "Enabled": false
   }
}
```

For API details, see **RemoveSourceIdentifierFromSubscription** in *AWS CLI Command Reference*.
**remove-tags-from-resource**

The following code example shows how to use `remove-tags-from-resource`.

**AWS CLI**

**To remove tags from a resource**

The following `remove-tags-from-resource` example removes tags from a resource.

```sh
aws rds remove-tags-from-resource \
    --resource-name arn:aws:rds:us-east-1:123456789012:db:mydbinstance \
    --tag-keys Name Environment
```

This command produces no output.

For more information, see [Tagging Amazon RDS resources](https://docs.aws.amazon.com/rds/latest/userguide/what-is-amazon-rds.html) in the *Amazon RDS User Guide* and [Tagging Amazon RDS resources](https://docs.aws.amazon.com/aurora/latest/userguide/what-is-amazon-aurora.html) in the *Amazon Aurora User Guide*.

- For API details, see [RemoveTagsFromResource](https://docs.aws.amazon.com/cli/latest/reference/rds/remove-tags-from-resource.html) in *AWS CLI Command Reference*.

**reset-db-cluster-parameter-group**

The following code example shows how to use `reset-db-cluster-parameter-group`.

**AWS CLI**

**Example 1: To reset all parameters to their default values**

The following `reset-db-cluster-parameter-group` example resets all parameter values in a customer-created DB cluster parameter group to their default values.

```sh
aws rds reset-db-cluster-parameter-group \
    --db-cluster-parameter-group-name mydbclpg \
    --reset-all-parameters
```

Output:

```json
{
    "DBClusterParameterGroupName": "mydbclpg"
}
```
Example 2: To reset specific parameters to their default values

The following reset-db-cluster-parameter-group example resets the parameter values for specific parameters to their default values in a customer-created DB cluster parameter group.

```bash
aws rds reset-db-cluster-parameter-group \
  --db-cluster-parameter-group-name mydbclpgy \
  --parameters "ParameterName=max_connections,ApplyMethod=immediate" \
    "ParameterName=max_allowed_packet,ApplyMethod=immediate"
```

Output:

```json
{
  "DBClusterParameterGroupName": "mydbclpg"
}
```

Example 2: To reset specific parameters to their default values

For more information, see Working with DB parameter groups and DB cluster parameter groups in the Amazon Aurora User Guide.

reset-db-parameter-group

The following code example shows how to use reset-db-parameter-group.

AWS CLI

Example 1: To reset all parameters to their default values

The following reset-db-parameter-group example resets all parameter values in a customer-created DB parameter group to their default values.

```bash
aws rds reset-db-parameter-group \ 
  --db-parameter-group-name mypg \
```
--reset-all-parameters

Output:

```
{
  "DBParameterGroupName": "mypg"
}
```

For more information, see [Working with DB parameter groups](#) in the *Amazon RDS User Guide* and [Working with DB parameter groups and DB cluster parameter groups](#) in the *Amazon Aurora User Guide*.

**Example 2: To reset specific parameters to their default values**

The following `reset-db-parameter-group` example resets the parameter values for specific parameters to their default values in a customer-created DB parameter group.

```
aws rds reset-db-parameter-group \
  --db-parameter-group-name mypg \
  --parameters "ParameterName=max_connections,ApplyMethod=immediate" \
  "ParameterName=max_allowed_packet,ApplyMethod=immediate"
```

Output:

```
{
  "DBParameterGroupName": "mypg"
}
```

For more information, see [Working with DB parameter groups](#) in the *Amazon RDS User Guide* and [Working with DB parameter groups and DB cluster parameter groups](#) in the *Amazon Aurora User Guide*.

- For API details, see [ResetDbParameterGroup](#) in *AWS CLI Command Reference*.

### restore-db-cluster-from-s3

The following code example shows how to use `restore-db-cluster-from-s3`.

**AWS CLI**

To restore an Amazon Aurora DB cluster from Amazon S3
The following `restore-db-cluster-from-s3` example restores an Amazon Aurora MySQL version 5.7-compatible DB cluster from a MySQL 5.7 DB backup file in Amazon S3.

```
aws rds restore-db-cluster-from-s3
  --db-cluster-identifier cluster-s3-restore
  --engine aurora-mysql
  --master-username admin
  --master-user-password mypassword
  --s3-bucket-name mybucket
  --s3-prefix test-backup
  --s3-ingestion-role-arn arn:aws:iam::123456789012:role/service-role/TestBackup
  --source-engine mysql
  --source-engine-version 5.7.28
```

Output:

```
{
   "DBCluster": {
      "AllocatedStorage": 1,
      "AvailabilityZones": ["us-west-2c", "us-west-2a", "us-west-2b"],
      "BackupRetentionPeriod": 1,
      "DBClusterIdentifier": "cluster-s3-restore",
      "DBClusterParameterGroup": "default.aurora-mysql5.7",
      "DBSubnetGroup": "default",
      "Status": "creating",
      "Endpoint": "cluster-s3-restore.cluster-co3xyzabc123.us-west-2.rds.amazonaws.com",
      "ReaderEndpoint": "cluster-s3-restore.cluster-ro-co3xyzabc123.us-west-2.rds.amazonaws.com",
      "MultiAZ": false,
      "Engine": "aurora-mysql",
      "EngineVersion": "5.7.12",
      "Port": 3306,
      "MasterUsername": "admin",
      "PreferredBackupWindow": "11:15-11:45",
      "PreferredMaintenanceWindow": "thu:12:19-thu:12:49",
      "ReadReplicaIdentifiers": [],
      "DBClusterMembers": [],
      "VpcSecurityGroups": []
   }
}
```
restore-db-cluster-from-snapshot

The following code example shows how to use restore-db-cluster-from-snapshot.

AWS CLI

To restore a DB cluster from a snapshot

The following restore-db-cluster-from-snapshot restores an Aurora PostgreSQL DB cluster compatible with PostgreSQL version 10.7 from a DB cluster snapshot named test-instance-snapshot.

aws rds restore-db-cluster-from-snapshot \ 
  --db-cluster-identifier newdbcluster \ 
  --snapshot-identifier test-instance-snapshot \ 
  --engine aurora-postgresql \ 

For more information, see Migrating Data from MySQL by Using an Amazon S3 Bucket in the Amazon Aurora User Guide.

• For API details, see RestoreDbClusterFromS3 in AWS CLI Command Reference.
--engine-version 10.7

Output:

```json
{
    "DBCluster": {
        "AllocatedStorage": 1,
        "AvailabilityZones": [
            "us-west-2c",
            "us-west-2a",
            "us-west-2b"
        ],
        "BackupRetentionPeriod": 7,
        "DatabaseName": "",
        "DBClusterIdentifier": "newdbcluster",
        "DBClusterParameterGroup": "default.aurora-postgresql10",
        "DBSubnetGroup": "default",
        "Status": "creating",
        "Endpoint": "newdbcluster.cluster-############.us-west-2.rds.amazonaws.com",
        "ReaderEndpoint": "newdbcluster.cluster-ro-############.us-west-2.rds.amazonaws.com",
        "MultiAZ": false,
        "Engine": "aurora-postgresql",
        "EngineVersion": "10.7",
        "Port": 5432,
        "MasterUsername": "postgres",
        "PreferredBackupWindow": "09:33-10:03",
        "PreferredMaintenanceWindow": "sun:12:22-sun:12:52",
        "ReadReplicaIdentifiers": [],
        "DBClusterMembers": [],
        "VpcSecurityGroups": [
            {
                "VpcSecurityGroupId": "sg-########",
                "Status": "active"
            }
        ],
        "HostedZoneId": "Z1PVIF0EXAMPLE",
        "StorageEncrypted": true,
        "KmsKeyId": "arn:aws:kms:us-west-2:123456789012:key/287364e4-33e3-4755-a3b0-a1b2c3d4e5f6",
        "DbClusterResourceId": "cluster-5DSB5IFQDDUVAWOUWM1EXAMPLE",
        "AssociatedRoles": []
    }
}
```
"IAMDatabaseAuthenticationEnabled": false,
"ClusterCreateTime": "2020-06-05T15:06:58.634Z",
"EngineMode": "provisioned",
"DeletionProtection": false,
"HttpEndpointEnabled": false,
"CopyTagsToSnapshot": false,
"CrossAccountClone": false,
"DomainMemberships": []
}

For more information, see Restoring from a DB Cluster Snapshot in the Amazon Aurora User Guide.

- For API details, see RestoreDbClusterFromSnapshot in AWS CLI Command Reference.

**restore-db-cluster-to-point-in-time**

The following code example shows how to use restore-db-cluster-to-point-in-time.

**AWS CLI**

**To restore a DB cluster to a specified time**

The following restore-db-cluster-to-point-in-time example restores the DB cluster named database-4 to the latest possible time. Using copy-on-write as the restore type restores the new DB cluster as a clone of the source DB cluster.

```bash
aws rds restore-db-cluster-to-point-in-time \
   --source-db-cluster-identifier database-4 \
   --db-cluster-identifier sample-cluster-clone \
   --restore-type copy-on-write \
   --use-latest-restorable-time
```

Output:

```json
{
   "DBCluster": {
      "AllocatedStorage": 1,
      "AvailabilityZones": [
         "us-west-2c",
         "us-west-2a",
         "us-west-2b"
      ]
   }
}
```
"BackupRetentionPeriod": 7,
"DatabaseName": "",
"DBClusterIdentifier": "sample-cluster-clone",
"DBClusterParameterGroup": "default.aurora-postgresql10",
"DBSubnetGroup": "default",
"Status": "creating",
"Endpoint": "sample-cluster-clone.cluster-############.us-west-2.rds.amazonaws.com",
"ReaderEndpoint": "sample-cluster-clone.cluster-ro-############.us-west-2.rds.amazonaws.com",
"MultiAZ": false,
"Engine": "aurora-postgresql",
"EngineVersion": "10.7",
"Port": 5432,
"MasterUsername": "postgres",
"PreferredBackupWindow": "09:33-10:03",
"PreferredMaintenanceWindow": "sun:12:22-sun:12:52",
"ReadReplicaIdentifiers": [ ],
"DBClusterMembers": [ ],
"VpcSecurityGroups": [ 
    {
        "VpcSecurityGroupId": "sg-########",
        "Status": "active"
    }
],
"HostedZoneId": "Z1PVIF0EXAMPLE",
"StorageEncrypted": true,
"KmsKeyId": "arn:aws:kms:us-west-2:123456789012:key/287364e4-33e3-4755-a3b0-a1b2c3d4e5f6",
"DbClusterResourceId": "cluster-BIZ77GDSA2XBSTNPFW1EXAMPLE",
"AssociatedRoles": [ ],
"IAMDatabaseAuthenticationEnabled": false,
"CloneGroupId": "8d19331a-099a-45a4-b4aa-11aa22bb33cc44dd",
"ClusterCreateTime": "2020-03-10T19:57:38.967Z",
"EngineMode": "provisioned",
"DeletionProtection": false,
"HttpEndpointEnabled": false,
"CopyTagsToSnapshot": false,
"CrossAccountClone": false
}
For more information, see [Restoring a DB Cluster to a Specified Time](https://docs.aws.amazon.com/AmazonAurora/latest/UserGuide/aurora-task.restore-dbsubnetgroup.html) in the *Amazon Aurora User Guide*.

- For API details, see [RestoreDbClusterToPointInTime](https://docs.aws.amazon.com/cli/latest/reference/rds/restore-db-cluster-point-in-time.html) in *AWS CLI Command Reference*.

### restore-db-instance-from-db-snapshot

The following code example shows how to use `restore-db-instance-from-db-snapshot`.

**AWS CLI**

**To restore a DB instance from a DB snapshot**

The following `restore-db-instance-from-db-snapshot` example creates a new DB instance named `db7-new-instance` with the `db.t3.small` DB instance class from the specified DB snapshot. The source DB instance from which the snapshot was taken uses a deprecated DB instance class, so you can't upgrade it.

```bash
aws rds restore-db-instance-from-db-snapshot \
    --db-instance-identifier db7-new-instance \
    --db-snapshot-identifier db7-test-snapshot \
    --db-instance-class db.t3.small
```

**Output:**

```json
{
    "DBInstance": {
        "DBInstanceIdentifier": "db7-new-instance",
        "DBInstanceClass": "db.t3.small",
        "Engine": "mysql",
        "DBInstanceStatus": "creating",
        "PreferredMaintenanceWindow": "mon:07:37-mon:08:07",
        "PendingModifiedValues": {},
        "MultiAZ": false,
        "EngineVersion": "5.7.22",
        "AutoMinorVersionUpgrade": true,
        "...output omitted...
    }
}
```
For more information, see [Restoring from a DB Snapshot](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/DBInstanceSnapshot.Restore.html) in the *Amazon RDS User Guide*.

- For API details, see [RestoreDbInstanceFromDbSnapshot](https://docs.aws.amazon.com/cli/latest/reference/rds/restore-db-instance-from-db-snapshot.html) in *AWS CLI Command Reference*.

### `restore-db-instance-from-s3`

The following code example shows how to use `restore-db-instance-from-s3`.

#### AWS CLI

**To restore a DB instance from a backup in Amazon S3**

The following `restore-db-instance-from-s3` example creates a new DB instance named `restored-test-instance` from an existing backup in the `my-backups` S3 bucket.

```bash
aws rds restore-db-instance-from-s3 \
  --db-instance-identifier restored-test-instance \
  --allocated-storage 250 --db-instance-class db.m4.large --engine mysql \
  --master-username master --master-user-password secret99 \
  --s3-bucket-name my-backups --s3-ingestion-role-arn arn:aws:iam::123456789012:role/my-role \
  --source-engine mysql --source-engine-version 5.6.27
```

- For API details, see [RestoreDbInstanceFromS3](https://docs.aws.amazon.com/cli/latest/reference/rds/restore-db-instance-from-s3.html) in *AWS CLI Command Reference*.

### `restore-db-instance-to-point-in-time`

The following code example shows how to use `restore-db-instance-to-point-in-time`.

```bash
aws rds restore-db-instance-to-point-in-time \
  --db-instance-identifier restored-test-instance \
  --db-instance-class db.m4.large --engine mysql \
  --master-username master --master-user-password secret99 \
  --s3-bucket-name my-backups --s3-ingestion-role-arn arn:aws:iam::123456789012:role/my-role \
  --source-engine mysql --source-engine-version 5.6.27
```

- For API details, see [RestoreDbInstanceToPointInTime](https://docs.aws.amazon.com/cli/latest/reference/rds/restore-db-instance-to-point-in-time.html) in *AWS CLI Command Reference*.
AWS CLI

Example 1: To restore a DB instance to a point in time

The following `restore-db-instance-to-point-in-time` example restores test-instance to a new DB instance named `restored-test-instance`, as of the specified time.

```bash
aws rds restore-db-instance-to-point-in-time \
   --source-db-instance-identifier test-instance \
   --target-db-instance restored-test-instance \
   --restore-time 2018-07-30T23:45:00.000Z
```

Output:

<pre>
{
   "DBInstance": {
      "AllocatedStorage": 20,
      "DBInstanceArn": "arn:aws:rds:us-east-1:123456789012:db:restored-test-instance",
      "DBInstanceStatus": "creating",
      "DBInstanceIdentifier": "restored-test-instance",
      ...
   }
}
</pre>

For more information, see [Restoring a DB instance to a specified time](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/RDS-DBInstanceAPI-Restore.html) in the *Amazon RDS User Guide*.

Example 2: To restore a DB instance to a specified time from a replicated backup

The following `restore-db-instance-to-point-in-time` example restores an Oracle DB instance to the specified time from a replicated automated backup.

```bash
aws rds restore-db-instance-to-point-in-time \
   --source-db-instance-automated-backups-arn "arn:aws:rds:us-west-2:123456789012:auto-backup:ab-jkib2gfq5rv7replzadausbrktni2bn4example" \
   --target-db-instance-identifier myorclinstance-from-replicated-backup \
   --restore-time 2020-12-08T18:45:00.000Z
```

Output:

<pre>
{

}
</pre>
"DBInstance": {
   "DBInstanceIdentifier": "myorclinstance-from-replicated-backup",
   "DBInstanceClass": "db.t3.micro",
   "Engine": "oracle-se2",
   "DBInstanceStatus": "creating",
   "MasterUsername": "admin",
   "DBName": "ORCL",
   "AllocatedStorage": 20,
   "PreferredBackupWindow": "07:45-08:15",
   "BackupRetentionPeriod": 14,
   ... some output omitted ...
   "DbiResourceId": "db-KGLXG75BGVIWKQT7NQ4EXAMPLE",
   "CACertificateIdentifier": "rds-ca-2019",
   "DomainMemberships": [],
   "CopyTagsToSnapshot": false,
   "MonitoringInterval": 0,
   "IAMDatabaseAuthenticationEnabled": false,
   "PerformanceInsightsEnabled": false,
   "DeletionProtection": false,
   "AssociatedRoles": [],
   "TagList": []
}

For more information, see [Restoring to a specified time from a replicated backup](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_Replica_Examples.html) in the *Amazon RDS User Guide*.

- For API details, see [RestoreDbInstanceToPointInTime](https://docs.aws.amazon.com/cli/latest/reference/rds/restore-db-instance-to-point-in-time.html) in *AWS CLI Command Reference*.

### start-activity-stream

The following code example shows how to use `start-activity-stream`.

**AWS CLI**

**To start a database activity stream**

The following `start-activity-stream` example starts an asynchronous activity stream to monitor an Aurora cluster named `my-pg-cluster`.

```bash
aws rds start-activity-stream
```
```bash
--region us-east-1 \
--mode async \
--kms-key-id arn:aws:kms:us-east-1:1234567890123:key/a12c345d-6ef7-890g-h123-456i789jk0l1 \
--resource-arn arn:aws:rds:us-east-1:1234567890123:cluster:my-pg-cluster \
--apply-immediately
```

Output:

```json
{
    "KmsKeyId": "arn:aws:kms:us-east-1:1234567890123:key/a12c345d-6ef7-890g-h123-456i789jk0l1",
    "KinesisStreamName": "aws-rds-das-cluster-0ABCDEFGHI1JKLM2NOPQ3R4S",
    "Status": "starting",
    "Mode": "async",
    "ApplyImmediately": true
}
```

For more information, see [Starting a database activity stream](https://docs.aws.amazon.com/AmazonAurora/latest/UserGuide/Overview.AuroraStreams.html) in the *Amazon Aurora User Guide*.

- For API details, see [StartActivityStream](https://docs.aws.amazon.com/cli/latest/reference/rds/start-activity-stream.html) in *AWS CLI Command Reference*.

### start-db-cluster

The following code example shows how to use `start-db-cluster`.

**AWS CLI**

**To start a DB cluster**

The following `start-db-cluster` example starts a DB cluster and its DB instances.

```bash
aws rds start-db-cluster \
    --db-cluster-identifier mydbcluster
```

Output:

```json
{
    "DBCluster": {
        "AllocatedStorage": 1,
        "AvailabilityZones": [
            "us-east-1a",
            "us-east-1e",
            "us-east-1b",
            "us-east-1c"
        ]
    }
}
For more information, see Stopping and starting an Amazon Aurora DB cluster in the Amazon Aurora User Guide.

- For API details, see StartDbCluster in AWS CLI Command Reference.

**start-db-instance**

The following code example shows how to use start-db-instance.

**AWS CLI**

**To start a DB instance**

The following start-db-instance example starts the specified DB instance.

```
aws rds start-db-instance \n   --db-instance-identifier test-instance
```

Output:

```
{
   "DBInstance": {  
      "DBInstanceStatus": "starting",
      ...some output truncated...
   }
}
```

- For API details, see StartDbInstance in AWS CLI Command Reference.

**start-db-instance-automated-backups-replication**

The following code example shows how to use start-db-instance-automated-backups-replication.
AWS CLI

To enable cross-Region automated backups

The following `start-db-instance-automated-backups-replication` example replicates automated backups from a DB instance in the US East (N. Virginia) Region to US West (Oregon). The backup retention period is 14 days.

```bash
aws rds start-db-instance-automated-backups-replication \
    --region us-west-2 \
    --source-db-instance-arn "arn:aws:rds:us-east-1:123456789012:db:new-orcl-db" \
    --backup-retention-period 14
```

Output:

```json
{
    "DBInstanceAutomatedBackup": {
        "DBInstanceArn": "arn:aws:rds:us-east-1:123456789012:db:new-orcl-db",
        "DbiResourceId": "db-JKIB2GFQ5RV7REPLZA4EXAMPLE",
        "Region": "us-east-1",
        "DBInstanceIdentifier": "new-orcl-db",
        "RestoreWindow": {},
        "AllocatedStorage": 20,
        "Status": "pending",
        "Port": 1521,
        "InstanceCreateTime": "2020-12-04T15:28:31Z",
        "MasterUsername": "admin",
        "Engine": "oracle-se2",
        "EngineVersion": "12.1.0.2.v21",
        "LicenseModel": "bring-your-own-license",
        "OptionGroupName": "default:oracle-se2-12-1",
        "Encrypted": false,
        "StorageType": "gp2",
        "IAMDatabaseAuthenticationEnabled": false,
        "BackupRetentionPeriod": 14,
        "DBInstanceAutomatedBackupsArn": "arn:aws:rds:us-west-2:123456789012:auto-backup:ab-jkib2gfq5rv7replzadausbrktni2bn4example"
    }
}
```

For more information, see [Enabling cross-Region automated backups](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/Concepts.CrossRegionBackups.html) in the *Amazon RDS User Guide*.  

Actions and scenarios
The following code example shows how to use `start-export-task`.

### AWS CLI

#### To export a snapshot to Amazon S3

The following `start-export-task` example exports a DB snapshot named `db5-snapshot-test` to the Amazon S3 bucket named `mybucket`.

```bash
aws rds start-export-task \
   --export-task-identifier my-s3-export \
   --s3-bucket-name mybucket \
   --iam-role-arn arn:aws:iam::123456789012:role/service-role/ExportRole \
   --kms-key-id arn:aws:kms:us-west-2:123456789012:key/abcd0000-7fca-4128-82f2-aabbccddeeff
```

**Output:**

```json
{
   "ExportTaskIdentifier": "my-s3-export",
   "SnapshotTime": "2020-03-27T20:48:42.023Z",
   "S3Bucket": "mybucket",
   "IamRoleArn": "arn:aws:iam::123456789012:role/service-role/ExportRole",
   "KmsKeyId": "arn:aws:kms:us-west-2:123456789012:key/abcd0000-7fca-4128-82f2-aabbccddeeff",
   "Status": "STARTING",
   "PercentProgress": 0,
   "TotalExtractedDataInGB": 0
}
```

For more information, see [Exporting a Snapshot to an Amazon S3 Bucket](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/ExportingSnapshots.html) in the [Amazon RDS User Guide](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/).
**stop-activity-stream**

The following code example shows how to use `stop-activity-stream`.

**AWS CLI**

**To stop a database activity stream**

The following `stop-activity-stream` example stops an activity stream in an Aurora cluster named `my-pg-cluster`.

```bash
aws rds stop-activity-stream \
   --region us-east-1 \
   --resource-arn arn:aws:rds:us-east-1:1234567890123:cluster:my-pg-cluster \
   --apply-immediately
```

**Output:**

```json
{
   "KmsKeyId": "arn:aws:kms:us-east-1:1234567890123:key/a12c345d-6ef7-890g-h123-456i789jk011",
   "KinesisStreamName": "aws-rds-das-cluster-0ABCDEFGHIJKLMNOPQRSTUVWXYZ",
   "Status": "stopping"
}
```

For more information, see [Stopping an activity stream](Amazon%20Aurora%20User%20Guide) in the *Amazon Aurora User Guide*.

- For API details, see [StopActivityStream](AWS%20CLI%20Command%20Reference) in *AWS CLI Command Reference*.

**stop-db-cluster**

The following code example shows how to use `stop-db-cluster`.

**AWS CLI**

**To stop a DB cluster**

The following `stop-db-cluster` example stops a DB cluster and its DB instances.

```bash
aws rds stop-db-cluster \
   --db-cluster-identifier mydbcluster
```

**Output:**

Actions and scenarios
For more information, see [Stopping and starting an Amazon Aurora DB cluster](#) in the *Amazon Aurora User Guide*.

- For API details, see [StopDbCluster](#) in *AWS CLI Command Reference*.

### stop-db-instance

The following code example shows how to use `stop-db-instance`.

**AWS CLI**

#### To stop a DB instance

The following `stop-db-instance` example stops the specified DB instance.

```bash
aws rds stop-db-instance
  --db-instance-identifier test-instance
```

**Output:**

```json
{
  "DBInstance": {
    "DBInstanceStatus": "stopping",
    ...some output truncated...
  }
}
```
stop-db-instance-automated-backups-replication

The following code example shows how to use `stop-db-instance-automated-backups-replication`.

**AWS CLI**

To stop replicating automated backups

The following `stop-db-instance-automated-backups-replication` ends replication of automated backups to the US West (Oregon) Region. Replicated backups are retained according to the set backup retention period.

```
aws rds stop-db-instance-automated-backups-replication \
   --region us-west-2 \
```

Output:

```
{
  "DBInstanceAutomatedBackup": {
    "DBInstanceArn": "arn:aws:rds:us-east-1:123456789012:db:new-orcl-db",
    "DbiResourceId": "db-JKIB2GFQ5RV7REPLZA4EXAMPLE",
    "Region": "us-east-1",
    "DBInstanceIdentifier": "new-orcl-db",
    "RestoreWindow": {
      "LatestTime": "2020-12-07T19:59:57Z"
    },
    "AllocatedStorage": 20,
    "Status": "replicating",
    "Port": 1521,
    "InstanceCreateTime": "2020-12-04T15:28:31Z",
    "MasterUsername": "admin",
    "Engine": "oracle-se2",
    "EngineVersion": "12.1.0.2.v21",
    "LicenseModel": "bring-your-own-license",
    "OptionGroupName": "default:oracle-se2-12-1",
    "Encrypt": false,
    "StorageType": "gp2",
  }
}
```
"IAMDatabaseAuthenticationEnabled": false,
"BackupRetentionPeriod": 7,
"DBInstanceAutomatedBackupsArn": "arn:aws:rds:us-west-2:123456789012:auto-backup:ab-jkib2gfk5rv7replzadausbrktn12bn4example"
}
}

For more information, see [Stopping automated backup replication](#) in the *Amazon RDS User Guide*.

- For API details, see [StopDbInstanceAutomatedBackupsReplication](#) in *AWS CLI Command Reference*.

**switchover-blue-green-deployment**

The following code example shows how to use `switchover-blue-green-deployment`.

**AWS CLI**

**Example 1: To switch a blue/green deployment for an RDS DB instance**

The following `switchover-blue-green-deployment` example promotes the specified green environment as the new production environment.

```bash
aws rds switchover-blue-green-deployment \
    --blue-green-deployment-identifier bgd-wi89nwzglccsfake \
    --switchover-timeout 300
```

Output:

```json
{
    "BlueGreenDeployment": {
        "BlueGreenDeploymentIdentifier": "bgd-v53303651eexfake",
        "BlueGreenDeploymentName": "bgd-cli-test-instance",
        "SwitchoverDetails": [
            {
                "SourceMember": "arn:aws:rds:us-east-1:123456789012:db:my-db-instance",
                "TargetMember": "arn:aws:rds:us-east-1:123456789012:db:my-db-instance-green-blhile",
```
"Status": "AVAILABLE"
},
{
  "TargetMember": "arn:aws:rds:us-east-1:123456789012:db:my-db-instance-replica-1-green-k5fv7u",
  "Status": "AVAILABLE"
},
{
  "TargetMember": "arn:aws:rds:us-east-1:123456789012:db:my-db-instance-replica-2-green-ggsh8m",
  "Status": "AVAILABLE"
},
{
  "TargetMember": "arn:aws:rds:us-east-1:123456789012:db:my-db-instance-replica-3-green-o2vwm0",
  "Status": "AVAILABLE"
}
],
"Tasks": [
{
  "Name": "CREATING_READ_REPLICA_OF_SOURCE",
  "Status": "COMPLETED"
},
{
  "Name": "DB_ENGINE_VERSION_UPGRADE",
  "Status": "COMPLETED"
},
{
  "Name": "CONFIGURE_BACKUPS",
  "Status": "COMPLETED"
},
{
  "Name": "CREATING_TOPOLOGY_OF_SOURCE",
  "Status": "COMPLETED"
}
],
"Status": "SWITCHOVER_IN_PROGRESS",
"CreateTime": "2022-02-25T22:33:22.225000+00:00"
For more information, see [Switching a blue/green deployment](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_SwitchingDBEnvironments.html) in the *Amazon RDS User Guide*.

**Example 2: To promote a blue/green deployment for an Aurora MySQL DB cluster**

The following `switchover-blue-green-deployment` example promotes the specified green environment as the new production environment.

```
aws rds switchover-blue-green-deployment \
   --blue-green-deployment-identifier bgd-wi89nwglccsfake \
   --switchover-timeout 300
```

**Output:**

```
{
   "BlueGreenDeployment": {
      "BlueGreenDeploymentIdentifier": "bgd-wi89nwglccsfake",
      "BlueGreenDeploymentName": "my-blue-green-deployment",
      "Target": "arn:aws:rds:us-east-1:123456789012:cluster:my-aurora-mysql-cluster-green-3ud8z6",
      "SwitchoverDetails": [
         {
            "SourceMember": "arn:aws:rds:us-east-1:123456789012:cluster:my-aurora-mysql-cluster",
            "TargetMember": "arn:aws:rds:us-east-1:123456789012:cluster:my-aurora-mysql-cluster-green-3ud8z6",
            "Status": "AVAILABLE"
         },
         {
            "TargetMember": "arn:aws:rds:us-east-1:123456789012:db:my-aurora-mysql-cluster-1-green-bvxc73",
            "Status": "AVAILABLE"
         },
         {
```
"TargetMember": "arn:aws:rds:us-east-1:123456789012:db:my-aurora-mysql-cluster-2-green-7wc4ie",
"Status": "AVAILABLE"
},
{
"TargetMember": "arn:aws:rds:us-east-1:123456789012:db:my-aurora-mysql-cluster-3-green-p4xxkz",
"Status": "AVAILABLE"
},
{
"TargetMember": "arn:aws:rds:us-east-1:123456789012:cluster-endpoint:my-excluded-member-endpoint-green-np1ikl",
"Status": "AVAILABLE"
},
{
"Status": "AVAILABLE"
}
],
"Tasks": [
{
"Name": "CREATING_READ_REPLICA_OF_SOURCE",
"Status": "COMPLETED"
},
{
"Name": "DB_ENGINE_VERSION_UPGRADE",
"Status": "COMPLETED"
},
{
"Name": "CREATE_DB_INSTANCES_FOR_CLUSTER",
"Status": "COMPLETED"
},
{
"Name": "CREATE_CUSTOM_ENDPOINTS",
"Status": "COMPLETED"
}]}
For more information, see Switching a blue/green deployment in the Amazon Aurora User Guide.

- For API details, see SwitchoverBlueGreenDeployment in AWS CLI Command Reference.

Amazon RDS Data Service examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon RDS Data Service.

**Actions** are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

**Scenarios** are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**
- **Actions**

**Actions**

**Run an SQL statement**

The following code example shows how to run an SQL statement.

**AWS CLI**

**Example 1: To execute a SQL statement that is part of a transaction**

The following `execute-statement` example runs a SQL statement that is part of a transaction.
aws rds-data execute-statement \
   --database "mydb" \
   --sql "update mytable set quantity=5 where id=201" \
   --transaction-id "ABC1234567890xyz"

Output:

{
   "numberOfRecordsUpdated": 1
}

Example 2: To execute a SQL statement with parameters

The following execute-statement example runs a SQL statement with parameters.

aws rds-data execute-statement \
   --resource-arn "arn:aws:rds:us-east-1:123456789012:cluster:mydbcluster" \
   --database "mydb" \
   --secret-arn "arn:aws:secretsmanager:us-east-1:123456789012:secret:mysecret" \
   --sql "insert into mytable values (:id, :val)" \
   --parameters "[{{"name":"id"}, {"value": {"longValue": 1}}},{{"name":"val"}, {"value": {"stringValue": "value1"}}}]"

Output:

{
   "numberOfRecordsUpdated": 1
}

For more information, see Using the Data API for Aurora Serverless in the Amazon RDS User Guide.

- For API details, see ExecuteStatement in AWS CLI Command Reference.

batch-execute-statement

The following code example shows how to use batch-execute-statement.
AWS CLI

To execute a batch SQL statement

The following batch-execute-statement example executes a batch SQL statement over an array of data with a parameter set.

```bash
aws rds-data batch-execute-statement \
  --database "mydb" \
  --sql "insert into mytable values (:id, :val)" \
  --parameter-sets "[]["name": "id", "value": {"longValue": 1}],{"name": "val", "value": {"stringValue": "ValueOne"}},","name": "id", "value": {"longValue": 2}],{"name": "val", "value": {"stringValue": "ValueTwo"}},","name": "id", "value": {"longValue": 3}]
```

This command produces no output.

For more information, see Using the Data API for Aurora Serverless in the Amazon RDS User Guide.

- For API details, see BatchExecuteStatement in AWS CLI Command Reference.

begin-transaction

The following code example shows how to use begin-transaction.

AWS CLI

To start a SQL transaction

The following begin-transaction example starts a SQL transaction.

```bash
aws rds-data begin-transaction \
  --database "mydb" \
```

Output:
For more information, see Using the Data API for Aurora Serverless in the Amazon RDS User Guide.

- For API details, see BeginTransaction in AWS CLI Command Reference.

commit-transaction

The following code example shows how to use commit-transaction.

AWS CLI

To commit a SQL transaction

The following commit-transaction example ends the specified SQL transaction and commits the changes that you made as part of it.

```
aws rds-data commit-transaction \
   --transaction-id "ABC1234567890xyz"
```

Output:

```
{
   "transactionStatus": "Transaction Committed"
}
```

For more information, see Using the Data API for Aurora Serverless in the Amazon RDS User Guide.

- For API details, see CommitTransaction in AWS CLI Command Reference.

rollback-transaction

The following code example shows how to use rollback-transaction.
To roll back a SQL transaction

The following `rollback-transaction` example rolls back the specified SQL transaction.

```bash
aws rds-data rollback-transaction \
   --transaction-id "ABC1234567890xyz"
```

Output:

```json
{
   "transactionStatus": "Rollback Complete"
}
```

For more information, see [Using the Data API for Aurora Serverless](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_API.html) in the *Amazon RDS User Guide*.

- For API details, see [RollbackTransaction](https://docs.aws.amazon.com/cli/latest/reference/rds-data/rollback-transaction.html) in *AWS CLI Command Reference*.

### Amazon RDS Performance Insights examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon RDS Performance Insights.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- [Actions](#)
Actions

describe-dimension-keys

The following code example shows how to use describe-dimension-keys.

AWS CLI

To describe dimension keys

This example requests the names of all wait events. The data is summarized by event name, and the aggregate values of those events over the specified time period.

Command:

```bash
aws pi describe-dimension-keys --service-type RDS --identifier db-LKCG0BK26374TPTDFXOIWCPPM --start-time 1527026400 --end-time 1527080400 --metric db.load.avg --group-by '{"Group":"db.wait_event"}'
```

Output:

```json
{
   "AlignedEndTime": 1.5270804E9,
   "AlignedStartTime": 1.5270264E9,
   "Keys": [
      {
         "Dimensions": {"db.wait_event.name": "wait/synch/mutex/innodb/aurora_lock_thread_slot_futex"},
         "Total": 0.05906906851195666
      },
      {
         "Dimensions": {"db.wait_event.name": "wait/io/aurora_redo_log_flush"},
         "Total": 0.015824722186149193
      },
      {
         "Dimensions": {"db.wait_event.name": "CPU"},
         "Total": 0.008014396230265477
      },
      {
         "Dimensions": {"db.wait_event.name": "wait/io/aurora_respond_to_client"},
         "Total": 0.0036361612526204477
   ]
}
```
For API details, see DescribeDimensionKeys in AWS CLI Command Reference.

get-resource-metrics

The following code example shows how to use get-resource-metrics.

AWS CLI

To get resource metrics

This example requests data points for the db.wait_event dimension group, and for the db.wait_event.name dimension within that group. In the response, the relevant data points are grouped by the requested dimension (db.wait_event.name).
Command:

```bash
aws pi get-resource-metrics --service-type RDS --identifier db-LKCGOBK26374TPTDFXOICPPM --start-time 1527026400 --end-time 1527080400 --period-in-seconds 300 --metric db.load.avg --metric-queries file://metric-queries.json
```

The arguments for `--metric-queries` are stored in a JSON file, `metric-queries.json`. Here are the contents of that file:

```json
[
  {
    "Metric": "db.load.avg",
    "GroupBy": {
      "Group": "db.wait_event"
    }
  }
]
```

Output:

```json
{
  "AlignedEndTime": 1.5270804E9,
  "AlignedStartTime": 1.5270264E9,
  "Identifier": "db-LKCGOBK26374TPTDFXOICPPM",
  "MetricList": [
    {
      "Key": {
        "Metric": "db.load.avg"
      },
      "DataPoints": [
        {
          "Timestamp": 1527026700.0,
          "Value": 1.3533333333333333
        },
        {
          "Timestamp": 1527027000.0,
          "Value": 0.88
        },
        ...
      ]
    }
  ]
}
```
```
"Key": {
    "Metric": "db.load.avg",
    "Dimensions": {
        "db.wait_event.name": "wait/synch/mutex/innodb/aurora_lock_thread_slot_futex"
    }
},
"DataPoints": [
    {
        "Timestamp": 1527026700.0,
        "Value": 0.8566666666666667
    },
    {
        "Timestamp": 1527027000.0,
        "Value": 0.8633333333333333
    },
    <...remaining output omitted...>
],
<...remaining output omitted...>
}
```


## Amazon Redshift examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon Redshift.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

### Topics
- [Actions](#)
Actions

Create a cluster

The following code example shows how to create an Amazon Redshift cluster.

AWS CLI

Create a Cluster with Minimal Parameters

This example creates a cluster with the minimal set of parameters. By default, the output is in JSON format.

Command:

```
aws redshift create-cluster --node-type dw.hs1.xlarge --number-of-nodes 2 --master-username adminuser --master-user-password TopSecret1 --cluster-identifier mycluster
```

Result:

```
{
  "Cluster": {
    "NodeType": "dw.hs1.xlarge",
    "ClusterVersion": "1.0",
    "PubliclyAccessible": "true",
    "MasterUsername": "adminuser",
    "ClusterParameterGroups": [
      {
        "ParameterApplyStatus": "in-sync",
        "ParameterGroupName": "default.redshift-1.0"
      }
    ],
    "ClusterSecurityGroups": [
      {
        "Status": "active",
        "ClusterSecurityGroupName": "default"
      }
    ],
    "AllowVersionUpgrade": true,
    "VpcSecurityGroups": [],
    "PreferredMaintenanceWindow": "sat:03:30-sat:04:00",
    "AutomatedSnapshotRetentionPeriod": 1,
    "ClusterStatus": "creating",
    "ClusterIdentifier": "mycluster",
    "DBName": "dev",
    "NumberOfNodes": 2,
    "PendingModifiedValues": {
      "MasterUserPassword": "\****"
    }
  }
}
```
Delete a cluster

The following code example shows how to delete an Amazon Redshift cluster.

AWS CLI

Delete a Cluster with No Final Cluster Snapshot
This example deletes a cluster, forcing data deletion so no final cluster snapshot is created.

Command:

```bash
aws redshift delete-cluster --cluster-identifier mycluster --skip-final-cluster-snapshot
```

Delete a Cluster, Allowing a Final Cluster Snapshot
This example deletes a cluster, but specifies a final cluster snapshot.

Command:

```bash
aws redshift delete-cluster --cluster-identifier mycluster --final-cluster-snapshot-identifier myfinalsnapshot
```

• For API details, see CreateCluster in AWS CLI Command Reference.

Describe clusters

The following code example shows how to describe Amazon Redshift clusters.

AWS CLI

Get a Description of All Clusters
This example returns a description of all clusters for the account. By default, the output is in JSON format.

Command:

```bash
aws redshift describe-clusters
```

Result:
You can also obtain the same information in text format using the `--output text` option.

Command:

```
--output text option.Command:
```
option.Command:

aws redshift describe-clusters --output text

Result:

dw.hs1.xlarge       1.0     true    adminuser       True    us-east-1a
2013-01-22T21:59:29.559Z        sat:03:30-sat:04:00     1       available
mycluster       dev     2
ENDPOINT    5439    mycluster.coqoarplqhsn.us-east-1.redshift.amazonaws.com
in-sync     default.redshift-1.0
active      default
PENDINGMODIFIEDVALUES
RESPONSEMETADATA    934281a8-64df-11e2-b07c-f7fbdd006c67

• For API details, see DescribeClusters in AWS CLI Command Reference.

Modify a cluster

The following code example shows how to modify an Amazon Redshift cluster.

AWS CLI

Associate a Security Group with a ClusterThis example shows how to associate a cluster security group with the specified cluster.Command:

aws redshift modify-cluster --cluster-identifier mycluster --cluster-security-groups mysecuritygroup

Modify the Maintenance Window for a ClusterThis shows how to change the weekly preferred maintenance window for a cluster to be the minimum four hour window starting Sundays at 11:15 PM, and ending Mondays at 3:15 AM.Command:

aws redshift modify-cluster --cluster-identifier mycluster --preferred-maintenance-window Sun:23:15-Mon:03:15

Change the Master Password for the ClusterThis example shows how to change the master password for a cluster.Command:
aws redshift modify-cluster --cluster-identifier mycluster --master-user-password A1b2c3d4


**accept-reserved-node-exchange**

The following code example shows how to use `accept-reserved-node-exchange`.

**AWS CLI**

**To accept reserved node exchange**

The following `accept-reserved-node-exchange` example accepts exchange of a DC1 reserved node for a DC2 reserved node.

```bash
aws redshift accept-reserved-node-exchange /
   --reserved-node-id 12345678-12ab-12a1-1a2a-12ab-12a12EXAMPLE /
   --target-reserved-node-offering-id 12345678-12ab-12a1-1a2a-12ab-12a12EXAMPLE
```

**Output:**

```json
{
    "ExchangedReservedNode": {
        "ReservedNodeId": "12345678-12ab-12a1-1a2a-12ab-12a12EXAMPLE",
        "ReservedNodeOfferingId": "12345678-12ab-12a1-1a2a-12ab-12a12EXAMPLE",
        "NodeType": "dc2.large",
        "StartTime": "2019-12-06T21:17:26Z",
        "Duration": 31536000,
        "FixedPrice": 0.0,
        "UsagePrice": 0.0,
        "CurrencyCode": "USD",
        "NodeCount": 1,
        "State": "exchanging",
        "OfferingType": "All Upfront",
        "RecurringCharges": [
            {
                "RecurringChargeAmount": 0.0,
                "RecurringChargeFrequency": "Hourly"
            }
        ],
        "ReservedNodeOfferingType": "Regular"
    }
}
```
For more information, see [Upgrading Reserved Nodes With the AWS CLI](#) in the *Amazon Redshift Cluster Management Guide*.

- For API details, see [AcceptReservedNodeExchange](#) in *AWS CLI Command Reference*.

**authorize-cluster-security-group-ingress**

The following code example shows how to use `authorize-cluster-security-group-ingress`.

**AWS CLI**

Authorizing Access to an EC2 Security Group

This example authorizes access to a named Amazon EC2 security group.

Command:

```bash
aws redshift authorize-cluster-security-group-ingress --cluster-security-group-name mysecuritygroup --ec2-security-group-name myec2securitygroup --ec2-security-group-owner-id 1234567890
```

Authorizing Access to a CIDR range

This example authorizes access to a CIDR range.

Command:

```bash
aws redshift authorize-cluster-security-group-ingress --cluster-security-group-name mysecuritygroup --cidrip 192.168.100.100/32
```

- For API details, see [AuthorizeClusterSecurityGroupIngress](#) in *AWS CLI Command Reference*.

**authorize-snapshot-access**

The following code example shows how to use `authorize-snapshot-access`.

**AWS CLI**

Authorize an AWS Account to Restore a Snapshot

This example authorizes the AWS account 444455556666 to restore the snapshot my-snapshot-id. By default, the output is in JSON format.

Command:

```bash
aws redshift authorize-snapshot-access --snapshot-id my-snapshot-id --account-with-restore-access 444455556666
```
Result:

```json
{
  "Snapshot": {
    "Status": "available",
    "SnapshotCreateTime": "2013-07-17T22:04:18.947Z",
    "EstimatedSecondsToCompletion": 0,
    "AvailabilityZone": "us-east-1a",
    "ClusterVersion": "1.0",
    "MasterUsername": "adminuser",
    "Encrypted": false,
    "OwnerAccount": "111122223333",
    "BackupProgressInMegabytes": 11.0,
    "ElapsedTimeInSeconds": 0,
    "DBName": "dev",
    "CurrentBackupRateInMegabytesPerSecond": 0.1534,
    "ActualIncrementalBackupSizeInMegabytes": 11.0,
    "SnapshotType": "manual",
    "NodeType": "dw.hs1.xlarge",
    "ClusterIdentifier": "mycluster",
    "TotalBackupSizeInMegabytes": 20.0,
    "Port": 5439,
    "NumberOfNodes": 2,
    "SnapshotIdentifier": "my-snapshot-id"
  }
}
```

- For API details, see [AuthorizeSnapshotAccess](#) in *AWS CLI Command Reference*.

**batch-delete-cluster-snapshots**

The following code example shows how to use `batch-delete-cluster-snapshots`.

**AWS CLI**

**To delete a set of cluster snapshots**

The following `batch-delete-cluster-snapshots` example deletes a set of manual cluster snapshots.

```bash
aws redshift batch-delete-cluster-snapshots \\
```
The following code example shows how to use `batch-modify-cluster-snapshots`.

**AWS CLI**

To modify a set of cluster snapshots

The following `batch-modify-cluster-snapshots` example modifies the settings for a set of cluster snapshots.

```
aws redshift batch-modify-cluster-snapshots
   --manual-snapshot-retention-period 30
```

Output:

```
{
   "Resources": [ 
      "mycluster-2019-11-06-16-31",
      "mycluster-2019-11-06-16-32"
   ]
}
```
AWS Command Line Interface

For more information, see [Amazon Redshift Snapshots](https://docs.aws.amazon.com/redshift/latest/guide/amazon-redshift-snapshots.html) in the *Amazon Redshift Cluster Management Guide*.

- For API details, see [BatchModifyClusterSnapshots](https://docs.aws.amazon.com/cli/latest/reference/redshift/batch-modify-cluster-snapshots.html) in *AWS CLI Command Reference*.

**cancel-resize**

The following code example shows how to use `cancel-resize`.

**AWS CLI**

To cancel resize of a cluster

The following `cancel-resize` example cancels a classic resize operation for a cluster.

```
aws redshift cancel-resize \
    --cluster-identifier mycluster
```

Output:

```
{
    "TargetNodeType": "dc2.large",
    "TargetNumberOfNodes": 2,
    "TargetClusterType": "multi-node",
    "Status": "CANCELLING",
    "ResizeType": "ClassicResize",
    "TargetEncryptionType": "NONE"
}
```
For more information, see [Resizing Clusters in Amazon Redshift](https://docs.aws.amazon.com/redshift/latest/guide/redshift-cluster-management.html) in the *Amazon Redshift Cluster Management Guide*.

- For API details, see [CancelResize](https://docs.aws.amazon.com/cli/latest/reference/redshift/cancelresize.html) in *AWS CLI Command Reference*.

### copy-cluster-snapshot

The following code example shows how to use `copy-cluster-snapshot`.

#### AWS CLI

Get a Description of All Cluster Versions

This example returns a description of all cluster versions. By default, the output is in JSON format.

**Command:**

```bash
```

**Result:**

```json
{
   "Snapshot": {
      "Status": "available",
      "AvailabilityZone": "us-east-1c",
      "ClusterVersion": "1.0",
      "MasterUsername": "adminuser",
      "DBName": "dev",
      "SnapshotType": "manual",
      "NodeType": "dw.hs1.xlarge",
      "ClusterIdentifier": "examplecluster",
      "Port": 5439,
      "NumberOfNodes": "2",
      "SnapshotIdentifier": "my-saved-snapshot-copy"
   },
   "ResponseMetadata": {
      "RequestId": "3b279691-64e3-11e2-bec0-17624ad140dd"
   }
}
```
create-cluster-parameter-group

The following code example shows how to use create-cluster-parameter-group.

AWS CLI

Create a Cluster Parameter Group This example creates a new cluster parameter group. Command:

```bash
aws redshift create-cluster-parameter-group --parameter-group-name myclusterparametergroup --parameter-group-family redshift-1.0 --description "My first cluster parameter group"
```

Result:

```json
{
  "ClusterParameterGroup": {
    "ParameterGroupFamily": "redshift-1.0",
    "Description": "My first cluster parameter group",
    "ParameterGroupName": "myclusterparametergroup"
  },
  "ResponseMetadata": {
    "RequestId": "739448f0-64cc-11e2-8f7d-3b939af52818"
  }
}
```

For API details, see CreateClusterParameterGroup in AWS CLI Command Reference.

create-cluster-security-group

The following code example shows how to use create-cluster-security-group.

AWS CLI

Creating a Cluster Security Group This example creates a new cluster security group. By default, the output is in JSON format. Command:

```bash
aws redshift create-cluster-security-group --cluster-security-group-name mysecuritygroup --description "This is my cluster security group"
```
You can also obtain the same information in text format using the `--output text` option.

```
aws redshift create-cluster-security-group --cluster-security-group-name mysecuritygroup --description "This is my cluster security group" --output text
```

**Result:**

```
This is my cluster security group   300454760768    mysecuritygroup
a0c0bfab-343a-11e2-b0d8-d15d0ef48549
```

- For API details, see [CreateClusterSecurityGroup](https://docs.aws.amazon.com/cli/latest/reference/redshift/create-cluster-security-group.html) in *AWS CLI Command Reference*.

### create-cluster-snapshot

The following code example shows how to use `create-cluster-snapshot`.

```
```
**Create a Cluster Snapshot**

This example creates a new cluster snapshot. By default, the output is in JSON format.

**Command:**

```bash
aws redshift create-cluster-snapshot --cluster-identifier mycluster --snapshot-identifier my-snapshot-id
```

**Result:**

```json
{
   "Snapshot": {
      "Status": "creating",
      "AvailabilityZone": "us-east-1a",
      "ClusterVersion": "1.0",
      "MasterUsername": "adminuser",
      "DBName": "dev",
      "SnapshotType": "manual",
      "NodeType": "dw.hs1.xlarge",
      "ClusterIdentifier": "mycluster",
      "Port": 5439,
      "NumberOfNodes": "2",
      "SnapshotIdentifier": "my-snapshot-id"
   },
   "ResponseMetadata": {
      "RequestId": "f024d1a5-64e1-11e2-88c5-53eb05787dfb"
   }
}
```

- For API details, see [CreateClusterSnapshot](#) in *AWS CLI Command Reference*.

**create-cluster-subnet-group**

The following code example shows how to use `create-cluster-subnet-group`.

**AWS CLI**

**Create a Cluster Subnet Group**

This example creates a new cluster subnet group.

**Command:**

```bash
aws redshift create-cluster-subnet-group
```
aws redshift create-cluster-subnet-group --cluster-subnet-group-name mysubnetgroup --description "My subnet group" --subnet-ids subnet-763fdd1c

Result:

```json
{
   "ClusterSubnetGroup": {
      "Subnets": [
         {
            "SubnetStatus": "Active",
            "SubnetIdentifier": "subnet-763fdd1c",
            "SubnetAvailabilityZone": {
               "Name": "us-east-1a"
            }
         }
      ],
      "VpcId": "vpc-7e3fdd14",
      "SubnetGroupStatus": "Complete",
      "Description": "My subnet group",
      "ClusterSubnetGroupName": "mysubnetgroup"
   },
   "ResponseMetadata": {
      "RequestId": "500b8ce2-698f-11e2-9790-fd67517fb6fd"
   }
}
```

- For API details, see [CreateClusterSubnetGroup](https://docs.aws.amazon.com/cli/latest/CLI reference/create-cluster-subnet-group.html) in *AWS CLI Command Reference*.

**create-event-subscription**

The following code example shows how to use `create-event-subscription`.

**AWS CLI**

**To create a notification subscription for an event**

The following `create-event-subscription` example creates an event notification subscription.

```bash
aws redshift create-event-subscription \
   --subscription-name mysubscription \
   --sns-topic-arn arn:aws:sns:us-west-2:123456789012:MySNStopic \
   --source-type cluster \
```
--source-ids mycluster

Output:

```json
{
    "EventSubscription": {
        "CustomerAwsId": "123456789012",
        "CustSubscriptionId": "mysubscription",
        "Status": "active",
        "SubscriptionCreationTime": "2019-12-09T20:05:19.365Z",
        "SourceType": "cluster",
        "SourceIdsList": [
            "mycluster"
        ],
        "EventCategoriesList": [],
        "Severity": "INFO",
        "Enabled": true,
        "Tags": []
    }
}
```

For more information, see [Subscribing to Amazon Redshift Event Notifications](https://docs.aws.amazon.com/redshift/latest/userguide/redshift-events-create-event-subscription.html) in the *Amazon Redshift Cluster Management Guide*.

- For API details, see [CreateEventSubscription](https://aws.amazon.com/cli/) in *AWS CLI Command Reference*.

**create-hsm-client-certificate**

The following code example shows how to use `create-hsm-client-certificate`.

**AWS CLI**

**To create an HSM client certificate**

The following `create-hsm-client-certificate` example generates an HSM client certificate that a cluster can use to connect to an HSM.

```
aws redshift create-hsm-client-certificate \
    --hsm-client-certificate-identifier myhsmclientcert
```

Output:
For more information, see Amazon Redshift API Permissions Reference in the Amazon Redshift Cluster Management Guide.

- For API details, see CreateHsmClientCertificate in AWS CLI Command Reference.

create-hsm-configuration

The following code example shows how to use create-hsm-configuration.

AWS CLI

To create an HSM configuration

The following create-hsm-configuration example creates the specified HSM configuration that contains information required by a cluster to store and use database encryption keys in a hardware security module (HSM).

aws redshift create-hsm-configuration /
   --hsm-configuration-identifier myhsmconnection
   --description "My HSM connection"
--hsm-ip-address 192.0.2.09
--hsm-partition-name myhsmpartition /
--hsm-partition-password A1b2c3d4 /
--hsm-server-public-certificate myhsmclientcert

Output:

```
{
  "HsmConfiguration": {
    "HsmConfigurationIdentifier": "myhsmconnection",
    "Description": "My HSM connection",
    "HsmIpAddress": "192.0.2.09",
    "HsmPartitionName": "myhsmpartition",
    "Tags": []
  }
}
```

- For API details, see [CreateHsmConfiguration](#) in *AWS CLI Command Reference*.

**create-snapshot-copy-grant**

The following code example shows how to use `create-snapshot-copy-grant`.

**AWS CLI**

**To create a snapshot copy grant**

The following `create-snapshot-copy-grant` example creates a snapshot copy grant and encrypts copied snapshots in a destination AWS Region.

```
aws redshift create-snapshot-copy-grant \
  --snapshot-copy-grant-name mysnapshotcopygrantname
```

Output:

```
{
  "SnapshotCopyGrant": {
    "SnapshotCopyGrantName": "mysnapshotcopygrantname",
    "KmsKeyId": "arn:aws:kms:us-west-2:123456789012:key/bPxRfih3yCo8nvwEXAMPLEKEY",
    "Tags": []
  }
}
```
For more information, see Amazon Redshift Database Encryption in the Amazon Redshift Cluster Management Guide.

- For API details, see CreateSnapshotCopyGrant in AWS CLI Command Reference.

create-snapshot-schedule

The following code example shows how to use create-snapshot-schedule.

AWS CLI

To create snapshot schedule

The following create-snapshot-schedule example creates a snapshot schedule with the specified description and a rate of every 12 hours.

```
aws redshift create-snapshot-schedule \
   --schedule-definitions "rate(12 hours)" \
   --schedule-identifier mysnapshotschedule \
   --schedule-description "My schedule description"
```

Output:

```
{
   "ScheduleDefinitions": [
      "rate(12 hours)"
   ],
   "ScheduleIdentifier": "mysnapshotschedule",
   "ScheduleDescription": "My schedule description",
   "Tags": []
}
```

For more information, see Automated Snapshot Schedules in the Amazon Redshift Cluster Management Guide.

- For API details, see CreateSnapshotSchedule in AWS CLI Command Reference.

create-tags

The following code example shows how to use create-tags.
AWS CLI

To create tags for a cluster

The following create-tags example adds the specified tag key/value pair to the specified cluster.

```
aws redshift create-tags \
    --tags "Key"="mytags","Value"="tag1"
```

This command does not produce any output.

For more information, see Tagging Resources in Amazon Redshift in the Amazon Redshift Cluster Management Guide.

- For API details, see CreateTags in AWS CLI Command Reference.

delete-cluster-parameter-group

The following code example shows how to use delete-cluster-parameter-group.

AWS CLI

Delete a Cluster Parameter Group
This example deletes a cluster parameter group.

```
aws redshift delete-cluster-parameter-group --parameter-group-name myclusterparametergroup
```

- For API details, see DeleteClusterParameterGroup in AWS CLI Command Reference.

delete-cluster-security-group

The following code example shows how to use delete-cluster-security-group.

AWS CLI

Delete a Cluster Security Group
This example deletes a cluster security group.

```
aws redshift delete-cluster-security-group --cluster-security-group-name mysecuritygroup
```
delete-cluster-snapshot

The following code example shows how to use delete-cluster-snapshot.

AWS CLI

Delete a Cluster Snapshot

This example deletes a cluster snapshot.

Command:

```bash
aws redshift delete-cluster-snapshot --snapshot-identifier my-snapshot-id
```

- For API details, see `DeleteClusterSnapshot` in AWS CLI Command Reference.

delete-cluster-subnet-group

The following code example shows how to use delete-cluster-subnet-group.

AWS CLI

Delete a Cluster subnet Group

This example deletes a cluster subnet group.

Command:

```bash
aws redshift delete-cluster-subnet-group --cluster-subnet-group-name mysubnetgroup
```

Result:

```json
{
   "ResponseMetadata": {
      "RequestId": "253fbfffd-6993-11e2-bc3a-47431073908a"
   }
}
```

- For API details, see `DeleteClusterSubnetGroup` in AWS CLI Command Reference.

delete-event-subscription

The following code example shows how to use delete-event-subscription.

AWS CLI

To delete event subscription
The following delete-event-subscription example deletes the specified event notification subscription.

```
aws redshift delete-event-subscription \
   --subscription-name mysubscription
```

This command does not produce any output.

For more information, see Subscribing to Amazon Redshift Event Notifications in the Amazon Redshift Cluster Management Guide.

- For API details, see DeleteEventSubscription in AWS CLI Command Reference.

delete-hsm-client-certificate

The following code example shows how to use delete-hsm-client-certificate.

AWS CLI

To delete HSM client certificate

The following delete-hsm-client-certificate example deletes an HSM client certificate.

```
aws redshift delete-hsm-client-certificate \
   --hsm-client-certificate-identifier myhsmclientcert
```

This command does not produce any output.

For more information, see Amazon Redshift API Permissions Reference in the Amazon Redshift Cluster Management Guide.

- For API details, see DeleteHsmClientCertificate in AWS CLI Command Reference.

delete-hsm-configuration

The following code example shows how to use delete-hsm-configuration.

AWS CLI

To delete an HSM configuration
The following delete-hsm-configuration example deletes the specified HSM configuration from the current AWS account.

```bash
aws redshift delete-hsm-configuration /
   --hsm-configuration-identifier myhsmconnection
```

This command does not produce any output.

- For API details, see [DeleteHsmConfiguration](#) in [AWS CLI Command Reference](#).

### delete-scheduled-action

The following code example shows how to use delete-scheduled-action.

**AWS CLI**

#### To delete scheduled action

The following delete-scheduled-action example deletes the specified scheduled action.

```bash
aws redshift delete-scheduled-action \
   --scheduled-action-name myscheduledaction
```

This command does not produce any output.

- For API details, see [DeleteScheduledAction](#) in [AWS CLI Command Reference](#).

### delete-snapshot-copy-grant

The following code example shows how to use delete-snapshot-copy-grant.

**AWS CLI**

#### To delete snapshot copy grant

The following delete-snapshot-copy-grant example deletes the specified snapshot copy grant.

```bash
aws redshift delete-snapshot-copy-grant \
   --snapshot-copy-grant-name mysnapshotcopygrantname
```

This command does not produce any output.
For more information, see Amazon Redshift Database Encryption in the Amazon Redshift Cluster Management Guide.

• For API details, see DeleteSnapshotCopyGrant in AWS CLI Command Reference.

delete-snapshot-schedule

The following code example shows how to use delete-snapshot-schedule.

AWS CLI

To delete snapshot schedule

The following delete-snapshot-schedule example deletes the specified snapshot schedule. You must disassociate clusters before deleting the schedule.

```
aws redshift delete-snapshot-schedule \
   --schedule-identifier mysnapshotschedule
```

This command does not produce any output.

For more information, see Automated Snapshot Schedules in the Amazon Redshift Cluster Management Guide.

• For API details, see DeleteSnapshotSchedule in AWS CLI Command Reference.

delete-tags

The following code example shows how to use delete-tags.

AWS CLI

To delete tags from a cluster

The following delete-tags example deletes the tags with the specified key names from the specified cluster.

```
aws redshift delete-tags \
   --tag-keys "clustertagkey" "clustertagvalue"
```

This command does not produce any output.
For more information, see Tagging Resources in Amazon Redshift in the Amazon Redshift Cluster Management Guide.

- For API details, see DeleteTags in AWS CLI Command Reference.

describe-account-attributes

The following code example shows how to use describe-account-attributes.

AWS CLI

To describe attributes of an AWS account

The following describe-account-attributes example displays the attributes attached to the calling AWS account.

```bash
aws redshift describe-account-attributes
```

Output:

```json
{
   "AccountAttributes": [
      {
         "AttributeName": "max-defer-maintenance-duration",
         "AttributeValues": [
            {
               "AttributeValue": "45"
            }
         ]
      }
   ]
}
```

- For API details, see DescribeAccountAttributes in AWS CLI Command Reference.

describe-cluster-db-revisions

The following code example shows how to use describe-cluster-db-revisions.

AWS CLI

To describe DB revisions for a cluster
The following `describe-cluster-db-revisions` example displays the details of an array of `ClusterDbRevision` objects for the specified cluster.

```
aws redshift describe-cluster-db-revisions \
  --cluster-identifier mycluster
```

Output:

```
{
  "ClusterDbRevisions": [
    {
      "ClusterIdentifier": "mycluster",
      "CurrentDatabaseRevision": "11420",
      "DatabaseRevisionReleaseDate": "2019-11-22T16:43:49.597Z",
      "RevisionTargets": []
    }
  ]
}
```

- For API details, see [DescribeClusterDbRevisions](https://docs.aws.amazon.com/cli/latest/reference/redshift/describe-cluster-db-revisions.html) in *AWS CLI Command Reference*.

### describe-cluster-parameter-groups

The following code example shows how to use `describe-cluster-parameter-groups`.

**AWS CLI**

Get a Description of All Cluster Parameter Groups

This example returns a description of all cluster parameter groups for the account, with column headers. By default, the output is in JSON format.

```
aws redshift describe-cluster-parameter-groups
```

Result:

```
{
  "ParameterGroups": [
    {
      "ParameterGroupFamily": "redshift-1.0",
      "Description": "My first cluster parameter group",
      ...
    }
  ]
}
```
You can also obtain the same information in text format using the `--output text` option:

```bash
aws redshift describe-cluster-parameter-groups --output text
```

**Result:**

<table>
<thead>
<tr>
<th>Cluster Parameter Group</th>
<th>Description</th>
<th>Parameter Group Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>redshift-1.0</td>
<td>My first cluster parameter group</td>
<td>myclusterparametergroup</td>
</tr>
<tr>
<td>RESPONSEMETADATA</td>
<td>9e665a36-64cc-11e2-8f7d-3b939af52818</td>
<td></td>
</tr>
</tbody>
</table>

- For API details, see [DescribeClusterParameterGroups](https://docs.aws.amazon.com/cli/latest/reference/redshift/describe-cluster-parameter-groups.html) in *AWS CLI Command Reference*.

### `describe-cluster-parameters`

The following code example shows how to use `describe-cluster-parameters`.

#### AWS CLI

Retrieve the Parameters for a Specified Cluster Parameter Group

This example retrieves the parameters for the named parameter group. By default, the output is in JSON format:

```bash
aws redshift describe-cluster-parameters --parameter-group-name myclusterparametergroup
```

**Result:**

```json
{
   "Parameters": [

```
You can also obtain the same information in text format using the --output text option.

Option: --output text

aws redshift describe-cluster-parameters --parameter-group-name myclusterparametergroup --output text

Result:

RESPONSEMETADATA   cdac40aa-64cc-11e2-9e70-918437dd236d
Sets the display format for date and time values.   string   True   engine-default
ISO, MDY       datestyle
Sets the number of digits displayed for floating-point values       integer True
-15-2   engine-default  0       extra_float_digits
This parameter applies a user-defined label to a group of queries that are run
during the same session..    string True   engine-default  default query_group
require ssl for all databaseconnections    boolean True   true,false   engine-
default false   require_ssl
Sets the schema search order for names that are not schema-qualified.  
string True engine-default $user, public search_path
Aborts any statement that takes over the specified number of milliseconds. integer True engine-default 0 statement_timeout
wlm json configuration string True engine-default
\[{"query_concurrency":5}] wlm_json_configuration

- For API details, see DescribeClusterParameters in AWS CLI Command Reference.

describe-cluster-security-groups

The following code example shows how to use describe-cluster-security-groups.

AWS CLI

Get a Description of All Cluster Security Groups
This example returns a description of all cluster security groups for the account. By default, the output is in JSON format.

Command:
aws redshift describe-cluster-security-groups

Result:

```json
{
    "ClusterSecurityGroups": [
        {
            "OwnerId": "100447751468",
            "Description": "default",
            "ClusterSecurityGroupName": "default",
            "EC2SecurityGroups": [],
            "IPRanges": [
                {
                    "Status": "authorized",
                    "CIDRIP": "0.0.0.0/0"
                }
            ]
        },
        {
            "OwnerId": "100447751468",
            "Description": "This is my cluster security group",
            "ClusterSecurityGroupName": "mysecuritygroup",
            "EC2SecurityGroups": [],
            "IPRanges": []
        }
    ]
}
```
• For API details, see [DescribeClusterSecurityGroups](#) in [AWS CLI Command Reference](#).

describe-cluster-snapshots

The following code example shows how to use `describe-cluster-snapshots`.

**AWS CLI**

Get a Description of All Cluster Snapshots

This example returns a description of all cluster snapshots for the account. By default, the output is in JSON format.

Command:

```
aws redshift describe-cluster-snapshots
```

Result:

```json
{
  "Snapshots": [
    {
      "Status": "available",
      "SnapshotCreateTime": "2013-07-17T22:02:22.852Z",
      "EstimatedSecondsToCompletion": -1,
      "AvailabilityZone": "us-east-1a",
      "ClusterVersion": "1.0",
      "MasterUsername": "adminuser",
      "Encrypted": false,
      "OwnerAccount": "111122223333",
      "BackupProgressInMegabytes": 20.0,
      "ElapsedTimeInSeconds": 0,
      "DBName": "dev",
      "CurrentBackupRateInMegabytesPerSecond": 0.0,
      "ActualIncrementalBackupSizeInMegabytes": 20.0,
      "SnapshotType": "automated",
      "NodeType": "dw.hs1.xlarge",
      "ClusterIdentifier": "mycluster",
      "Port": 5439,
      "TotalBackupSizeInMegabytes": 20.0,
    }
  ]
}
```
For API details, see [DescribeClusterSnapshots](https://docs.aws.amazon.com/cli/latest/reference/redshift/describe-cluster-snapshots.html) in *AWS CLI Command Reference*.

describe-cluster-subnet-groups

The following code example shows how to use `describe-cluster-subnet-groups`.

**AWS CLI**

Get a Description of All Cluster Subnet Groups

This example returns a description of all cluster subnet groups. By default, the output is in JSON format.

Command:
aws redshift describe-cluster-subnet-groups

Result:

```
{
    "ClusterSubnetGroups": [
    {
        "Subnets": [  
            {
                "SubnetStatus": "Active",
                "SubnetIdentifier": "subnet-763fdd1c",
                "SubnetAvailabilityZone": {
                    "Name": "us-east-1a"
                }
            }
        ],
        "VpcId": "vpc-7e3fdd14",
        "SubnetGroupStatus": "Complete",
        "Description": "My subnet group",
        "ClusterSubnetGroupName": "mysubnetgroup"
    }
    ],
    "ResponseMetadata": {
        "RequestId": "37fa8c89-6990-11e2-8f75-ab4018764c77"
    }
}
```

• For API details, see [DescribeClusterSubnetGroups](https://docs.aws.amazon.com/cli/latest/reference/redshift/describe-cluster-subnet-groups.html) in *AWS CLI Command Reference*.

**describe-cluster-tracks**

The following code example shows how to use describe-cluster-tracks.

**AWS CLI**

**To describe cluster tracks**

The following describe-cluster-tracks example displays details of the available maintenance tracks.

```
aws redshift describe-cluster-tracks \
```
--maintenance-track-name current

Output:

```
{
   "MaintenanceTracks": [
   {
      "MaintenanceTrackName": "current",
      "DatabaseVersion": "1.0.11420",
      "UpdateTargets": [
      {
         "MaintenanceTrackName": "preview_features",
         "DatabaseVersion": "1.0.11746",
         "SupportedOperations": [
         {
            "OperationName": "restore-from-cluster-snapshot"
         }
         ]
      },
      {
         "MaintenanceTrackName": "trailing",
         "DatabaseVersion": "1.0.11116",
         "SupportedOperations": [
         {
            "OperationName": "restore-from-cluster-snapshot"
         },
         {
            "OperationName": "modify-cluster"
         }
         ]
      }
      ]
   }
   ]
}
```

For more information, see [Choosing Cluster Maintenance Tracks](#) in the [Amazon Redshift Cluster Management Guide](#).

- For API details, see [DescribeClusterTracks](#) in [AWS CLI Command Reference](#).
describe-cluster-versions

The following code example shows how to use describe-cluster-versions.

AWS CLI

Get a Description of All Cluster Versions

This example returns a description of all cluster versions. By default, the output is in JSON format.

Command:

```
aws redshift describe-cluster-versions
```

Result:

```
{
   "ClusterVersions": [
   {
   "ClusterVersion": "1.0",
   "Description": "Initial release",
   "ClusterParameterGroupFamily": "redshift-1.0"
   },
   "ResponseMetadata": {
   "RequestId": "16a53de3-64cc-11e2-bec0-17624ad140dd"
   }
   }
}
```

• For API details, see DescribeClusterVersions in AWS CLI Command Reference.

describe-default-cluster-parameters

The following code example shows how to use describe-default-cluster-parameters.

AWS CLI

Get a Description of Default Cluster Parameters

This example returns a description of the default cluster parameters for the redshift-1.0 family. By default, the output is in JSON format.

Command:

```
aws redshift describe-default-cluster-parameters --parameter-group-family redshift-1.0
```

Result:
To see a list of valid parameter group families, use the describe-cluster-parameter-groups command.

describe-cluster-parameter-groups command.

- For API details, see DescribeDefaultClusterParameters in AWS CLI Command Reference.

describe-event-categories

The following code example shows how to use describe-event-categories.

AWS CLI

To describe event categories for a cluster
The following `describe-event-categories` example displays details for the event categories for a cluster.

```bash
aws redshift describe-event-categories \
    --source-type cluster
```

Output:

```json
{
   "EventCategoriesMapList": [
      {
         "SourceType": "cluster",
         "Events": [
            {
               "EventId": "REDSHIFT-EVENT-2000",
               "EventCategories": ["management"],
               "EventDescription": "Cluster <cluster name> created at <time in UTC>.",
               "Severity": "INFO"
            },
            {
               "EventId": "REDSHIFT-EVENT-2001",
               "EventCategories": ["management"],
               "EventDescription": "Cluster <cluster name> deleted at <time in UTC>.",
               "Severity": "INFO"
            },
            {
               "EventId": "REDSHIFT-EVENT-3625",
               "EventCategories": ["monitoring"],
               "EventDescription": "The cluster <cluster name> can't be resumed with its previous elastic network interface <ENI id>. We will allocate a new elastic network interface and associate it with the cluster node.",
               "Severity": "INFO"
            }
         ]
      }
   }
}
```
describe-event-subscriptions

The following code example shows how to use describe-event-subscriptions.

AWS CLI

To describe event subscriptions

The following describe-event-subscriptions example displays event notification subscriptions for the specified subscription.

```bash
aws redshift describe-event-subscriptions \
   --subscription-name mysubscription
```

Output:

```
{
   "EventSubscriptionsList": [
   {
      "CustomerAwsId": "123456789012",
      "CustSubscriptionId": "mysubscription",
      "Status": "active",
      "SourceIdsList": [],
      "EventCategoriesList": [
         "management"
      ],
      "Severity": "ERROR",
      "Enabled": true,
      "Tags": []
   }
   ]
}
```

For more information, see Subscribing to Amazon Redshift Event Notifications in the Amazon Redshift Cluster Management Guide.
For API details, see DescribeEventSubscriptions in AWS CLI Command Reference.

describe-events

The following code example shows how to use describe-events.

AWS CLI

Describe All Events

This example returns all events. By default, the output is in JSON format.

Command:

```
aws redshift describe-events
```

Result:

```
{
   "Events": [
   {
      "Date": "2013-01-22T19:17:03.640Z",
      "SourceIdentifier": "myclusterparametergroup",
      "Message": "Cluster parameter group myclusterparametergroup has been created.",
      "SourceType": "cluster-parameter-group"
   }
   },
   "ResponseMetadata": {
      "RequestId": "9f056111-64c9-11e2-9390-ff04f2c1e638"
   }
}
```

You can also obtain the same information in text format using the --output text option.

Command:

```
--output text
```

```
aws redshift describe-events --output text
```

Result:

```
2013-01-22T19:17:03.640Z  myclusterparametergroup  Cluster parameter group myclusterparametergroup has been created.  cluster-parameter-group
```
describe-hsm-client-certificates

The following code example shows how to use describe-hsm-client-certificates.

AWS CLI

To describe HSM client certificates

The following describe-hsm-client-certificates example displays details for the specified HSM client certificate.

```bash
aws redshift describe-hsm-client-certificates
  --hsm-client-certificate-identifier myhsmclientcert
```

Output:

```json
{
  "HsmClientCertificates": [
    {
      "HsmClientCertificateIdentifier": "myhsmclientcert",
      "HsmClientCertificatePublicKey": "-----BEGIN CERTIFICATE-----
EXAMPLECAfICCQD6m7oRw0uXOjANBgkgqhkiG9w0BAQUFADBcBiDELMAkGA1UEBhMC
VVMxSJApNBEXAMPIERAwTDFvQQHEwTZW0dGx1MjQwDQYDVQQKEwZBBgSuWF6
b24xFDASBgNVBAoTC0lBTSBDb25z\n
BayHvkiG9w0BCQEWEG5vb251QGFtYXpvbi5jb20whXREXAMPLEjMjA0TRA1MjA0
EXAMPLEDjMjA0TRA1MjA0

-----END CERTIFICATE-----
",
      "Tags": []
    }
  ]
}
```
The following code example shows how to use `describe-hsm-configurations`.

**AWS CLI**

To describe HSM configurations

The following `describe-hsm-configurations` example displays details for the available HSM configurations for the calling AWS account.

```bash
aws redshift describe-hsm-configurations /
  --hsm-configuration-identifier myhsmconnection
```

**Output:**

```json
{
  "HsmConfigurations": [
    {
      "HsmConfigurationIdentifier": "myhsmconnection",
      "Description": "My HSM connection",
      "HsmIpAddress": "192.0.2.09",
      "HsmPartitionName": "myhsmpartition",
      "Tags": []
    }
  ]
}
```

**describe-logging-status**

The following code example shows how to use `describe-logging-status`.

**For API details, see** [DescribeHsmConfigurations](https://docs.aws.amazon.com/cli/latest/reference/redshift/describe-hsm-configurations.html) in [AWS CLI Command Reference](https://docs.aws.amazon.com/cli/latest/reference/redshift/index.html).
AWS CLI

**To describe logging status for a cluster**

The following `describe-logging-status` example displays whether information, such as queries and connection attempts, is being logged for a cluster.

```bash
aws redshift describe-logging-status \
    --cluster-identifier mycluster
```

Output:

```json
{
    "LoggingEnabled": false
}
```

For more information, see [Database Audit Logging](https://docs.aws.amazon.com/redshift/latest/guide/database-audit-logging.html) in the *Amazon Redshift Cluster Management Guide*.

- For API details, see [DescribeLoggingStatus](https://docs.aws.amazon.com/cli/latest/reference/redshift/describe-logging-status.html) in *AWS CLI Command Reference*.

**describe-node-configuration-options**

The following code example shows how to use `describe-node-configuration-options`.

AWS CLI

**To describe node configuration options**

The following `describe-node-configuration-options` example displays the properties of possible node configurations such as node type, number of nodes, and disk usage for the specified cluster snapshot.

```bash
aws redshift describe-node-configuration-options \
    --action-type restore-cluster \
    --snapshot-identifier rs:mycluster-2019-12-09-16-42-43
```

Output:

```json
{
    "NodeConfigurationOptionList": [
```

Actions and scenarios
For more information, see Purchasing Amazon Redshift Reserved Nodes in the Amazon Redshift Cluster Management Guide.

- For API details, see DescribeNodeConfigurationOptions in AWS CLI Command Reference.

describe-orderable-cluster-options

The following code example shows how to use describe-orderable-cluster-options.

AWS CLI

Describing All Orderable Cluster Options

This example returns descriptions of all orderable cluster options. By default, the output is in JSON format.

Command:

```
aws redshift describe-orderable-cluster-options
```

Result:

```
{
  "NodeType": "dc2.large",
  "NumberOfNodes": 2,
  "EstimatedDiskUtilizationPercent": 19.61
},
{
  "NodeType": "dc2.large",
  "NumberOfNodes": 4,
  "EstimatedDiskUtilizationPercent": 9.96
},
{
  "NodeType": "ds2.xlarge",
  "NumberOfNodes": 2,
  "EstimatedDiskUtilizationPercent": 1.53
},
{
  "NodeType": "ds2.xlarge",
  "NumberOfNodes": 4,
  "EstimatedDiskUtilizationPercent": 0.78
}
}
```
"OrderableClusterOptions": [ 
  { 
    "NodeType": "dw.hs1.8xlarge",
    "AvailabilityZones": [ 
      { "Name": "us-east-1a" },
      { "Name": "us-east-1b" },
      { "Name": "us-east-1c" } ],
    "ClusterVersion": "1.0",
    "ClusterType": "multi-node"
  },
  { 
    "NodeType": "dw.hs1.xlarge",
    "AvailabilityZones": [ 
      { "Name": "us-east-1a" },
      { "Name": "us-east-1b" },
      { "Name": "us-east-1c" } ],
    "ClusterVersion": "1.0",
    "ClusterType": "multi-node"
  },
  { 
    "NodeType": "dw.hs1.xlarge",
    "AvailabilityZones": [ 
      { "Name": "us-east-1a" },
      { "Name": "us-east-1b" },
      { "Name": "us-east-1c" } ],
    "ClusterVersion": "1.0",
    "ClusterType": "single-node"
  } ],
"ResponseMetadata": {
  "RequestId": "f6000035-64cb-11e2-9135-ff82df53a51a"
}

You can also obtain the same information in text format using the `--output text` option:

```
aws redshift describe-orderable-cluster-options --output text
```

Result:
For API details, see [DescribeOrderableClusterOptions](https://aws.amazon.com/documentation/cli/command-reference/) in *AWS CLI Command Reference*.

### describe-reserved-node-offerings

The following code example shows how to use describe-reserved-node-offerings.

#### AWS CLI

Describe Reserved Node Offerings

This example shows all of the reserved node offerings that are available for purchase.

Command:

```bash
aws redshift describe-reserved-node-offerings
```

Result:

```json
{
    "ReservedNodeOfferings": [
        {
            "OfferingType": "Heavy Utilization",
            "FixedPrice": "",
            "NodeType": "dw.hs1.xlarge",
            "UsagePrice": "",
            "RecurringCharges": [
                {
                    "RecurringChargeAmount": "",
                    "RecurringChargeFrequency": "Hourly"
                }
            ],
            "Duration": 31536000,
```
If you want to purchase a reserved node offering, you can call `purchase-reserved-node-offering` using a valid `ReservedNodeOfferingId`.

```
purchase-reserved-node-offering using a valid ReservedNodeOfferingId.
```

ReservedNodeOfferingId.

- For API details, see [DescribeReservedNodeOfferings](#) in [AWS CLI Command Reference](https://awscli.amazonaws.com/clivalidation/).
aws redshift describe-reserved-nodes

Result:

```
{
  "ResponseMetadata": {
    "RequestId": "bc29ce2e-7600-11e2-9949-4b361e7420b7"
  },
  "ReservedNodes": [
    {
      "OfferingType": "Heavy Utilization",
      "FixedPrice": "",
      "NodeType": "dw.hs1.xlarge",
      "ReservedNodeId": "1ba8e2e3-bc01-4d65-b35d-a4a3e931547e",
      "UsagePrice": "",
      "RecurringCharges": [
        {
          "RecurringChargeAmount": "",
          "RecurringChargeFrequency": "Hourly"
        }
      ],
      "NodeCount": 1,
      "State": "payment-pending",
      "StartTime": "2013-02-13T17:08:39.051Z",
      "Duration": 31536000,
      "ReservedNodeOfferingId": "ceb6a579-cf4c-4343-be8b-d832c45ab51c"
    }
  ]
}
```

- For API details, see [DescribeReservedNodes](https://awscli.amazonaws.com/v2/documentation/api/latest/reference/redshift/describe-reserved-nodes.html) in *AWS CLI Command Reference*.

**describe-resize**

The following code example shows how to use describe-resize.

**AWS CLI**

Describe Resize

This example describes the latest resize of a cluster. The request was for 3 nodes of type `dw hs1.8xlarge`. Command:

```
aws redshift describe-resize --cluster-identifier mycluster
```
Result:

```json
{
    "Status": "NONE",
    "TargetClusterType": "multi-node",
    "TargetNodeType": "dw.hs1.8xlarge",
    "ResponseMetadata": {
        "RequestId": "9f52b0b4-7733-11e2-aa9b-318b2909bd27"
    },
    "TargetNumberOfNodes": 3
}
```

- For API details, see [DescribeResize](https://docs.aws.amazon.com/cli/latest/reference/redshift/describe-scheduled-actions) in *AWS CLI Command Reference*.

**describe-scheduled-actions**

The following code example shows how to use `describe-scheduled-actions`.

**AWS CLI**

To describe scheduled actions

The following `describe-scheduled-actions` example displays details for any currently scheduled actions.

```bash
aws redshift describe-scheduled-actions
```

Output:

```json
{
    "ScheduledActions": [
        {
            "ScheduledActionName": "resizecluster",
            "TargetAction": {
                "ResizeCluster": {
                    "ClusterIdentifier": "mycluster",
                    "NumberOfNodes": 4,
                    "Classic": false
                }
            },
            "Schedule": "at(2019-12-10T00:07:00)",
```

Actions and scenarios
For API details, see [DescribeScheduledActions](https://docs.aws.amazon.com/cli/latest/reference/redshift/describe-scheduled-actions.html) in *AWS CLI Command Reference*.

**describe-snapshot-copy-grants**

The following code example shows how to use `describe-snapshot-copy-grants`.

**AWS CLI**

**To describe snapshot copy grants**

The following `describe-snapshot-copy-grants` example displays details for the specified cluster snapshot copy grant.

```bash
aws redshift describe-snapshot-copy-grants \\   --snapshot-copy-grant-name mysnapshotcopygrantname
```

**Output:**

```json
{
   "SnapshotCopyGrants": [
   {
      "SnapshotCopyGrantName": "mysnapshotcopygrantname",
      "KmsKeyId": "arn:aws:kms:us-west-2:123456789012:key/bPxRfih3yCo8nvbEXAMPLEKEY",
      "Tags": []
   }
   ]
}
```

For more information, see [Amazon Redshift Database Encryption](https://docs.aws.amazon.com/redshift/latest/guides/security-control-server-side-encryption.html) in the *Amazon Redshift Cluster Management Guide*. 
describe-snapshot-schedules

The following code example shows how to use describe-snapshot-schedules.

AWS CLI

To describe snapshot schedules

The following describe-snapshot-schedules example displays details for the specified cluster snapshot schedule.

```
aws redshift describe-snapshot-schedules \
  --cluster-identifier mycluster \
  --schedule-identifier mysnapshotschedule
```

Output:

```
{
  "SnapshotSchedules": [
    {
      "ScheduleDefinitions": [
        "rate(12 hours)"
      ],
      "ScheduleIdentifier": "mysnapshotschedule",
      "ScheduleDescription": "My schedule description",
      "Tags": [],
      "AssociatedClusterCount": 1,
      "AssociatedClusters": [
        {
          "ClusterIdentifier": "mycluster",
          "ScheduleAssociationState": "ACTIVE"
        }
      ]
    }
  ]
}
```

For more information, see Automated Snapshot Schedules in the Amazon Redshift Cluster Management Guide.

• For API details, see DescribeSnapshotSchedules in AWS CLI Command Reference.
describe-storage

The following code example shows how to use describe-storage.

AWS CLI

To describe storage

The following describe-storage example displays details about the backup storage and provisional storage sizes for the account.

```bash
aws redshift describe-storage
```

Output:

```
{
   "TotalBackupSizeInMegaBytes": 193149.0,
   "TotalProvisionedStorageInMegaBytes": 655360.0
}
```

For more information, see Managing Snapshot Storage in the Amazon Redshift Cluster Management Guide.

- For API details, see DescribeStorage in AWS CLI Command Reference.

describe-table-restore-status

The following code example shows how to use describe-table-restore-status.

AWS CLI

To describe status of table restore requests from a cluster snapshot

The following describe-table-restore-status example displays details for table restore requests made for the specified cluster.

```bash
aws redshift describe-table-restore-status /
   --cluster-identifier mycluster
```

Output:

```
{
```
"TableRestoreStatusDetails": [
  {
    "TableRestoreRequestId": "z1116630-0e80-46f4-ba86-bd9670411ebd",
    "Status": "IN_PROGRESS",
    "ClusterIdentifier": "mycluster",
    "SnapshotIdentifier": "mysnapshotid",
    "SourceDatabaseName": "dev",
    "SourceSchemaName": "public",
    "SourceTableName": "mytable",
    "TargetDatabaseName": "dev",
    "TargetSchemaName": "public",
    "NewTableName": "mytable-clone"
  }
]

For more information, see Restoring a Table from a Snapshot in the Amazon Redshift Cluster Management Guide.

- For API details, see DescribeTableRestoreStatus in AWS CLI Command Reference.

describe-tags

The following code example shows how to use describe-tags.

AWS CLI

To describe tags

The following describe-tags example displays the resources the specified cluster associated with the specified tag names and values.

```
aws redshift describe-tags \
  --tag-keys clustertagkey \
  --tag-values clustertagvalue
```

Output:

```
{
  "TaggedResources": [
    {
      "TaggedResources": [
```
"Tag": {
    "Key": "clustertagkey",
    "Value": "clustertagvalue"
},
"ResourceType": "cluster"
}
}
]

For more information, see Tagging Resources in Amazon Redshift in the Amazon Redshift Cluster Management Guide.

- For API details, see DescribeTags in AWS CLI Command Reference.

disable-snapshot-copy

The following code example shows how to use disable-snapshot-copy.

AWS CLI

To disable snapshot copy for a cluster

The following disable-snapshot-copy example disables the automatic copy of a snapshot for the specified cluster.

```bash
aws redshift disable-snapshot-copy \
    --cluster-identifier mycluster
```

Output:

```json
{
    "Cluster": {
        "ClusterIdentifier": "mycluster",
        "NodeType": "dc2.large",
        "ClusterStatus": "available",
        "ClusterAvailabilityStatus": "Available",
        "MasterUsername": "adminuser",
        "DBName": "dev",
        "Endpoint": {
            "Address": "mycluster.cmeaswqueua.us-west-2.redshift.amazonaws.com",
            "Port": 5439
        }
    }
}
```
For more information, see [Copying Snapshots to Another AWS Region](https://docs.aws.amazon.com/redshift/latest/gsg/copy-snapshots.html) in the Amazon Redshift Cluster Management Guide.

- For API details, see [DisableSnapshotCopy](https://docs.aws.amazon.com/cli/latest/reference/redshift/disable-snapshot-copy.html) in AWS CLI Command Reference.

### enable-snapshot-copy

The following code example shows how to use enable-snapshot-copy.

**AWS CLI**

**To enable snapshot copy for a cluster**

The following enable-snapshot-copy example enables the automatic copy of a snapshot for the specified cluster.

```bash
aws redshift enable-snapshot-copy \
   --cluster-identifier mycluster \
   --destination-region us-west-1
```

**Output:**

```json
{
   "Cluster": {
      "ClusterIdentifier": "mycluster",
      "NodeType": "dc2.large",
      "ClusterStatus": "available",
      "ClusterAvailabilityStatus": "Available",
      "MasterUsername": "adminuser",
      "DBName": "dev",
      "Endpoint": {
         "Address": "mycluster.cmeaswqeuae.us-west-2.redshift.amazonaws.com",
         "Port": 5439
      },
      "ClusterCreateTime": "2019-12-05T18:44:36.991Z",
```
"AutomatedSnapshotRetentionPeriod": 3,
"ManualSnapshotRetentionPeriod": -1,
"ClusterSecurityGroups": [],
"VpcSecurityGroups": [
  {
    "VpcSecurityGroupId": "sh-f4c731cd",
    "Status": "active"
  }
],
"ClusterParameterGroups": [
  {
    "ParameterGroupName": "default.redshift-1.0",
    "ParameterApplyStatus": "in-sync"
  }
],
"ClusterSubnetGroupName": "default",
"VpcId": "vpc-b1ael7t9",
"AvailabilityZone": "us-west-2f",
"PreferredMaintenanceWindow": "sat:16:00-sat:16:30",
"PendingModifiedValues": {
  "NodeType": "dc2.large",
  "NumberOfNodes": 2,
  "ClusterType": "multi-node"
},
"ClusterVersion": "1.0",
"AllowVersionUpgrade": true,
"NumberOfNodes": 4,
"PubliclyAccessible": false,
"Encrypted": false,
"ClusterSnapshotCopyStatus": {
  "DestinationRegion": "us-west-1",
  "RetentionPeriod": 7,
  "ManualSnapshotRetentionPeriod": -1
},
"Tags": [
  {
    "Key": "mytags",
    "Value": "tag1"
  }
],
"EnhancedVpcRouting": false,
"IamRoles": [
  {
    "IamRoleArn": "arn:aws:iam::123456789012:role/myRedshiftRole",
    "Actions and scenarios": 5089
  }
]
For more information, see [Copying Snapshots to Another AWS Region](#) in the *Amazon Redshift Cluster Management Guide*.

- For API details, see [EnableSnapshotCopy](#) in *AWS CLI Command Reference*.

### get-cluster-credentials

The following code example shows how to use `get-cluster-credentials`.

**AWS CLI**

**To get cluster credentials for an AWS account**

The following `get-cluster-credentials` example retrieves temporary credentials that enable access to an Amazon Redshift database.

```bash
aws redshift get-cluster-credentials
   --db-user adminuser --db-name dev
   --cluster-identifier mycluster
```

**Output:**

```json
{
   "DbUser": "IAM:adminuser",
   "DbPassword": "AMAFUyyuros/QjxPTtgzcsuQsqzIasdzJEN04aCtWpzXx109d6UmokBtvEqFly/EXAMPLE==",
   "Expiration": "2019-12-10T17:25:05.770Z"
}
```

For more information, see [Generating IAM Database Credentials Using the Amazon Redshift CLI or API](#) in the *Amazon Redshift Cluster Management Guide*. 

---

**Actions and scenarios**
get-reserved-node-exchange-offerings

The following code example shows how to use get-reserved-node-exchange-offerings.

AWS CLI

To get reserved node exchange offerings

The following get-reserved-node-exchange-offerings example retrieves an array of DC2 ReservedNodeOfferings that match the specified DC1 reserved node.

```
aws redshift get-reserved-node-exchange-offerings \
  --reserved-node-id 12345678-12ab-12a1-1a2a-12ab-12a12EXAMPLE
```

Output:

```
{
  "ReservedNodeOfferings": [
    {
      "ReservedNodeOfferingId": "12345678-12ab-12a1-1a2a-12ab-12a12EXAMPLE",
      "NodeType": "dc2.large",
      "Duration": 31536000,
      "FixedPrice": 0.0,
      "UsagePrice": 0.0,
      "CurrencyCode": "USD",
      "OfferingType": "All Upfront",
      "RecurringCharges": [
        {
          "RecurringChargeAmount": 0.0,
          "RecurringChargeFrequency": "Hourly"
        }
      ],
      "ReservedNodeOfferingType": "Regular"
    }
  ]
}
```

For more information, see Upgrading Reserved Nodes With the AWS CLI in the Amazon Redshift Cluster Management Guide.
modify-cluster-iam-roles

The following code example shows how to use modify-cluster-iam-roles.

AWS CLI

To modify the IAM role for a cluster

The following modify-cluster-iam-roles example removes the specified AWS IAM role from the specified cluster.

```
aws redshift modify-cluster-iam-roles \
    --cluster-identifier mycluster \
    --remove-iam-roles arn:aws:iam::123456789012:role/myRedshiftRole
```

Output:

```
{
    "Cluster": {
        "ClusterIdentifier": "mycluster",
        "NodeType": "dc2.large",
        "ClusterStatus": "available",
        "ClusterAvailabilityStatus": "Available",
        "MasterUsername": "adminuser",
        "DBName": "dev",
        "Endpoint": {
            "Address": "mycluster.cmeaswqeqaue.us-west-2.redshift.amazonaws.com",
            "Port": 5439
        },
        "ClusterCreateTime": "2019-12-05T18:44:36.991Z",
        "AutomatedSnapshotRetentionPeriod": 3,
        "ManualSnapshotRetentionPeriod": -1,
        "ClusterSecurityGroups": [],
        "VpcSecurityGroups": [
            {
                "VpcSecurityGroupId": "sh-f9b731sd",
                "Status": "active"
            }
        ],
        "ClusterParameterGroups": [
        ]
    }
}
```
For more information, see Using Identity-Based Policies (IAM Policies) for Amazon Redshift in the Amazon Redshift Cluster Management Guide.

- For API details, see ModifyClusterIamRoles in AWS CLI Command Reference.
modify-cluster-maintenance

The following code example shows how to use modify-cluster-maintenance.

**AWS CLI**

To modify cluster maintenance

The following modify-cluster-maintenance example defers the maintenance of the specified cluster by 30 days.

```
aws redshift modify-cluster-maintenance \
  --cluster-identifier mycluster \
  --defer-maintenance \
  --defer-maintenance-duration 30
```

Output:

```json
{
  "Cluster": {
      "ClusterIdentifier": "mycluster",
      "NodeType": "dc2.large",
      "ClusterStatus": "available",
      "ClusterAvailabilityStatus": "Available",
      "MasterUsername": "adminuser",
      "DBName": "dev",
      "Endpoint": {
        "Address": "mycluster.cmeaswqeuae.us-west-2.redshift.amazonaws.com",
        "Port": 5439
      },
      "ClusterCreateTime": "2019-12-05T18:44:36.991Z",
      "AutomatedSnapshotRetentionPeriod": 3,
      "ManualSnapshotRetentionPeriod": -1,
      "ClusterSecurityGroups": [],
      "VpcSecurityGroups": [
        {
          "VpcSecurityGroupId": "sh-a1a123ab",
          "Status": "active"
        }
      ],
      "ClusterParameterGroups": [
        {
          "ParameterGroupName": "default.redshift-1.0",
```
"ParameterApplyStatus": "in-sync"
}
],
"ClusterSubnetGroupName": "default",
"VpcId": "vpc-b1ael7t9",
"AvailabilityZone": "us-west-2f",
"PreferredMaintenanceWindow": "sat:16:00-sat:16:30",
"PendingModifiedValues": {
  "NodeType": "dc2.large",
  "NumberOfNodes": 2,
  "ClusterType": "multi-node"
},
"ClusterVersion": "1.0",
"AllowVersionUpgrade": true,
"NumberOfNodes": 4,
"PubliclyAccessible": false,
"Encrypted": false,
"ClusterSnapshotCopyStatus": {
  "DestinationRegion": "us-west-1",
  "RetentionPeriod": 7,
  "ManualSnapshotRetentionPeriod": -1
},
"Tags": [
  {
    "Key": "mytags",
    "Value": "tag1"
  }
],
"EnhancedVpcRouting": false,
"IamRoles": [],
"MaintenanceTrackName": "current",
"DeferredMaintenanceWindows": [
  {
    "DeferMaintenanceIdentifier": "dfm-mUdVIfFct1B4SGhw6fyF",
    "DeferMaintenanceStartTime": "2019-12-10T18:18:39.354Z",
    "DeferMaintenanceEndTime": "2020-01-09T18:18:39.354Z"
  }
],
"ExpectedNextSnapshotScheduleTimeStatus": "OnTrack",
"NextMaintenanceWindowStartTime": "2020-01-11T16:00:00Z"
modify-cluster-parameter-group

The following code example shows how to use modify-cluster-parameter-group.

AWS CLI

Modify a parameter in a parameter group

The following modify-cluster-parameter-group example modifies the
wlm_json_configuration parameter for workload management. It accepts the parameters from a
file that contains the JSON contents shown below.

```bash
aws redshift modify-cluster-parameter-group
   --parameter-group-name myclusterparametergroup \
   --parameters file://modify_pg.json
```

Contents of modify_pg.json:

```json
[
  {
    "ParameterName": "wlm_json_configuration",
    "ParameterValue": "[{"user_group":"example_user_group1","query_group":"example_query_group1", "query_concurrency":7},{"query_concurrency":5}]"
  }
]
```

Output:

```json
{
  "ParameterGroupStatus": "Your parameter group has been updated but changes won't get applied until you reboot the associated Clusters.",
  "ParameterGroupName": "myclusterparametergroup",
  "ResponseMetadata": {
    "RequestId": "09974cc0-64cd-11e2-bea9-49e0ce183f07"
  }
}
```
modify-cluster-snapshot

The following code example shows how to use modify-cluster-snapshot.

AWS CLI

To modify cluster snapshot

The following modify-cluster-snapshot example sets the manual retention period setting for the specified cluster snapshot to value of 10 days.

```bash
aws redshift modify-cluster-snapshot \
   --snapshot-identifier mycluster-2019-11-06-16-32 \
   --manual-snapshot-retention-period 10
```

Output:

```json
{
   "Snapshot": {
      "SnapshotIdentifier": "mycluster-2019-11-06-16-32",
      "ClusterIdentifier": "mycluster",
      "SnapshotCreateTime": "2019-12-07T00:34:05.633Z",
      "Status": "available",
      "Port": 5439,
      "AvailabilityZone": "us-west-2f",
      "ClusterCreateTime": "2019-12-05T18:44:36.991Z",
      "MasterUsername": "adminuser",
      "ClusterVersion": "1.0",
      "SnapshotType": "manual",
      "NodeType": "dc2.large",
      "NumberOfNodes": 2,
      "DBName": "dev",
      "VpcId": "vpc-b1cel7t9",
      "Encrypted": false,
      "EncryptedWithHSM": false,
      "OwnerAccount": "123456789012",
      "TotalBackupSizeInMegaBytes": 64384.0,
      "ActualIncrementalBackupSizeInMegaBytes": 24.0,
      "BackupProgressInMegaBytes": 24.0,
      "CurrentBackupRateInMegaBytesPerSecond": 13.0011,
   }
}
```
For more information, see Amazon Redshift Snapshots in the Amazon Redshift Cluster Management Guide.

- For API details, see ModifyClusterSnapshot in AWS CLI Command Reference.

modify-cluster-snapshot-schedule

The following code example shows how to use modify-cluster-snapshot-schedule.

AWS CLI

To modify cluster snapshot schedule

The following modify-cluster-snapshot-schedule example removes the specified snapshot schedule from the specified cluster.

```
aws redshift modify-cluster-snapshot-schedule \
  --cluster-identifier mycluster \
  --schedule-identifier mysnapshotschedule \
  --disassociate-schedule
```

This command does not produce any output.

For more information, see Automated Snapshot Schedules in the Amazon Redshift Cluster Management Guide.
modify-cluster-subnet-group

The following code example shows how to use modify-cluster-subnet-group.

AWS CLI

Modify the Subnets in a Cluster Subnet Group

This example shows how to modify the list of subnets in a cache subnet group. By default, the output is in JSON format.

Command:

```
aws redshift modify-cluster-subnet-group --cluster-subnet-group-name mysubnetgroup --subnet-ids subnet-763fdd1 subnet-ac830e9
```

Result:

```
{
  "ClusterSubnetGroup": {
    "Subnets": [
      {
        "SubnetStatus": "Active",
        "SubnetIdentifier": "subnet-763fdd1c",
        "SubnetAvailabilityZone": {
          "Name": "us-east-1a"
        }
      },
      {
        "SubnetStatus": "Active",
        "SubnetIdentifier": "subnet-ac830e9",
        "SubnetAvailabilityZone": {
          "Name": "us-east-1b"
        }
      }
    ],
    "VpcId": "vpc-7e3fdd14",
    "SubnetGroupStatus": "Complete",
    "Description": "My subnet group",
    "ClusterSubnetGroupName": "mysubnetgroup"
  },
  "ResponseMetadata": {
    "RequestId": "8da93e89-8372-f936-93a8-873918938197a"
  }
}
```
modify-event-subscription

The following code example shows how to use modify-event-subscription.

AWS CLI

To modify event subscription

The following modify-event-subscription example disables the specified event notification subscription.

```bash
aws redshift modify-event-subscription \
   --subscription-name mysubscription \
   --no-enabled
```

Output:

```json
{
   "EventSubscription": {
      "CustomerAwsId": "123456789012",
      "CustSubscriptionId": "mysubscription",
      "Status": "active",
      "SourceIdsList": [],
      "EventCategoriesList": [
         "management"
      ],
      "Severity": "ERROR",
      "Enabled": false,
      "Tags": []
   }
}
```

For more information, see [Subscribing to Amazon Redshift Event Notifications](https://docs.aws.amazon.com/redshift/latest/guides/event-notification.html) in the Amazon Redshift Cluster Management Guide.

modify-scheduled-action

The following code example shows how to use modify-scheduled-action.

AWS CLI

To modify scheduled action

The following modify-scheduled-action example adds a description to the specified existing scheduled action.

```bash
aws redshift modify-scheduled-action \
    --scheduled-action-name myscheduledaction \
    --scheduled-action-description "My scheduled action"
```

Output:

```json
{
    "ScheduledActionName": "myscheduledaction",
    "TargetAction": {
        "ResizeCluster": {
            "ClusterIdentifier": "mycluster",
            "NumberOfNodes": 2,
            "Classic": false
        }
    },
    "Schedule": "at(2019-12-25T00:00:00)",
    "IamRole": "arn:aws:iam::123456789012:role/myRedshiftRole",
    "ScheduledActionDescription": "My scheduled action",
    "State": "ACTIVE",
    "NextInvocations": [
        "2019-12-25T00:00:00Z"
    ]
}
```

• For API details, see ModifyScheduledAction in AWS CLI Command Reference.

modify-snapshot-copy-retention-period

The following code example shows how to use modify-snapshot-copy-retention-period.
AWS CLI

To modify snapshot copy retention period

The following `modify-snapshot-copy-retention-period` example modifies the number of days to retain snapshots for the specified cluster in the destination AWS Region after they are copied from the source AWS Region.

```bash
aws redshift modify-snapshot-copy-retention-period \\
    --cluster-identifier mycluster \\
    --retention-period 15
```

Output:

```json
{
    "Cluster": {
        "ClusterIdentifier": "mycluster",
        "NodeType": "dc2.large",
        "ClusterStatus": "available",
        "ClusterAvailabilityStatus": "Available",
        "MasterUsername": "adminuser",
        "DBName": "dev",
        "Endpoint": {
            "Address": "mycluster.cmeaswqeuae.us-west-2.redshift.amazonaws.com",
            "Port": 5439
        },
        "ClusterCreateTime": "2019-12-05T18:44:36.991Z",
        "AutomatedSnapshotRetentionPeriod": 3,
        "ManualSnapshotRetentionPeriod": -1,
        "ClusterSecurityGroups": [],
        "VpcSecurityGroups": [
            {
                "VpcSecurityGroupId": "sh-a1a123ab",
                "Status": "active"
            }
        ],
        "ClusterParameterGroups": [
            {
                "ParameterGroupName": "default.redshift-1.0",
                "ParameterApplyStatus": "in-sync"
            }
        ],
        "ClusterSubnetGroupName": "default",
        "ClusterParameterGroups": [
            {
                "ParameterGroupName": "default.redshift-1.0",
                "ParameterApplyStatus": "in-sync"
            }
        ],
        "ClusterSubnetGroupName": "default",
```
For more information, see [Snapshot Schedule Format](https://docs.aws.amazon.com/redshift/latest/guides/maintenance-window-schedule.html) in the *Amazon Redshift Cluster Management Guide*.

- For API details, see [ModifySnapshotCopyRetentionPeriod](https://docs.aws.amazon.com/cli/latest/reference/redshift/modify-snapshot-copy-retention-period.html) in *AWS CLI Command Reference*. 
modify-snapshot-schedule

The following code example shows how to use modify-snapshot-schedule.

AWS CLI

To modify snapshot schedule

The following modify-snapshot-schedule example modifies the rate of the specified snapshot schedule to every 10 hours.

```
aws redshift modify-snapshot-schedule \
    --schedule-identifier mysnapshotschedule \
    --schedule-definitions "rate(10 hours)"
```

Output:

```
{
    "ScheduleDefinitions": [
        "rate(10 hours)"
    ],
    "ScheduleIdentifier": "mysnapshotschedule",
    "ScheduleDescription": "My schedule description",
    "Tags": []
}
```

For more information, see [Snapshot Schedule Format](https://docs.aws.amazon.com/redshift/latest/guides/snapshot-schedule-format.html) in the *Amazon Redshift Cluster Management Guide*.


purchase-reserved-node-offering

The following code example shows how to use purchase-reserved-node-offering.

AWS CLI

Purchase a Reserved Node

This example shows how to purchase a reserved node offering. The `reserved-node-offering-id` is obtained by calling `describe-reserved-node-offerings`. Command:
aws redshift purchase-reserved-node-offering --reserved-node-offering-id ceb6a579-cf4c-4343-be8b-d832c45ab51c

Result:

```
{
    "ReservedNode": {
        "OfferingType": "Heavy Utilization",
        "FixedPrice": "",
        "NodeType": "dw.hs1.xlarge",
        "ReservedNodeId": "1ba8e2e3-bc01-4d65-b35d-a4a3e931547e",
        "UsagePrice": "",
        "RecurringCharges": [
            {
                "RecurringChargeAmount": "",
                "RecurringChargeFrequency": "Hourly"
            }
        ],
        "NodeCount": 1,
        "State": "payment-pending",
        "StartTime": "2013-02-13T17:08:39.051Z",
        "Duration": 31536000,
        "ReservedNodeOfferingId": "ceb6a579-cf4c-4343-be8b-d832c45ab51c"
    },
    "ResponseMetadata": {
        "RequestId": "01bda7bf-7600-11e2-b605-2568d7396e7f"
    }
}
```

- For API details, see PurchaseReservedNodeOffering in AWS CLI Command Reference.

**reboot-cluster**

The following code example shows how to use `reboot-cluster`.

**AWS CLI**

Reboot a Cluster This example reboots a cluster. By default, the output is in JSON format.

```
aws redshift reboot-cluster --cluster-identifier mycluster
```
Result:

```json
{
    "Cluster": {
        "NodeType": "dw.hs1.xlarge",
        "Endpoint": {
            "Port": 5439,
            "Address": "mycluster.coqoarplqhsn.us-east-1.redshift.amazonaws.com"
        },
        "ClusterVersion": "1.0",
        "PubliclyAccessible": "true",
        "MasterUsername": "adminuser",
        "ClusterParameterGroups": [
            {
                "ParameterApplyStatus": "in-sync",
                "ParameterGroupName": "default.redshift-1.0"
            }
        ],
        "ClusterSecurityGroups": [
            {
                "Status": "active",
                "ClusterSecurityGroupName": "default"
            }
        ],
        "AllowVersionUpgrade": true,
        "VpcSecurityGroups": [],
        "AvailabilityZone": "us-east-1a",
        "PreferredMaintenanceWindow": "sun:23:15-mon:03:15",
        "AutomatedSnapshotRetentionPeriod": 1,
        "ClusterStatus": "rebooting",
        "ClusterIdentifier": "mycluster",
        "DBName": "dev",
        "NumberOfNodes": 2,
        "PendingModifiedValues": {}
    },
    "ResponseMetadata": {
        "RequestId": "61c8b564-64e8-11e2-8f7d-3b939af52818"
    }
}
```

reset-cluster-parameter-group

The following code example shows how to use reset-cluster-parameter-group.

AWS CLI

Reset Parameters in a Parameter Group

This example shows how to reset all of the parameters in a parameter group. Command:

```bash
aws redshift reset-cluster-parameter-group --parameter-group-name myclusterparametergroup --reset-all-parameters
```

- For API details, see `ResetClusterParameterGroup` in AWS CLI Command Reference.

resize-cluster

The following code example shows how to use resize-cluster.

AWS CLI

To resize cluster

The following `resize-cluster` example resizes the specified cluster.

```bash
aws redshift resize-cluster \
   --cluster-identifier mycluster \
   --cluster-type multi-node \
   --node-type dc2.large \
   --number-of-nodes 6 \
   --classic
```

Output:

```json
{
    "Cluster": {
        "ClusterIdentifier": "mycluster",
        "NodeType": "dc2.large",
        "ClusterStatus": "resizing",
        "ClusterAvailabilityStatus": "Modifying",
        "MasterUsername": "adminuser",
        "DBName": "dev",
        "Endpoint": {
```
"Address": "mycluster.cmeaswqeuave.us-west-2.redshift.amazonaws.com",
"Port": 5439,
"ClusterCreateTime": "2019-12-05T18:44:36.991Z",
"AutomatedSnapshotRetentionPeriod": 3,
"ManualSnapshotRetentionPeriod": -1,
"ClusterSecurityGroups": [],
"VpcSecurityGroups": [
  {
    "VpcSecurityGroupId": "sh-a1a123ab",
    "Status": "active"
  }
],
"ClusterParameterGroups": [
  {
    "ParameterGroupName": "default.redshift-1.0",
    "ParameterApplyStatus": "in-sync"
  }
],
"ClusterSubnetGroupName": "default",
"VpcId": "vpc-a1abc1a1",
"AvailabilityZone": "us-west-2f",
"PreferredMaintenanceWindow": "sat:16:00-sat:16:30",
"PendingModifiedValues": {
  "NodeType": "dc2.large",
  "NumberOfNodes": 6,
  "ClusterType": "multi-node"
},
"ClusterVersion": "1.0",
"AllowVersionUpgrade": true,
"NumberOfNodes": 4,
"PubliclyAccessible": false,
"Encrypted": false,
"ClusterSnapshotCopyStatus": {
  "DestinationRegion": "us-west-1",
  "RetentionPeriod": 15,
  "ManualSnapshotRetentionPeriod": -1
},
"Tags": [
  {
    "Key": "mytags",
    "Value": "tag1"
  }
]
"EnhancedVpcRouting": false,
"IamRoles": [],
"MaintenanceTrackName": "current",
"DeferredMaintenanceWindows": [
  {
    "DeferMaintenanceIdentifier": "dfm-mUdVCfDcT1B4SGhw6fyF",
    "DeferMaintenanceStartTime": "2019-12-10T18:18:39.354Z",
    "DeferMaintenanceEndTime": "2020-01-09T18:18:39.354Z"
  }
],
"NextMaintenanceWindowStartTime": "2020-01-11T16:00:00Z",
"ResizeInfo": {
  "ResizeType": "ClassicResize",
  "AllowCancelResize": true
}
}


### restore-from-cluster-snapshot

The following code example shows how to use `restore-from-cluster-snapshot`.

**AWS CLI**

**Restore a Cluster From a Snapshot**

This example restores a cluster from a snapshot.

**Command:**

```
aws redshift restore-from-cluster-snapshot --cluster-identifier mycluster-clone --
  snapshot-identifier my-snapshot-id
```

**Result:**

```
{
  "Cluster": {
    "NodeType": "dw.hs1.xlarge",
    "ClusterVersion": "1.0",
    "PubliclyAccessible": "true",
    "MasterUsername": "adminuser",
    "ClusterParameterGroups": [ ]
  }
}
```
For API details, see RestoreFromClusterSnapshot in AWS CLI Command Reference.

**restore-table-from-cluster-snapshot**

The following code example shows how to use restore-table-from-cluster-snapshot.

**AWS CLI**

To restore table from a cluster snapshot

The following restore-table-from-cluster-snapshot example creates a new table from the specified table in the specified cluster snapshot.

```bash
aws redshift restore-table-from-cluster-snapshot /  
  --cluster-identifier mycluster /  
  --snapshot-identifier mycluster-2019-11-19-16-17 /  
  --source-database-name dev /  
  --source-schema-name public /
```
Output:

```json
{
"TableRestoreStatus": {
  "TableRestoreRequestId": "a123a12b-abc1-1a1a-a123-a1234ab12345",
  "Status": "PENDING",
  "RequestTime": "2019-12-20T00:20:16.402Z",
  "ClusterIdentifier": "mycluster",
  "SnapshotIdentifier": "mycluster-2019-11-19-16-17",
  "SourceDatabaseName": "dev",
  "SourceSchemaName": "public",
  "SourceTableName": "mytable",
  "TargetDatabaseName": "dev",
  "TargetSchemaName": "public",
  "NewTableName": "mytable-clone"
}
}
```

For more information, see [Restoring a Table from a Snapshot](https://docs.aws.amazon.com/redshift/latest/AWSRedshiftManagementGuide/index.html) in the *Amazon Redshift Cluster Management Guide*.

- For API details, see [RestoreTableFromClusterSnapshot](https://docs.aws.amazon.com/cli/latest/reference/redshift/restore-table-from-cluster-snapshot.html) in *AWS CLI Command Reference*.

### revoke-cluster-security-group-ingress

The following code example shows how to use `revoke-cluster-security-group-ingress`.

#### AWS CLI

**Revoke Access from an EC2 Security Group**

This example revokes access to a named Amazon EC2 security group.

Command:

```bash
aws redshift revoke-cluster-security-group-ingress --cluster-security-group-name mysecuritygroup --ec2-security-group-name myec2securitygroup --ec2-security-group-owner-id 1234567890
```

**Revoking Access to a CIDR range**

This example revokes access to a CIDR range.

Command:
aws redshift revoke-cluster-security-group-ingress --cluster-security-group-name mysecuritygroup --cidrip 192.168.100.100/32

- For API details, see RevokeClusterSecurityGroupIngress in AWS CLI Command Reference.

revoke-snapshot-access

The following code example shows how to use revoke-snapshot-access.

AWS CLI

Revoke the Authorization of an AWS Account to Restore a Snapshot
This example revokes the authorization of the AWS account 444455556666 to restore the snapshot my-snapshot-id. By default, the output is in JSON format.

Command:

```bash
aws redshift revoke-snapshot-access --snapshot-id my-snapshot-id --account-with-restore-access 444455556666
```

Result:

```json
{
  "Snapshot": {
    "Status": "available",
    "SnapshotCreateTime": "2013-07-17T22:04:18.947Z",
    "EstimatedSecondsToCompletion": 0,
    "AvailabilityZone": "us-east-1a",
    "ClusterVersion": "1.0",
    "MasterUsername": "adminuser",
    "Encrypted": false,
    "OwnerAccount": "111122223333",
    "BackupProgressInMegabytes": 11.0,
    "ElapsedTimeInSeconds": 0,
    "dbName": "dev",
    "CurrentBackupRateInMegabytesPerSecond": 0.1534,
    "ActualIncrementalBackupSizeInMegabytes": 11.0,
    "SnapshotType": "manual",
    "NodeType": "dw.hs1.xlarge",
    "ClusterIdentifier": "mycluster",
    "TotalBackupSizeInMegabytes": 20.0,
    "Port": 5439,
    "NumberOfNodes": 2,
  }
}
```
rotate-encryption-key

The following code example shows how to use rotate-encryption-key.

AWS CLI

To rotate encryption key for a cluster

The following rotate-encryption-key example rotates the encryption key for the specified cluster.

```
aws redshift rotate-encryption-key \
   --cluster-identifier mycluster
```

Output:

```json
{
    "Cluster": {
        "ClusterIdentifier": "mycluster",
        "NodeType": "dc2.large",
        "ClusterStatus": "rotating-keys",
        "ClusterAvailabilityStatus": "Modifying",
        "MasterUsername": "adminuser",
        "DBName": "dev",
        "Endpoint": {
            "Address": "mycluster.cmeaswqeuae.us-west-2.redshift.amazonaws.com",
            "Port": 5439
        },
        "ClusterCreateTime": "2019-12-10T19:25:45.886Z",
        "AutomatedSnapshotRetentionPeriod": 30,
        "ManualSnapshotRetentionPeriod": 0,
        "ClusterSecurityGroups": [],
        "VpcSecurityGroups": [
            {
                "VpcSecurityGroupId": "sh-a1a123ab",
                "Status": "active"
            }
        ]
    }
}
```
For more information, see Amazon Redshift Database Encryption in the Amazon Redshift Cluster Management Guide.

- For API details, see RotateEncryptionKey in AWS CLI Command Reference.

**Amazon Rekognition examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon Rekognition.
*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**
- [Actions](#)

**Actions**

**Compare faces in an image against a reference image**

The following code example shows how to compare faces in an image against a reference image with Amazon Rekognition.

For more information, see [Comparing faces in images](#).

**AWS CLI**

**To compare faces in two images**

The following `compare-faces` command compares faces in two images stored in an Amazon S3 bucket.

```
aws rekognition compare-faces \
    --source-image '{"S3Object":{"Bucket":"MyImageS3Bucket","Name":"source.jpg"}}' \
    --target-image '{"S3Object":{"Bucket":"MyImageS3Bucket","Name":"target.jpg"}}'
```

**Output:**

```
{
    "UnmatchedFaces": [],
    "FaceMatches": [
        {
            "Face": {
                "BoundingBox": {
                    "Width": 0.12368916720151901,
                }
            }
        }
    }
}```
"Top": 0.16007372736930847,
"Left": 0.5901257991790771,
"Height": 0.25140416622161865
},
"Confidence": 100.0,
"Pose": {
  "Yaw": -3.7351467609405518,
  "Roll": -0.10309021919965744,
  "Pitch": 0.8637830018997192
},
"Quality": {
  "Sharpness": 95.51618957519531,
  "Brightness": 65.29893493652344
},
"Landmarks": [
  {
    "Y": 0.26721030473709106,
    "X": 0.6204193830490112,
    "Type": "eyeLeft"
  },
  {
    "Y": 0.26831310987472534,
    "X": 0.6776827573776245,
    "Type": "eyeRight"
  },
  {
    "Y": 0.3514654338359833,
    "X": 0.6241428852081299,
    "Type": "mouthLeft"
  },
  {
    "Y": 0.35258132219314575,
    "X": 0.6713621020317078,
    "Type": "mouthRight"
  },
  {
    "Y": 0.3140771687030792,
    "X": 0.6428444981575012,
    "Type": "nose"
  }
],
"Similarity": 100.0}
For more information, see Comparing Faces in Images in the Amazon Rekognition Developer Guide.

- For API details, see CompareFaces in AWS CLI Command Reference.

Create a collection

The following code example shows how to create an Amazon Rekognition collection.

For more information, see Creating a collection.

AWS CLI

To create a collection

The following create-collection command creates a collection with the specified name.

```
aws rekognition create-collection \
  --collection-id "MyCollection"
```

Output:

```
{
  "FaceModelVersion": "4.0",
  "StatusCode": 200
}
```

For more information, see Creating a Collection in the Amazon Rekognition Developer Guide.
Delete a collection

The following code example shows how to delete an Amazon Rekognition collection.

For more information, see Deleting a collection.

AWS CLI

To delete a collection

The following delete-collection command deletes the specified collection.

```bash
aws rekognition delete-collection \
  --collection-id MyCollection
```

Output:

```json
{
  "StatusCode": 200
}
```

For more information, see Deleting a Collection in the Amazon Rekognition Developer Guide.

- For API details, see DeleteCollection in AWS CLI Command Reference.

Delete faces from a collection

The following code example shows how to delete faces from an Amazon Rekognition collection.

For more information, see Deleting faces from a collection.

AWS CLI

To delete faces from a collection

The following delete-faces command deletes the specified face from a collection.

```bash
aws rekognition delete-faces \
  --collection-id MyCollection \
  --face-ids '"0040279c-0178-436e-b70a-e61b074e96b0"'
```
Output:

```json
{
    "DeletedFaces": [
        "0040279c-0178-436e-b70a-e61b074e96b0"
    ]
}
```

For more information, see [Deleting Faces from a Collection](#) in the *Amazon Rekognition Developer Guide*.

- For API details, see [DeleteFaces](#) in *AWS CLI Command Reference*.

**Describe a collection**

The following code example shows how to describe an Amazon Rekognition collection.

For more information, see [Describing a collection](#).

**AWS CLI**

**To describe a collection**

The following `describe-collection` example displays the details about the specified collection.

```
aws rekognition describe-collection \
    --collection-id MyCollection
```

Output:

```json
{
    "FaceCount": 200,
    "CreationTimestamp": 1569444828.274,
    "FaceModelVersion": "4.0"
}
```

For more information, see [Describing a Collection](#) in the *Amazon Rekognition Developer Guide*.

- For API details, see [DescribeCollection](#) in *AWS CLI Command Reference*.
Detect faces in an image

The following code example shows how to detect faces in an image with Amazon Rekognition.

For more information, see Detecting faces in an image.

AWS CLI

To detect faces in an image

The following detect-faces command detects faces in the specified image stored in an Amazon S3 bucket.

```bash
aws rekognition detect-faces \
   --image '{"S3Object":{"Bucket":"MyImageS3Bucket","Name":"MyFriend.jpg"}}' \
   --attributes "ALL"
```

Output:

```
{
   "FaceDetails": [
   
   {
      "Confidence": 100.0,
      "Eyeglasses": {
         "Confidence": 98.91107940673828,
         "Value": false
      },
      "Sunglasses": {
         "Confidence": 99.7966537475586,
         "Value": false
      },
      "Gender": {
         "Confidence": 99.56611633300781,
         "Value": "Male"
      },
      "Landmarks": [
      
      {
         "Y": 0.26721030473709106,
         "X": 0.6204193830490112,
         "Type": "eyeLeft"
      },
      
      
      {
         "Y": 0.26831310987472534,
         "X": 0.6776827573776245,
      }
   }
}
"Type": "eyeRight"
},
{
  "Y": 0.3514654338359833,
  "X": 0.6241428852081299,
  "Type": "mouthLeft"
},
{
  "Y": 0.35258132219314575,
  "X": 0.6713621020317078,
  "Type": "mouthRight"
},
{
  "Y": 0.3140771687030792,
  "X": 0.6428444981575012,
  "Type": "nose"
},
{
  "Y": 0.24662546813488007,
  "X": 0.6001564860343933,
  "Type": "leftEyeBrowLeft"
},
{
  "Y": 0.24326619505882263,
  "X": 0.6303644776344299,
  "Type": "leftEyeBrowRight"
},
{
  "Y": 0.23818562924861908,
  "X": 0.6146903038024902,
  "Type": "leftEyeBrowUp"
},
{
  "Y": 0.24373626708984375,
  "X": 0.6640064716339111,
  "Type": "rightEyeBrowLeft"
},
{
  "Y": 0.24877218902111053,
  "X": 0.7025929093360901,
  "Type": "rightEyeBrowRight"
},
{
  "Y": 0.23938551545143127,
"X": 0.6823262572288513,
"Y": 0.265746533870697,
"X": 0.6112898588180542,
"Y": 0.2676128149032593,
"X": 0.6317071914672852,
"Y": 0.262735515832901,
"X": 0.6201658248901367,
"Y": 0.27025148272514343,
"X": 0.6206279993057251,
"Y": 0.268223375082016,
"X": 0.6658390760421753,
"Y": 0.27025148272514343,
"X": 0.6206279993057251,
"Y": 0.268223375082016,
"X": 0.6658390760421753,
"Y": 0.27025148272514343,
"X": 0.6206279993057251,
"Y": 0.268223375082016,
"X": 0.6658390760421753,
"Y": 0.27025148272514343,
"X": 0.6206279993057251,
"Y": 0.268223375082016,
"X": 0.6658390760421753,
"Y": 0.27025148272514343,
"X": 0.6206279993057251,
"Y": 0.268223375082016,
"X": 0.6658390760421753,
"Y": 0.27025148272514343,
"X": 0.6206279993057251,
"Y": 0.268223375082016,
"X": 0.6658390760421753,
"Y": 0.27025148272514343,
"X": 0.6206279993057251,
"Y": 0.268223375082016,
"X": 0.6658390760421753,


"Y": 0.32283174991607666,
"X": 0.6350004076957703,
"Type": "noseLeft"
},
{
"Y": 0.3219289481639862,
"X": 0.6567046642303467,
"Type": "noseRight"
},
{
"Y": 0.3420318365097046,
"X": 0.6450609564781189,
"Type": "mouthUp"
},
{
"Y": 0.3664324879646301,
"X": 0.6455618143081665,
"Type": "mouthDown"
},
{
"Y": 0.26721030473709106,
"X": 0.6204193830490112,
"Type": "leftPupil"
},
{
"Y": 0.26831310987472534,
"X": 0.6776827573776245,
"Type": "rightPupil"
},
{
"Y": 0.26343393325805664,
"X": 0.5946047306060791,
"Type": "upperJawlineLeft"
},
{
"Y": 0.3543180525302887,
"X": 0.6044883728027344,
"Type": "midJawlineLeft"
},
{
"Y": 0.4084877669811249,
"X": 0.6477024555206299,
"Type": "chinBottom"
},
{  "Y": 0.3562754988670349,  "X": 0.707981526851654,  "Type": "midJawlineRight" },
{  "Y": 0.26580461859703064,  "X": 0.7234612107276917,  "Type": "upperJawlineRight" }
],
"Pose": {  "Yaw": -3.7351467609405518,  "Roll": -0.10309021919965744,  "Pitch": 0.8637830018997192
},
"Emotions": [
{  "Confidence": 8.74203109741211,  "Type": "SURPRISED"
},
{  "Confidence": 2.501944065093994,  "Type": "ANGRY"
},
{  "Confidence": 0.7378743290901184,  "Type": "DISGUSTED"
},
{  "Confidence": 3.5296201705932617,  "Type": "HAPPY"
},
{  "Confidence": 1.7162904739379883,  "Type": "SAD"
},
{  "Confidence": 9.518536567687988,  "Type": "CONFUSED"
},
{  "Confidence": 0.45474427938461304,  "Type": "FEAR"
}
{},
{
    "Confidence": 72.79895782470703,
    "Type": "CALM"
}
],
"AgeRange": {
    "High": 48,
    "Low": 32
},
"EyesOpen": {
    "Confidence": 98.93987274169922,
    "Value": true
},
"BoundingBox": {
    "Width": 0.12368916720151901,
    "Top": 0.16007372736930847,
    "Left": 0.5901257991790771,
    "Height": 0.25140416622161865
},
"Smile": {
    "Confidence": 93.4493179321289,
    "Value": false
},
"MouthOpen": {
    "Confidence": 90.53053283691406,
    "Value": false
},
"Quality": {
    "Sharpness": 95.51618957519531,
    "Brightness": 65.29893493652344
},
"Mustache": {
    "Confidence": 89.85221099853516,
    "Value": false
},
"Beard": {
    "Confidence": 86.1991195678711,
    "Value": true
}
]
For more information, seeDetecting Faces in an Image in theAmazon Rekognition Developer Guide.

- For API details, seeDetectFaces inAWS CLI Command Reference.

Detect labels in an image

The following code example shows how to detect labels in an image with Amazon Rekognition.

For more information, seeDetecting labels in an image.

AWS CLI

To detect a label in an image

The following detect-labels example detects scenes and objects in an image stored in an Amazon S3 bucket.

```
aws rekognition detect-labels \
    --image '{"S3Object":{"Bucket":"bucket","Name":"image"}}'
```

Output:

```
{
    "Labels": [
        {
            "Instances": [],
            "Confidence": 99.15271759033203,
            "Parents": [
                {
                    "Name": "Vehicle"
                },
                {
                    "Name": "Transportation"
                }
            ],
            "Name": "Automobile"
        },
        {
            "Instances": [],
            "Confidence": 99.15271759033203,
            "Parents": [
                {
                    "Name": "Vehicle"
                }
            ]
        }
    ]
}
```
"Name": "Transportation"
}
,
"Name": "Vehicle"
},
{
"Instances": [],
"Confidence": 99.15271759033203,
"Parents": [],
"Name": "Transportation"
},
{
"Instances": [
{
"BoundingBox": {
 "Width": 0.10616336017847061,
 "Top": 0.5039216876029968,
 "Left": 0.0037978808395564556,
 "Height": 0.18528179824352264
 },
 "Confidence": 99.15271759033203
 },
{ "BoundingBox": {
 "Width": 0.2429988533258438,
 "Top": 0.5251884460449219,
 "Left": 0.7309805154800415,
 "Height": 0.21577216684818268
 },
 "Confidence": 99.1286392211914
 },
{ "BoundingBox": {
 "Width": 0.14233611524105072,
 "Top": 0.5333095788955688,
 "Left": 0.6494812965393066,
 "Height": 0.15528248250484467
 },
 "Confidence": 98.48368072509766
 },
{ "BoundingBox": {
 "Width": 0.11086395382881165,
 "Top": 0.5354844927787781,
Actions and scenarios
Actions and scenarios
Actions and scenarios
Actions and scenarios
Actions and scenarios
Actions and scenarios
"Parents": [  
  
  ],
"Name": "Sports"
"Instances": [

  "BoundingBox": {
    "Width": 0.12326609343290329,
    "Top": 0.6332163214683533,
    "Left": 0.44815489649772644,
    "Height": 0.058117982000112534
  },
  "Confidence": 92.37877655029297
],
"Confidence": 92.37877655029297,
"Parents": [  
  
  ],
"Name": "Skateboard"
"Instances": [],
"Confidence": 90.62931060791016,
"Parents": [  
  
  ],
"Name": "Pedestrian"
"Instances": [],
"Confidence": 88.81334686279297,
"Name": "Asphalt"
},
{
 "Instances": [],
 "Confidence": 88.81334686279297,
 "Parents": [],
 "Name": "Tarmac"
},
{
 "Instances": [],
 "Confidence": 88.23201751708984,
 "Parents": [],
 "Name": "Path"
},
{
 "Instances": [],
 "Confidence": 80.26520538330078,
 "Parents": [],
 "Name": "Urban"
},
{
 "Instances": [],
 "Confidence": 80.26520538330078,
 "Parents": [
     
     
     
     ],
 "Name": "Town"
},
{
 "Instances": [],
 "Confidence": 80.26520538330078,
 "Parents": [],
 "Name": "Building"
},
{
 "Instances": [],
 "Confidence": 80.26520538330078,
 "Parents": [
     
     
     ],
 "Name": "Urban"
}
"Name": "Building",
{
   "Name": "Urban"
},
"Name": "City"
},
{
   "Instances": [],
   "Confidence": 78.37934875488281,
   "Parents": [
      {
         "Name": "Car"
      },
      {
         "Name": "Vehicle"
      },
      {
         "Name": "Transportation"
      }
   ],
   "Name": "Parking Lot"
},
{
   "Instances": [],
   "Confidence": 78.37934875488281,
   "Parents": [
      {
         "Name": "Car"
      },
      {
         "Name": "Vehicle"
      },
      {
         "Name": "Transportation"
      }
   ],
   "Name": "Parking"
},
{
   "Instances": [],
   "Confidence": 74.37590026855469,
   "Parents": [
{ "Name": "Building" },
{ "Name": "Urban" },
{ "Name": "City" }
],
"Name": "Downtown"
],
{ "Instances": [],
"Confidence": 69.84622955322266,
"Parents": [
{ "Name": "Road"
}
],
"Name": "Intersection"
},
{ "Instances": [],
"Confidence": 57.68518829345703,
"Parents": [
{ "Name": "Sports Car"
},
{ "Name": "Car"
},
{ "Name": "Vehicle"
},
{ "Name": "Transportation"
}
],
"Name": "Coupe"
},
{ "Instances": [],
"Confidence": 57.68518829345703,
"Parents": [
    {
      "Name": "Car"
    },
    {
      "Name": "Vehicle"
    },
    {
      "Name": "Transportation"
    }
],
"Name": "Sports Car"
},
{
  "Instances": [],
  "Confidence": 56.5949211206055,
  "Parents": [
    {
      "Name": "Path"
    }
  ],
  "Name": "Sidewalk"
},
{
  "Instances": [],
  "Confidence": 56.5949211206055,
  "Parents": [
    {
      "Name": "Path"
    }
  ],
  "Name": "Pavement"
},
{
  "Instances": [],
  "Confidence": 55.58770751953125,
  "Parents": [
    {
      "Name": "Building"
    },
    {
      "Name": "Urban"
    }
  ],
  "Name": "Sports Car"
Detect moderation labels in an image

The following code example shows how to detect moderation labels in an image with Amazon Rekognition. Moderation labels identify content that may be inappropriate for some audiences.

For more information, see Detecting inappropriate images.

AWS CLI

To detect unsafe content in an image

The following detect-moderation-labels command detects unsafe content in the specified image stored in an Amazon S3 bucket.

```bash
aws rekognition detect-moderation-labels \
   --image "S3Object={Bucket=MyImageS3Bucket,Name=gun.jpg}"
```

Output:

```json
{
   "ModerationModelVersion": "3.0",
   "ModerationLabels": [
      {
         "Confidence": 97.29618072509766,
         "ParentName": "Violence",
         "Name": "Weapon Violence"
      },
      {
         "Confidence": 97.29618072509766,
         "ParentName": "",
         "Name": "Violence"
      }
   ]
}
```
For more information, see Detecting Unsafe Images in the Amazon Rekognition Developer Guide.

- For API details, see DetectModerationLabels in AWS CLI Command Reference.

## Detect text in an image

The following code example shows how to detect text in an image with Amazon Rekognition.

For more information, see Detecting text in an image.

### AWS CLI

#### To detect text in an image

The following detect-text command detects text in the specified image.

```bash
aws rekognition detect-text \
--image '{"S3Object":{"Bucket":"MyImageS3Bucket","Name":"ExamplePicture.jpg"}}'
```

Output:

```json
{
   "TextDetections": [
   {
      "Geometry": {
         "BoundingBox": {
            "Width": 0.24624845385551453,
            "Top": 0.28288066387176514,
            "Left": 0.391388863325119,
            "Height": 0.022687450051307678
         },
         "Polygon": [
            {"Y": 0.28288066387176514,
             "X": 0.391388863325119},
            {"Y": 0.2826388478279114,
             "X": 0.6376373171806335}
         ]
      }
   }
}
```
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"Confidence": 91.49320983886719,
"Geometry": {
"BoundingBox": {
  "Width": 0.07007007300853729,
  "Top": 0.2828207015991211,
  "Left": 0.5675675868988037,
  "Height": 0.02250562608242035
}
},
"Confidence": 97.22098541259766,
"Geometry": {
  "BoundingBox": {
    "Width": 0.061079490929841995,
    "Top": 0.2843210697174072,
    "Left": 0.391391396522522,
    "Height": 0.021029088646173477
  },
  "Polygon": [
    {
      "Y": 0.2843210697174072,
      "X": 0.391391396522522
    },
    {
      "Y": 0.2828207015991211,
      "X": 0.4524524509906769
    },
    {
      "Y": 0.3038259446620941,
      "X": 0.4534534513950348
    },
    {
      "Y": 0.30532634258270264,
      "X": 0.3923923969268799
    }
  ]
},
"DetectedText": "ESTD",
"ParentId": 0,
"Type": "WORD",
"Id": 2
},
{
"Confidence": 5142,
"Polygon": [
    {
        "Y": 0.2828207015991211,
        "X": 0.5675675868988037
    },
    {
        "Y": 0.2828207015991211,
        "X": 0.6376376152038574
    },
    {
        "Y": 0.30532634258270264,
        "X": 0.6376376152038574
    },
    {
        "Y": 0.30532634258270264,
        "X": 0.5675675868988037
    }
],
"DetectedText": "1882",
"ParentId": 0,
"Type": "WORD",
"Id": 3
},
{
    "Confidence": 99.95779418945312,
    "Geometry": {
        "BoundingBox": {
            "Width": 0.33933934569358826,
            "Top": 0.32633158564567566,
            "Left": 0.3453453481197357,
            "Height": 0.07127484679222107
        },
        "Polygon": [
            {
                "Y": 0.32633158564567566,
                "X": 0.3453453481197357
            },
            {
                "Y": 0.32633158564567566,
                "X": 0.684684693813324
            }
        ]
    }
}
Get information about celebrities

The following code example shows how to get information about celebrities using Amazon Rekognition.

**AWS CLI**

**To get information about a celebrity**

The following get-celebrity-info command displays information about the specified celebrity. The id parameter comes from a previous call to recognize-celebrities.

```bash
aws rekognition get-celebrity-info --id nnnnnnn
```

**Output:**

```json
{
    "Name": "Celeb A",
    "Urls": [
        "www.imdb.com/name/aaaaaaaaa"
    ]
}
```

For API details, see [DetectText](#) in *AWS CLI Command Reference*. 

---

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For more information, see Getting Information About a Celebrity in the Amazon Rekognition Developer Guide.

- For API details, see GetCelebrityInfo in AWS CLI Command Reference.

**Index faces to a collection**

The following code example shows how to index faces in an image and add them to an Amazon Rekognition collection.

For more information, see Adding faces to a collection.

**AWS CLI**

**To add faces to a collection**

The following `index-faces` command adds the faces found in an image to the specified collection.

```
aws rekognition index-faces 
   --image '{"S3Object":{"Bucket":"MyVideoS3Bucket","Name":"MyPicture.jpg"}}' 
   --collection-id MyCollection 
   --max-faces 1 
   --quality-filter "AUTO" 
   --detection-attributes "ALL" 
   --external-image-id "MyPicture.jpg"
```

**Output:**

```
{
   "FaceRecords": [
   {
      "FaceDetail": {
         "Confidence": 99.993408203125,
         "Eyeglasses": {
            "Confidence": 99.11750030517578,
            "Value": false
         },
         "Sunglasses": {
            "Confidence": 99.98249053955078,
            "Value": false
         },
         "Gender": {
```

Actions and scenarios
"Confidence": 99.92769622802734,
"Value": "Male"
},

"Landmarks": [
  {
    "Y": 0.26750367879867554,
    "X": 0.6202793717384338,
    "Type": "eyeLeft"
  },
  {
    "Y": 0.26642778515815735,
    "X": 0.6787431836128235,
    "Type": "eyeRight"
  },
  {
    "Y": 0.31361380219459534,
    "X": 0.6421601176261902,
    "Type": "nose"
  },
  {
    "Y": 0.3495299220085144,
    "X": 0.6216195225715637,
    "Type": "mouthLeft"
  },
  {
    "Y": 0.35194727778434753,
    "X": 0.6216195225715637,
    "Type": "mouthRight"
  },
  {
    "Y": 0.26844894886016846,
    "X": 0.6210268139839172,
    "Type": "leftPupil"
  },
  {
    "Y": 0.26707562804222107,
    "X": 0.6817160844802856,
    "Type": "rightPupil"
  },
  {
    "Y": 0.24834522604942322,
    "X": 0.6018546223640442,
    "Type": "leftEyeBrowLeft"
  }
]
{}
},
{
  "Y": 0.2668408751487732,
  "X": 0.66636222260093689,
  "Type": "rightEyeLeft"
},
{
  "Y": 0.26741549372673035,
  "X": 0.6910083889961243,
  "Type": "rightEyeRight"
},
{
  "Y": 0.261402665687561,
  "X": 0.6785826086997986,
  "Type": "rightEyeUp"
},
{
  "Y": 0.27075251936912537,
  "X": 0.6789616942405701,
  "Type": "rightEyeDown"
},
{
  "Y": 0.3211299479007721,
  "X": 0.6324167847633362,
  "Type": "noseLeft"
},
{
  "Y": 0.32276326417922974,
  "X": 0.6558475494384766,
  "Type": "noseRight"
},
{
  "Y": 0.34385165572166443,
  "X": 0.6444970965385437,
  "Type": "mouthUp"
},
{
  "Y": 0.3671635091304779,
  "X": 0.6459195017814636,
  "Type": "mouthDown"
}
]
},
"Pose": {
  "Yaw": -9.54541015625,
"Roll": -0.5709401965141296,
   "Pitch": 0.6045494675636292

"Emotions": [
   {
      "Confidence": 39.90074157714844,
      "Type": "HAPPY"
   },
   {
      "Confidence": 23.38753890991211,
      "Type": "CALM"
   },
   {
      "Confidence": 5.840933322906494,
      "Type": "CONFUSED"
   }
],
"AgeRange": {
   "High": 63,
   "Low": 45
},
"EyesOpen": {
   "Confidence": 99.80887603759766,
   "Value": true
},
"BoundingBox": {
   "Width": 0.18562500178813934,
   "Top": 0.1618015021085739,
   "Left": 0.5575000047683716,
   "Height": 0.24770642817020416
},
"Smile": {
   "Confidence": 99.69740295410156,
   "Value": false
},
"MouthOpen": {
   "Confidence": 99.97393798828125,
   "Value": false
},
"Quality": {
   "Sharpness": 95.54405975341797,
   "Brightness": 63.867706298828125
},
"Mustache": {
The following code example shows how to list Amazon Rekognition collections.

For more information, see Listing collections.

AWS CLI

To list the available collections

The following list-collections command lists the available collections in the AWS account.
aws rekognition list-collections

Output:

```json
{
    "FaceModelVersions": [
        "2.0",
        "3.0",
        "3.0",
        "3.0",
        "4.0",
        "1.0",
        "3.0",
        "4.0",
        "4.0",
        "4.0"
    ],
    "CollectionIds": [
        "MyCollection1",
        "MyCollection2",
        "MyCollection3",
        "MyCollection4",
        "MyCollection5",
        "MyCollection6",
        "MyCollection7",
        "MyCollection8",
        "MyCollection9",
        "MyCollection10"
    ]
}
```

For more information, see [Listing Collections](https://docs.aws.amazon.com/AmazonRekognition/latest/devguide/listing-collections.html) in the *Amazon Rekognition Developer Guide*.

- For API details, see [ListCollections](https://docs.aws.amazon.com/cli/latest/reference/rekognition/list-collections.html) in *AWS CLI Command Reference*.

### List faces in a collection

The following code example shows how to list faces in an Amazon Rekognition collection.

For more information, see [Listing faces in a collection](https://docs.aws.amazon.com/AmazonRekognition/latest/devguide/listing-faces-in-collection.html).
AWS CLI

To list the faces in a collection

The following list-faces command lists the faces in the specified collection.

```
aws rekognition list-faces \
   --collection-id MyCollection
```

Output:

```
{
    "FaceModelVersion": "3.0",
    "Faces": [

    "BoundingBox": {
        "Width": 0.5216310024261475,
        "Top": 0.3256250023841858,
        "Left": 0.13394300639629364,
        "Height": 0.3918749988079071
    },
    "FaceId": "0040279c-0178-436e-b70a-e61b074e96b0",
    "ExternalImageId": "image1.jpg",
    "Confidence": 100.0,
    "ImageId": "f976e487-3719-5e2d-be8b-ea2724c26991"
    },

    "BoundingBox": {
        "Width": 0.5074880123138428,
        "Top": 0.3774999976158142,
        "Left": 0.18302799761295319,
        "Height": 0.3812499940395355
    },
    "FaceId": "086261e8-6deb-4bc0-ac73-ab22323cc38d",
    "ExternalImageId": "image2.jpg",
    "Confidence": 99.99930572509766,
    "ImageId": "ae1593b0-a8f6-5e24-a306-abf529e276fa"
    },

    "BoundingBox": {
        "Width": 0.5574039816856384,
        "Top": 0.37187498807907104,
        "Left": 0.14559100568294525,
        "Height": 0.3918749988079071
    },
    "FaceId": "0040279c-0178-436e-b70a-e61b074e96b0",
    "ExternalImageId": "image3.jpg",
    "Confidence": 99.99930572509766,
    "ImageId": "f976e487-3719-5e2d-be8b-ea2724c26991"
    }]
```
Actions and scenarios"
The following code example shows how to recognize celebrities in an image with Amazon Rekognition.

For more information, see Recognizing celebrities in an image.

**AWS CLI**

To recognize celebrities in an image

The following recognize-celebrities command recognizes celebrities in the specified image stored in an Amazon S3 bucket:

```
aws rekognition recognize-celebrities \
   --image "S3Object={Bucket=MyImageS3Bucket,Name=moviestars.jpg}"
```

Output:

```
{
   "UnrecognizedFaces": [
      {
         "BoundingBox": {
            "Width": 0.14416666328907013,
            "Top": 0.07777778059244156,
            "Left": 0.625,
            "Height": 0.2746031880378723
         },
         "Confidence": 99.9990234375,
         "Pose": {
            "Yaw": 10.80408763885498,
            "Roll": -12.761146545410156,
```
"Pitch": 10.96889877319336
},
"Quality": {
    "Sharpness": 94.1185531616211,
    "Brightness": 79.18367004394531
},
"Landmarks": [
    {
        "Y": 0.18220913410186768,
        "X": 0.6702951788902283,
        "Type": "eyeLeft"
    },
    {
        "Y": 0.16337193548679352,
        "X": 0.7188183665275574,
        "Type": "eyeRight"
    },
    {
        "Y": 0.20739148557186127,
        "X": 0.7055801749229431,
        "Type": "nose"
    },
    {
        "Y": 0.2889308035373688,
        "X": 0.687512218952179,
        "Type": "mouthLeft"
    },
    {
        "Y": 0.2706988751888275,
        "X": 0.7250053286552429,
        "Type": "mouthRight"
    }
]
],
"CelebrityFaces": [
    {
        "MatchConfidence": 100.0,
        "Face": {
            "BoundingBox": {
                "Width": 0.14000000059604645,
                "Top": 0.1190476194024086,
                "Left": 0.8283331823349,
                "Height": 0.266666805744171
            }
        }
    }
]
{
  "Confidence": 99.99359130859375,
  "Pose": {
    "Yaw": -10.509642601013184,
    "Roll": -14.51749324798584,
    "Pitch": 13.79939375915527
  },
  "Quality": {
    "Sharpness": 78.74752044677734,
    "Brightness": 42.201324462890625
  },
  "Landmarks": [
    {
      "Y": 0.2290833294391632,
      "X": 0.8709492087364197,
      "Type": "eyeLeft"
    },
    {
      "Y": 0.20639978349208832,
      "X": 0.9153988361358643,
      "Type": "eyeRight"
    },
    {
      "Y": 0.25417643785476685,
      "X": 0.8907724022865295,
      "Type": "nose"
    },
    {
      "Y": 0.32729196548461914,
      "X": 0.8876466155052185,
      "Type": "mouthLeft"
    },
    {
      "Y": 0.3115464746952057,
      "X": 0.9238573312759399,
      "Type": "mouthRight"
    }
  ],
  "Name": "Celeb A",
  "Urls": [
    "www.imdb.com/name/aaaaaaaaa"
  ],
  "Id": "1111111"
}
},
{
  "MatchConfidence": 97.0,
  "Face": {
    "BoundingBox": {
      "Width": 0.1333334028720856,
      "Top": 0.24920634925365448,
      "Left": 0.4449999928474426,
      "Height": 0.2539682686328888
    },
    "Confidence": 99.99979400634766,
    "Pose": {
      "Yaw": 6.557040691375732,
      "Roll": -7.316643714904785,
      "Pitch": 9.272967338562012
    },
    "Quality": {
      "Sharpness": 83.23492431640625,
      "Brightness": 78.83267974853516
    },
    "Landmarks": [
      {
        "Y": 0.3625510632991791,
        "X": 0.48898839950561523,
        "Type": "eyeLeft"
      },
      {
        "Y": 0.35366007685661316,
        "X": 0.5313721299171448,
        "Type": "eyeRight"
      },
      {
        "Y": 0.3894785940647125,
        "X": 0.5173314809799194,
        "Type": "nose"
      },
      {
        "Y": 0.44889405369758606,
        "X": 0.5020005702972412,
        "Type": "mouthLeft"
      },
      {
        "Y": 0.4408611059188843,
        "X": 0.5351271629333496,
"Type": "mouthRight"
]
},
"Name": "Celeb B",
"Urls": [
    "www.imdb.com/name/bbbbbbbbb"
],
"Id": "2222222"
},
{
    "MatchConfidence": 100.0,
    "Face": {
        "BoundingBox": {
            "Width": 0.12416666746139526,
            "Top": 0.2968254089355469,
            "Left": 0.2150000035762787,
            "Height": 0.23650793731212616
        },
        "Confidence": 99.99958801269531,
        "Pose": {
            "Yaw": 7.801797866821289,
            "Roll": -8.326810836791992,
            "Pitch": 7.844768047332764
        },
        "Quality": {
            "Sharpness": 86.93206024169922,
            "Brightness": 79.81291198730469
        },
        "Landmarks": [
            {
                "Y": 0.4027804136276245,
                "X": 0.25753012299853766,
                "Type": "eyeLeft"
            },
            {
                "Y": 0.3934555947780609,
                "X": 0.2956969439983368,
                "Type": "eyeRight"
            },
            {
                "Y": 0.4309830069541931,
                "X": 0.2837020754814148,
                "Type": "nose"
            }
        ]
    }
}
],

{
    "Y": 0.48186683654785156,
    "X": 0.26812544465065,
    "Type": "mouthLeft"
},

{
    "Y": 0.47338807582855225,
    "X": 0.29905644059181213,
    "Type": "mouthRight"
}
]

"Name": "Celeb C",
"Urls": [
    "www.imdb.com/name/cccccccccc"
],
"Id": "3333333"
},

{
    "MatchConfidence": 97.0,
    "Face": {
        "BoundingBox": {
            "Width": 0.11916666477918625,
            "Top": 0.3698412775993347,
            "Left": 0.008333333767950535,
            "Height": 0.22698412835597992
        },
        "Confidence": 99.99999237060547,
        "Pose": {
            "Yaw": 16.38478660583496,
            "Roll": -1.0260354280471802,
            "Pitch": 5.975185394287109
        },
        "Quality": {
            "Sharpness": 83.23492431640625,
            "Brightness": 61.408443450927734
        },
        "Landmarks": [
            {
                "Y": 0.4632347822189331,
                "X": 0.049406956881284714,
                "Type": "eyeLeft"
            }
        ]
    }
}
For more information, see Recognizing Celebrities in an Image in the Amazon Rekognition Developer Guide.

- For API details, see RecognizeCelebrities in AWS CLI Command Reference.

Search for faces in a collection

The following code example shows how to search for faces in an Amazon Rekognition collection that match another face from the collection.

For more information, see Searching for a face (face ID).
AWS CLI

To search for faces in a collection that match a face ID.

The following `search-faces` command searches for faces in a collection that match the specified face ID.

```
aws rekognition search-faces \
    --face-id 8d3cfc70-4ba8-4b36-9644-90fba29c2dac \
    --collection-id MyCollection
```

Output:

```json
{
    "SearchedFaceId": "8d3cfc70-4ba8-4b36-9644-90fba29c2dac",
    "FaceModelVersion": "3.0",
    "FaceMatches": [
        {
            "Face": {
                "BoundingBox": {
                    "Width": 0.48166701197624207,
                    "Top": 0.20999999344348907,
                    "Left": 0.21250000596046448,
                    "Height": 0.36125001311302185
                },
                "FaceId": "bd4ceb4d-9acc-4ab7-8ef8-1c2d2ba0a66a",
                "ExternalImageId": "image1.jpg",
                "Confidence": 99.99949645996094,
                "ImageId": "5e1a7588-e5a0-5ee3-bd00-c642518dfe3a"
            },
            "Similarity": 99.30997467041016
        },
        {
            "Face": {
                "BoundingBox": {
                    "Width": 0.18562500178813934,
                    "Top": 0.1618019938468933,
                    "Left": 0.5575000047683716,
                    "Height": 0.24770599603652954
                },
                "FaceId": "ce7ed422-2132-4a11-ab14-06c5c410f29f",
                "ExternalImageId": "example-image.jpg",
                "Confidence": 99.99340057370407
            }
        }
    ]
}
```
"Confidence": 99.99970245361328,
"ImageId": "3c314792-197d-528d-bbb6-798ed012c150"
},
"Similarity": 96.48291015625
},
{
"Face": {
"BoundingBox": {
   "Width": 0.5074880123138428,
   "Top": 0.3774999976158142,
   "Left": 0.18302799761295319,
   "Height": 0.3812499940395355
},
"FaceId": "086261e8-6deb-4bc0-ac73-ab22323cc38d",
"ExternalImageId": "image6.jpg",
"Confidence": 99.99930572509766,
"ImageId": "ae1593b0-a8f6-5e24-a306-abf529e276fa"
},
"Similarity": 96.43287658691406
},
{
"Face": {
"BoundingBox": {
   "Width": 0.5574039816856384,
   "Top": 0.37187498807907104,
   "Left": 0.14559100325679779,
   "Height": 0.4181250035762787
},
"FaceId": "11c4bd3c-19c5-4eb8-aecc-24feb93a26e1",
"ExternalImageId": "image5.jpg",
"Confidence": 99.99960327148438,
"ImageId": "80739b4d-883f-5b78-97cf-5124038e26b9"
},
"Similarity": 95.25305938720703
},
{
"Face": {
"BoundingBox": {
   "Width": 0.5773710012435913,
   "Top": 0.34437501430511475,
   "Left": 0.12396000325679779,
   "Height": 0.4337500035762787
},
"FaceId": "57189455-42b0-4839-a86c-abda48b13174",
"Confidence": 99.9999999999999
Search for faces in a collection compared to a reference image

The following code example shows how to search for faces in an Amazon Rekognition collection compared to a reference image.

For more information, see [Searching for a face (image)](https://docs.aws.amazon.com/rekognition/latest/dg/searching-for-face.html).

**AWS CLI**

To search for faces in a collection that match the largest face in an image.

The following `search-faces-by-image` command searches for faces in a collection that match the largest face in the specified image:

```
aws rekognition search-faces-by-image \\
--image '{"S3Object":{"Bucket":"MyImageS3Bucket","Name":"ExamplePerson.jpg"}}' \\
--collection-id MyFaceImageCollection

{
  "SearchedFaceBoundingBox": {
    "Width": 0.18562500178813934,
    "Top": 0.1618015021085739,
    "Left": 0.5575000047683716,
    "Height": 0.24770642817020416
  },
  "SearchedFaceConfidence": 99.993408203125,
  "FaceMatches": [
    {
      "Face": {
```
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Actions and scenarios
{ "Face": { "BoundingBox": { "Width": 0.5074880123138428, "Top": 0.3774999976158142, "Left": 0.18302799761295319, "Height": 0.3812499940395355 }, "FaceId": "086261e8-6deb-4bc0-ac73-ab22323cc38d", "ExternalImageId": "image6.jpg", "Confidence": 99.99930572509766, "ImageId": "ae1593b0-a8f6-5e24-a306-abf529e276fa" }, "Similarity": 98.10526275634766 }, { "Face": { "BoundingBox": { "Width": 0.5574039816856384, "Top": 0.37187498807907104, "Left": 0.14559100568294525, "Height": 0.4181250035762787 }, "FaceId": "11c4bd3c-19c5-4eb8-aecc-24feb93a26e1", "ExternalImageId": "image5.jpg", "Confidence": 99.99960327148438, "ImageId": "80739b4d-883f-5b78-97cf-5124038e26b9" }, "Similarity": 97.94659423828125 }, { "Face": { "BoundingBox": { "Width": 0.5773710012435913, "Top": 0.34437501430511475, "Left": 0.12396000325679779, "Height": 0.4337500035762787 }, "FaceId": "57189455-42b0-4839-a86c-abda48b13174", "ExternalImageId": "image8.jpg", "Confidence": 100.0, "ImageId": "0aff2f37-e7a2-5dbc-a3a3-4ef6ec18eaa0" }, "Similarity": 97.93476867675781 }
create-stream-processor

The following code example shows how to use create-stream-processor.

AWS CLI

To create a new stream processor

The following create-stream-processor example creates a new stream processor with the specified configuration.

```bash
aws rekognition create-stream-processor --name my-stream-processor
    --role-arn arn:aws:iam::123456789012:role/AmazonRekognitionDetect
    --settings '{"FaceSearch": {"CollectionId": "MyCollection", "FaceMatchThreshold": 85.5}}'
```

Output:

```
{
}
```

For more information, see Working with Streaming Videos in the Amazon Rekognition Developer Guide.

- For API details, see CreateStreamProcessor in AWS CLI Command Reference.
delete-stream-processor

The following code example shows how to use delete-stream-processor.

AWS CLI

To delete a stream processor

The following delete-stream-processor command deletes the specified stream processor.

```
aws rekognition delete-stream-processor \
   --name my-stream-processor
```

This command produces no output.

For more information, see Working with Streaming Videos in the Amazon Rekognition Developer Guide.

• For API details, see DeleteStreamProcessor in AWS CLI Command Reference.

describe-stream-processor

The following code example shows how to use describe-stream-processor.

AWS CLI

To get information about a stream processor

The following describe-stream-processor command displays details about the specified stream processor.

```
aws rekognition describe-stream-processor \
   --name my-stream-processor
```

Output:

```json
{
    "Status": "STOPPED",
    "Name": "my-stream-processor",
    "LastUpdateTimeStamp": 1532449292.712,
    "Settings": {
```
"FaceSearch": {
   "FaceMatchThreshold": 80.0,
   "CollectionId": "my-collection"
},
"RoleArn": "arn:aws:iam::123456789012:role/AmazonRekognitionDetectStream",
"Output": {
   "KinesisDataStream": {
   }
},
"Input": {
   "KinesisVideoStream": {
   }
},
"CreationTimestamp": 1532449292.712
}

For more information, see Working with Streaming Videos in the Amazon Rekognition Developer Guide.

- For API details, see DescribeStreamProcessor in AWS CLI Command Reference.

get-celebrity-recognition

The following code example shows how to use get-celebrity-recognition.

AWS CLI

To get the results of a celebrity recognition operation

The following get-celebrity-recognition command displays the results of a celebrity recognition operation that you started previously by calling start-celebrity-recognition.

```
aws rekognition get-celebrity-recognition  \
--job-id 1234567890abcdef1234567890abcdef1234567890abcdef1234567890abcdef
```
Output:

```json
{
    "NextToken": "3D01ClxlCiT31VsRDkA03IybLb/h5AtDWSGuhYi+NlFIJwwPtAkuKzDhL2rV3GcwmNt77+12",
    "Celebrities": [
        {
            "Timestamp": 0,
            "Celebrity": {
                "Confidence": 96.0,
                "Face": {
                    "BoundingBox": {
                        "Width": 0.70333331823349,
                        "Top": 0.16750000417232513,
                        "Left": 0.19555555284023285,
                        "Height": 0.3956249952316284
                    },
                    "Landmarks": [
                        {
                            "Y": 0.31031012535095215,
                            "X": 0.441436767578125,
                            "Type": "eyeLeft"
                        },
                        {
                            "Y": 0.3081788718700409,
                            "X": 0.6437258720397949,
                            "Type": "eyeRight"
                        },
                        {
                            "Y": 0.39542075991630554,
                            "X": 0.5572493076324463,
                            "Type": "nose"
                        },
                        {
                            "Y": 0.4597957134246826,
                            "X": 0.4579732120037079,
                            "Type": "mouthLeft"
                        },
                        {
                            "Y": 0.45688048005104065,
                            "X": 0.6349081993103027,
                            "Type": "mouthRight"
                        }
                    ]
                }
            }
        }
    ]
}
```
"Pose": {
   "Yaw": 8.943398475646973,
   "Roll": -2.0309247970581055,
   "Pitch": -0.5674862861633301
},
"Quality": {
   "Sharpness": 99.40211486816406,
   "Brightness": 89.47132110595703
},
"Confidence": 99.99861145019531
},
"Name": "CelebrityA",
"Urls": [
   "www.imdb.com/name/111111111"
],
"Id": "nnnnnn"
},
{
   "Timestamp": 467,
   "Celebrity": {
      "Confidence": 99.0,
      "Face": {
         "BoundingBox": {
            "Width": 0.6877777576446533,
            "Top": 0.18437500298023224,
            "Left": 0.20555555820465088,
            "Height": 0.3868750035762787
         },
         "Landmarks": [
            {
               "Y": 0.31895750761032104,
               "X": 0.4411413371562958,
               "Type": "eyeLeft"
            },
            {
               "Y": 0.3140959143638611,
               "X": 0.6523157954216003,
               "Type": "eyeRight"
            },
            {
               "Y": 0.4016456604003906,
               "X": 0.5682755708694458,
               "Type": "nose"
            }
         ]
   }
}
For more information, see Recognizing Celebrities in a Stored Video in the Amazon Rekognition Developer Guide.

- For API details, see GetCelebrityRecognition in AWS CLI Command Reference.

get-content-moderation

The following code example shows how to use get-content-moderation.

AWS CLI

To get the results of an unsafe content operation

The following get-content-moderation command displays the results of an unsafe content operation that you started previously by calling start-content-moderation.

```bash
aws rekognition get-content-moderation \
  --job-id 1234567890abcdef1234567890abcdef1234567890abcdef1234567890abcdef
```

Output:

```json
{
  "NextToken": "dlhcKMHMzpCBGFukz6I03JMciWJIAamCVhXHt3r6b4b5Tfyw3q7o+Jeezt+Zpgf0nW9FCGQ",
  "ModerationLabels": [
    {
      "Timestamp": 0,
      "ModerationLabel": {
        "Confidence": 97.39583587646484,
        "ParentName": "",
        "Name": "Violence"
      }
    },
    {
      "Timestamp": 0,
      "ModerationLabel": {
        "Confidence": 97.39583587646484,
        "ParentName": "Violence",
        "Name": "Weapon Violence"
      }
    }
  ],
  "JobStatus": "SUCCEEDED",
}
```
For more information, see [Detecting Unsafe Stored Videos](https://docs.aws.amazon.com/rekognition/latest/developerguide/detecting-unsafe-stored-videos.html) in the *Amazon Rekognition Developer Guide*.

- For API details, see [GetContentModeration](https://docs.aws.amazon.com/cli/latest/reference/rekognition/get-content-moderation.html) in *AWS CLI Command Reference*.

### get-face-detection

The following code example shows how to use `get-face-detection`.

**AWS CLI**

**To get the results of a face detection operation**

The following `get-face-detection` command displays the results of a face detection operation that you started previously by calling `start-face-detection`.

```
aws rekognition get-face-detection
  --job-id 1234567890abcdef1234567890abcdef1234567890abcdef1234567890abcdef
```

**Output:**

```
{
  "Faces": [
  {
    "Timestamp": 467,
    "Face": {
      "BoundingBox": {
        "Width": 0.1560753583908081,
        "Top": 0.13555361330509186,
        "Left": -0.0952017530798912,
        "Height": 0.6934483051300049
      },
      "Landmarks": [
```
"Left": 0.024553587660193443,
   "Height": 0.7216082215309143
 },
 "Landmarks": [
   {
     "Y": 0.4650231599807739,
     "X": 0.16269078850746155,
     "Type": "eyeLeft"
   },
   {
     "Y": 0.4843238294124603,
     "X": 0.2782580852508545,
     "Type": "eyeRight"
   },
   {
     "Y": 0.71530681848526,
     "X": 0.1741468608379364,
     "Type": "mouthLeft"
   },
   {
     "Y": 0.7310671210289001,
     "X": 0.26857468485832214,
     "Type": "mouthRight"
   },
   {
     "Y": 0.582602322101593,
     "X": 0.2566150426864624,
     "Type": "nose"
   }
 ],
 "Pose": {
   "Yaw": 11.487052917480469,
   "Roll": 5.074230670928955,
   "Pitch": 15.396159172058105
 },
 "Quality": {
   "Sharpness": 73.32209777832031,
   "Brightness": 54.96497344970703
 },
 "Confidence": 99.99998474121094
 },
For more information, see Detecting Faces in a Stored Video in the Amazon Rekognition Developer Guide.

- For API details, see GetFaceDetection in AWS CLI Command Reference.

get-face-search

The following code example shows how to use get-face-search.

AWS CLI

To get the results of a face search operation

The following get-face-search command displays the results of a face search operation that you started previously by calling start-face-search.

    aws rekognition get-face-search  
    --job-id 1234567890abcdef1234567890abcdef1234567890abcdef

Output:

    
    
    
    { 
        "Persons": [ 
            { 
                "Timestamp": 467, 
                "FaceMatches": [], 
                "Person": { 
                    "Index": 0, 
                    "Face": { 
                        "BoundingBox": {
                            "NextToken": "OzL223pDKy91160/02KXRqFIEAwxjy4PkgYcm3hSo0rdysbXg5Ex0eFgTGEj0ADEac6S037U", 
                            "JobStatus": "SUCCEEDED", 
                            "VideoMetadata": { 
                                "Format": "QuickTime / MOV", 
                                "FrameRate": 29.970617294311523, 
                                "Codec": "h264", 
                                "DurationMillis": 6806, 
                                "FrameHeight": 1080, 
                                "FrameWidth": 1920 
                            } 
                        } 
                    } 
                } 
            } 
        ] 
    }


"Actions and scenarios"
For more information, see [Searching Stored Videos for Faces](#) in the [Amazon Rekognition Developer Guide](#).

- For API details, see [GetFaceSearch](#) in [AWS CLI Command Reference](#).
get-label-detection

The following code example shows how to use get-label-detection.

AWS CLI

To get the results of an objects and scenes detection operation

The following get-label-detection command displays the results of an objects and scenes detection operation that you started previously by calling start-label-detection.

```
aws rekognition get-label-detection  \
   --job-id 1234567890abcdef1234567890abcdef1234567890abcdef1234567890abcdef
```

Output:

```
{
   "Labels": [
      {
         "Timestamp": 0,
         "Label": {
            "Instances": [],
            "Confidence": 50.19071578979492,
            "Parents": [
               {
                  "Name": "Person"
               },
               {
                  "Name": "Crowd"
               }
            ],
            "Name": "Audience"
         }
      },
      {
         "Timestamp": 0,
         "Label": {
            "Instances": [],
            "Confidence": 55.74115753173828,
            "Parents": [
               {
                  "Name": "Room"
               }
            ],
            "Name": "Audience"
         }
      }
   ]
}
```
For more information, see Detecting Labels in a Video in the Amazon Rekognition Developer Guide.

- For API details, see GetLabelDetection in AWS CLI Command Reference.

get-person-tracking

The following code example shows how to use get-person-tracking.

AWS CLI

To get the results of a people pathing operation

The following get-person-tracking command displays the results of a people pathing operation that you started previously by calling start-person-tracking.

```
aws rekognition get-person-tracking
```
Output:

```json
{
    "Persons": [
        {
            "Timestamp": 500,
            "Person": {
                "BoundingBox": {
                    "Width": 0.4151041805744171,
                    "Top": 0.07870370149612427,
                    "Left": 0.0,
                    "Height": 0.9212962985038757
                },
                "Index": 0
            }
        },
        {
            "Timestamp": 567,
            "Person": {
                "BoundingBox": {
                    "Width": 0.4755208194255829,
                    "Top": 0.07777778059244156,
                    "Left": 0.0,
                    "Height": 0.9194444417953491
                },
                "Index": 0
            }
        }
    ],
    "NextToken": "D/vRIYNyhG79ugdta3f+8cRg9o5Ro+HigGOuxRiYpTn0ExnqTi1CJektVAc4HrAXDv25eHYk",
    "JobStatus": "SUCCEEDED",
    "VideoMetadata": {
        "Format": "QuickTime / MOV",
        "FrameRate": 29.970617294311523,
        "Codec": "h264",
        "DurationMillis": 6806,
        "FrameHeight": 1080,
        "FrameWidth": 1920
    }
}
```
For more information, see People Pathing in the Amazon Rekognition Developer Guide.

- For API details, see GetPersonTracking in AWS CLI Command Reference.

**list-stream-processors**

The following code example shows how to use list-stream-processors.

### AWS CLI

**To list the stream processors in your account**

The following list-stream-processors command lists the stream processors in your account and the state of each.

```shell
aws rekognition list-stream-processors
```

**Output:**

```
{
    "StreamProcessors": [
        {
            "Status": "STOPPED",
            "Name": "my-stream-processor"
        }
    ]
}
```

For more information, see Working with Streaming Videos in the Amazon Rekognition Developer Guide.

- For API details, see ListStreamProcessors in AWS CLI Command Reference.

**start-celebrity-recognition**

The following code example shows how to use start-celebrity-recognition.

### AWS CLI

**To start the recognition of celebrities in a stored video**
The following `start-celebrity-recognition` command starts a job to look for celebrities in the specified video file stored in an Amazon S3 bucket.

```bash
aws rekognition start-celebrity-recognition \
   --video "S3Object={Bucket=MyVideoS3Bucket,Name=MyVideoFile.mpg}"
```

Output:

```json
{
   "JobId": "1234567890abcdef1234567890abcdef1234567890abcdef1234567890abcdef"
}
```

For more information, see Recognizing Celebrities in a Stored Video in the Amazon Rekognition Developer Guide.

- For API details, see StartCelebrityRecognition in AWS CLI Command Reference.

### start-content-moderation

The following code example shows how to use `start-content-moderation`.

**AWS CLI**

**To start the recognition of unsafe content in a stored video**

The following `start-content-moderation` command starts a job to detect unsafe content in the specified video file stored in an Amazon S3 bucket.

```bash
aws rekognition start-content-moderation \
   --video "S3Object={Bucket=MyVideoS3Bucket,Name=MyVideoFile.mpg}"
```

Output:

```json
{
   "JobId": "1234567890abcdef1234567890abcdef1234567890abcdef1234567890abcdef"
}
```

For more information, see Detecting Unsafe Stored Videos in the Amazon Rekognition Developer Guide.

- For API details, see StartContentModeration in AWS CLI Command Reference.
**start-face-detection**

The following code example shows how to use `start-face-detection`.

**AWS CLI**

**To detect faces in a video**

The following `start-face-detection` command starts a job to detect faces in the specified video file stored in an Amazon S3 bucket.

```
aws rekognition start-face-detection
   --video "S3Object={Bucket=MyVideoS3Bucket,Name=MyVideoFile.mpg}"
```

Output:

```
{
   "JobId": "1234567890abcdef1234567890abcdef1234567890abcdef"
}
```

For more information, see [Detecting Faces in a Stored Video](https://docs.aws.amazon.com/rekognition/latest/dev/detecting-faces.html) in the Amazon Rekognition Developer Guide.

- For API details, see [StartFaceDetection](https://docs.aws.amazon.com/cli/latest/reference/rekognition/start-face-detection.html) in AWS CLI Command Reference.

**start-face-search**

The following code example shows how to use `start-face-search`.

**AWS CLI**

**To search for faces in a collection that match faces detected in a video**

The following `start-face-search` command starts a job to search for faces in a collection that match faces detected in the specified video file in an Amazon S3 bucket.

```
aws rekognition start-face-search
   --video "S3Object={Bucket=MyVideoS3Bucket,Name=MyVideoFile.mpg}"
   --collection-id collection
```

Output:
For more information, see [Searching Stored Videos for Faces](#) in the *Amazon Rekognition Developer Guide*.

- For API details, see [StartFaceSearch](#) in *AWS CLI Command Reference*.

### start-label-detection

The following code example shows how to use `start-label-detection`.

**AWS CLI**

**To detect objects and scenes in a video**

The following `start-label-detection` command starts a job to detect objects and scenes in the specified video file stored in an Amazon S3 bucket.

```bash
aws rekognition start-label-detection 
   --video "S3Object={Bucket=MyVideoS3Bucket,Name=MyVideoFile.mpg}"
```

**Output:**

```json
{
   "JobId": "1234567890abcdef1234567890abcdef1234567890abcdef1234567890abcdef"
}
```

For more information, see [Detecting Labels in a Video](#) in the *Amazon Rekognition Developer Guide*.

- For API details, see [StartLabelDetection](#) in *AWS CLI Command Reference*.

### start-person-tracking

The following code example shows how to use `start-person-tracking`.

**AWS CLI**

**To start the pathing of people in a stored video**

```bash
```
The following `start-person-tracking` command starts a job to track the paths that people take in the specified video file stored in an Amazon S3 bucket:

```
aws rekognition start-person-tracking \
   --video "S3Object={Bucket=MyVideoS3Bucket,Name=MyVideoFile.mpg}"
```

Output:

```
{
   "JobId": "1234567890abcdef1234567890abcdef1234567890abcdef"
}
```

For more information, see [People Pathing](#) in the *Amazon Rekognition Developer Guide*.

- For API details, see [StartPersonTracking](#) in *AWS CLI Command Reference*.

### start-stream-processor

The following code example shows how to use `start-stream-processor`.

**AWS CLI**

**To start a stream processor**

The following `start-stream-processor` command starts the specified video stream processor.

```
aws rekognition start-stream-processor \
   --name my-stream-processor
```

This command produces no output.

For more information, see [Working with Streaming Videos](#) in the *Amazon Rekognition Developer Guide*.

- For API details, see [StartStreamProcessor](#) in *AWS CLI Command Reference*.

### stop-stream-processor

The following code example shows how to use `stop-stream-processor`.
To stop a running stream processor

The following `stop-stream-processor` command stops the specified running stream processor.

```bash
aws rekognition stop-stream-processor \
   --name my-stream-processor
```

This command produces no output.

For more information, see [Working with Streaming Videos](#) in the [Amazon Rekognition Developer Guide](#).

- For API details, see [StopStreamProcessor](#) in [AWS CLI Command Reference](#).

AWS RAM examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS RAM.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- [Actions](#)

**Actions**

*accept-resource-share-invitation*

The following code example shows how to use `accept-resource-share-invitation`. 
**AWS CLI**

**To accept a resource share invitation**

The following accept-resource-share-invitation example accepts the specified resource share invitation. Principals in the invited account can immediately start using the resources in the share.

```bash
aws ram accept-resource-share-invitation \
  --resource-share-invitation-arn arn:aws:ram:us-west-2:111111111111:resource-share-invitation/1e3477be-4a95-46b4-bbe0-c4001EXAMPLE
```

Output:

```json
{
  "resourceShareInvitation": {
    "resourceShareInvitationArn": "arn:aws:ram:us-west-2:111111111111:resource-share-invitation/1e3477be-4a95-46b4-bbe0-c4001EXAMPLE",
    "resourceShareName": "MyLicenseShare",
    "senderAccountId": "111111111111",
    "receiverAccountId": "222222222222",
    "invitationTimestamp": "2021-09-22T15:07:35.620000-07:00",
    "status": "ACCEPTED"
  }
}
```

- For API details, see [AcceptResourceShareInvitation](#) in *AWS CLI Command Reference*.

**associate-resource-share**

The following code example shows how to use associate-resource-share.

**AWS CLI**

**Example 1: To associate a resource with a resource share**

The following associate-resource-share example adds a license configuration to the specified resource share.

```bash
aws ram associate-resource-share \
```
Example 2: To associate a principal with a resource share

The following `associate-resource-share` example grants access for the specified resource share to all accounts in the specified organizational unit.

```bash
aws ram associate-resource-share \
   --resource-share-arn arn:aws:ram:us-west-2:123456789012:resource-share/27d09b4b-5e12-41d1-a4f2-19dedEXAMPLE \ 
   --principals arn:aws:organizations::123456789012:ou/o-63bEXAMPLE/ou-46xi-rEXAMPLE
```

Output:

```json
{
   "resourceShareAssociations": [
      {
         "status": "ASSOCIATING",
         "associationType": "PRINCIPAL",
         "associatedEntity": "arn:aws:organizations::123456789012:ou/o-63bEXAMPLE/ou-46xi-rEXAMPLE",
         "external": false
      }
   ]
}
```
• For API details, see AssociateResourceShare in AWS CLI Command Reference.

associate-resource-share-permission

The following code example shows how to use associate-resource-share-permission.

AWS CLI

To associate a RAM managed permission with a resource share

The following associate-resource-share-permission example replaces the existing managed permission for the relevant resource type with the specified managed permission. Access to all resources of the relevant resource type is governed by the new permission.

```bash
aws ram associate-resource-share-permission \
  --permission-arn arn:aws:ram::aws:permission/AWSRAMPermissionGlueDatabaseReadWrite \
  --replace \
```

Output:

```json
{
  "returnValue": true
}
```

• For API details, see AssociateResourceSharePermission in AWS CLI Command Reference.

create-resource-share

The following code example shows how to use create-resource-share.
AWS CLI

Example 1: To create a resource share

The following create-resource-share example creates an empty resource share with the specified name. You must separately add resources, principals, and permissions to the share.

```bash
aws ram create-resource-share \
   --name MyNewResourceShare
```

Output:

```json
{
   "resourceShare": {
      "name": "MyNewResourceShare",
      "owningAccountId": "123456789012",
      "allowExternalPrincipals": true,
      "status": "ACTIVE",
      "creationTime": 1634586271.302,
      "lastUpdatedTime": 1634586271.302
   }
}
```

Example 2: To create a resource share with AWS accounts as principals

The following create-resource-share example creates a resource share and grants access to the specified AWS account (222222222222). If the specified principals are not part of the same AWS Organization, then invitations are sent and must be accepted before access is granted.

```bash
aws ram create-resource-share \
   --name MyNewResourceShare \
   --principals 222222222222
```

Example 3: To create a resource share restricted to your AWS Organization

The following create-resource-share example creates a resource share that is restricted to accounts in the AWS Organization that your account is a member of, and adds the specified OU as a principal. All accounts in that OU can use the resources in the resource share.
aws ram create-resource-share
   --name MyNewResourceShare
   --no-allow-external-principals
   --principals arn:aws:organizations::123456789012:ou/o-63bEXAMPLE/ou-46xi-rEXAMPLE

Output:

```
{
   "resourceShare": {
      "resourceShareArn": "arn:aws:ram:us-west-2:123456789012:resource-share/7be8694e-095c-41ca-9ce8-7be4aEXAMPLE",
      "name": "MyNewResourceShare",
      "owningAccountId": "123456789012",
      "allowExternalPrincipals": false,
      "status": "ACTIVE",
      "creationTime": 1634587042.49,
      "lastUpdatedTime": 1634587042.49
   }
}
```

- For API details, see [CreateResourceShare](#) in AWS CLI Command Reference.

**delete-resource-share**

The following code example shows how to use `delete-resource-share`.

**AWS CLI**

**To delete a resource share**

The following `delete-resource-share` example deletes the specified resource share.

```
aws ram delete-resource-share
   --resource-share-arn arn:aws:ram:us-west-2:123456789012:resource-share/7ab63972-b505-7e2a-420d-6f5d3EXAMPLE
```

The following output indicates success:

```
{
   "returnValue": true
}
```
disassociate-resource-share

The following code example shows how to use `disassociate-resource-share`.

**AWS CLI**

To remove a resource from a resource share

The following `disassociate-resource-share` example removes the specified resource, in this case a VPC subnet, from the specified resource share. Any principals with access to the resource share can no longer perform operations on that resource.

```bash
aws ram disassociate-resource-share \
   --resource-arns arn:aws:ec2:us-west-2:123456789012:subnet/subnet-0250c25a1fEXAMPLE \
   --resource-share-arn arn:aws:ram:us-west-2:123456789012:resource-share/7ab63972-b505-7e2a-420d-6f5d3EXAMPLE
```

Output:

```json
{
   "resourceShareAssociations": [
      {
         "resourceShareArn": "arn:aws:ram:us-west-2:123456789012:resource-share/7ab63972-b505-7e2a-420d-6f5d3EXAMPLE",
         "associationType": "RESOURCE",
         "status": "DISASSOCIATING",
         "external": false
      }
   ]
}
```

For API details, see [DisassociateResourceShare](https://docs.aws.amazon.com/cli/latest/reference/ram/disassociate-resource-share.html) in *AWS CLI Command Reference*.

disassociate-resource-share-permission

The following code example shows how to use `disassociate-resource-share-permission`.

For API details, see [DisassociateResourceShare](https://docs.aws.amazon.com/cli/latest/reference/ram/disassociate-resource-share.html) in *AWS CLI Command Reference*. 
AWS CLI

**To remove a RAM managed permission for a resource type from a resource share**

The following disassociate-resource-share-permission example removes the RAM managed permission for Glue databases from the specified resource share.

```bash
aws ram disassociate-resource-share-permission \\
--permission-arn arn:aws:ram::aws:permission/AWSRAMPermissionGlueDatabaseReadWrite
```

Output:

```
{
   "returnValue": true
}
```

- For API details, see DisassociateResourceSharePermission in *AWS CLI Command Reference*.

**enable-sharing-with-aws-organization**

The following code example shows how to use enable-sharing-with-aws-organization.

**AWS CLI**

**To enable resource sharing across AWS Organizations**

The following enable-sharing-with-aws-organization example enables resource sharing across your organization and organizational units.

```bash
aws ram enable-sharing-with-aws-organization
```

The following output indicates success.

```json
{
   "returnValue": true
}
```
get-permission

The following code example shows how to use get-permission.

AWS CLI

To retrieve the details for a RAM managed permission

The following get-permission example displays the details for the default version of the specified RAM managed permission.

```bash
aws ram get-permission
--permission-arn arn:aws:ram::aws:permission/
AWSRAMPermissionGlueTableReadWriteForDatabase

Output:
```

```json
{
    "permission": {
        "arn": "arn:aws:ram::aws:permission/
AWSRAMPermissionGlueTableReadWriteForDatabase",
        "version": "2",
        "defaultVersion": true,
        "name": "AWSRAMPermissionGlueTableReadWriteForDatabase",
        "resourceType": "glue:Database",
        "permission": "{"Effect":"Allow","Action":["glue:GetTable",
        "glue:UpdateTable", "glue:DeleteTable", "glue:BatchDeleteTable",
        "glue:BatchDeleteTableVersion", "glue:GetTableVersion", "glue:GetTableVersions",
        "glue:BatchCreatePartition", "glue:CreatePartition", "glue:UpdatePartition",
        "glue:BatchDeletePartition", "glue:DeletePartition", "glue:GetTables",
        "glue:SearchTables"]}",
        "creationTime": 1624912434.431,
        "lastUpdatedTime": 1624912434.431,
        "isResourceTypeDefault": false
    }
}
```

For API details, see `GetPermission` in `AWS CLI Command Reference`.
get-resource-policies

The following code example shows how to use get-resource-policies.

AWS CLI

To get the policies for a resource

The following get-resource-policies example displays the resource-based permission policies for the specified resource associated with a resource share.

```bash
aws ram get-resource-policies \
```

Output:

```json
{
   "policies": [
      {
         "Version": "2008-10-17",
         "Statement": [
            {
               "Sid": "RamStatement1",
               "Effect": "Allow",
               "Principal": {"AWS": []},
               "Action": ["ec2:RunInstances",
                          "ec2:CreateNetworkInterface",
                          "ec2:DescribeSubnets"],
               "Resource": 
                  "arn:aws:ec2:us-west-2:123456789012:subnet/subnet-0250c25a1fEXAMPLE"
            }
         ]
      }
   ]
}
```

- For API details, see GetResourcePolicies in AWS CLI Command Reference.

get-resource-share-associations

The following code example shows how to use get-resource-share-associations.

AWS CLI

Example 1: To list all resource associations for all resource types

The following get-resource-share-associations example lists the resource associations for all resource types across all of your resource shares.

```bash
aws ram get-resource-share-associations \
```
---association-type RESOURCE

Output:

```json
{
  "resourceShareAssociations": [
    {
      "resourceShareArn": "arn:aws:ram:us-west-2:123456789012:resource-share/7ab63972-b505-7e2a-420d-6f5d3EXAMPLE",
      "resourceShareName": "MySubnetShare",
      "associationType": "RESOURCE",
      "status": "ASSOCIATED",
      "creationTime": 1565303590.973,
      "lastUpdatedTime": 1565303591.695,
      "external": false,
    },
    {
      "resourceShareArn": "arn:aws:ram:us-west-2:123456789012:resource-share/8167bdfe-4480-4a01-8632-315e0EXAMPLE",
      "resourceShareName": "MyLicenseShare",
      "associationType": "RESOURCE",
      "status": "ASSOCIATED",
      "creationTime": 1632342958.457,
      "lastUpdatedTime": 1632342958.907,
      "external": false,
    }
  ]
}
```

**Example 2: To list principal associations for a resource share**

The following `get-resource-share-associations` example lists only the principal associations for only the specified resource share.

```
aws ram get-resource-share-associations \
  --resource-share-arns arn:aws:ram:us-west-2:123456789012:resource-share/7be8694e-005c-41ca-9ce8-7be4aEXAMPLE \
  --association-type PRINCIPAL
```
Output:

```json
{
    "resourceShareAssociations": [
        {
            "resourceShareArn": "arn:aws:ram:us-west-2:123456789012:resource-share/7be8694e-095c-41ca-9ce8-7be4aEXAMPLE",
            "resourceShareName": "MyNewResourceShare",
            "associatedEntity": "arn:aws:organizations::123456789012:ou/o-63bEXAMPLE/ou-46xi-rEXAMPLE",
            "associationType": "PRINCIPAL",
            "status": "ASSOCIATED",
            "creationTime": 1634587042.49,
            "lastUpdatedTime": 1634587044.291,
            "external": false
        }
    ]
}
```


**get-resource-share-invitations**

The following code example shows how to use `get-resource-share-invitations`.

**AWS CLI**

**To list your resource share invitations**

The following `get-resource-share-invitations` example lists your current resource share invitations.

```
aws ram get-resource-share-invitations
```

Output:

```json
{
    "resourceShareInvitations": [
        {
            "resourceShareInvitationArn": "arn:aws:ram:us-west2-1:111111111111:resource-share-invitation/32b639f0-14b8-7e8f-55ea-e6117EXAMPLE",
```

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For API details, see GetResourceShareInvitations in AWS CLI Command Reference.

get-resource-shares

The following code example shows how to use get-resource-shares.

AWS CLI

**Example 1: To list resource shares you own and share with others**

The following get-resource-shares example lists the resource shares that created and are sharing with others.

```bash
aws ram get-resource-shares \
    --resource-owner SELF
```

Output:

```json
{
    "resourceShares": [
        {
            "resourceShareArn": "arn:aws:ram:us-west-2:123456789012:resource-share/3ab63985-99d9-1cd2-7d24-75e93EXAMPLE",
            "name": "my-resource-share",
            "owningAccountId": "123456789012",
            "allowExternalPrincipals": false,
            "status": "ACTIVE",
            "tags": [
                {
                    "key": "project",
                    "value": "lima"
                }
            ]
        }
    ]
}
```
Example 2: To list resource shares owned by others and shared with you

The following `get-resource-shares` example lists the resource shares that others created and shared with you. In this example, there are none.

```bash
aws ram get-resource-shares \
   --resource-owner OTHER-ACCOUNTS
```

Output:

```json
{
   "resourceShares": []
}
```


**list-pending-invitation-resources**

The following code example shows how to use `list-pending-invitation-resources`.

**AWS CLI**

To list the resources that are available in a pending resource share
The following `list-pending-invitation-resources` example lists all of the resources that are in the resource share associated with the specified invitation.

```bash
aws ram list-pending-invitation-resources \
   --resource-share-invitation-arn arn:aws:ram:us-west-2:123456789012:resource-share-invitation/1e3477be-4a95-46b4-bbe0-c4001EXAMPLE
```

**Output:**

```json
{
   "resources": [
   {
      "arn": "arn:aws:ec2:us-west-2:123456789012:subnet/subnet-04a55b0e6EXAMPLE",
      "resourceShareArn": "arn:aws:ram:us-west-2:123456789012:resource-share/7be8694e-095c-41ca-9ce8-7be4aEXAMPLE",
      "creationTime": 1634676051.269,
      "lastUpdatedTime": 1634676052.07,
      "status": "AVAILABLE",
      "type": "ec2:Subnet"
   },
   {
      "resourceShareArn": "arn:aws:ram:us-west-2:123456789012:resource-share/7ab63972-b505-7e2a-420d-6f5d3EXAMPLE",
      "creationTime": 1624912434.431,
      "lastUpdatedTime": 1624912434.431,
      "status": "AVAILABLE",
      "type": "license-manager:LicenseConfiguration"
   }
   ]
}
```

- For API details, see [ListPendingInvitationResources](#) in [AWS CLI Command Reference](#).

### list-permissions

The following code example shows how to use `list-permissions`. 

---

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AWS CLI

To list the available RAM managed permissions

The following list-permissions example lists all of the RAM managed permissions available for only the AWS Glue database resource type.

```
aws ram list-permissions \
  --resource-type glue:Database
```

Output:

```
{
  "permissions": [
    {
      "arn": "arn:aws:ram::aws:permission/AWSRAMDefaultPermissionGlueDatabase",
      "version": "1",
      "defaultVersion": true,
      "name": "AWSRAMDefaultPermissionGlueDatabase",
      "resourceType": "glue:Database",
      "creationTime": 1592007820.935,
      "lastUpdatedTime": 1592007820.935,
      "isResourceTypeDefault": true
    },
    {
      "arn": "arn:aws:ram::aws:permission/AWSRAMPermissionGlueAllTablesReadWriteForDatabase",
      "version": "2",
      "defaultVersion": true,
      "name": "AWSRAMPermissionGlueAllTablesReadWriteForDatabase",
      "resourceType": "glue:Database",
      "creationTime": 1624912413.323,
      "lastUpdatedTime": 1624912413.323,
      "isResourceTypeDefault": false
    },
    {
      "arn": "arn:aws:ram::aws:permission/AWSRAMPermissionGlueDatabaseReadWrite",
      "version": "2",
      "defaultVersion": true,
      "name": "AWSRAMPermissionGlueDatabaseReadWrite",
      "resourceType": "glue:Database",
      "creationTime": 1624912413.323,
      "lastUpdatedTime": 1624912413.323,
      "isResourceTypeDefault": false
    }
  ]
}
```
The following `list-permissions` example displays the available RAM managed permissions for all resource types.

```bash
aws ram list-permissions
```

Output:

```json
{
   "permissions": [
      {
         "arn": "arn:aws:ram::aws:permission/AWSRAMPermissionGlueTableReadWriteForDatabase",
         "version": "2",
         "defaultVersion": true,
         "name": "AWSRAMPermissionGlueTableReadWriteForDatabase",
         "resourceType": "glue:Database",
         "creationTime": 1624912434.431,
         "lastUpdatedTime": 1624912434.431,
         "isResourceTypeDefault": false
      },
      {
         "arn": "arn:aws:ram::aws:permission/AWSRAMDefaultPermissionAppMesh",
         "version": "1",
         "defaultVersion": true,
         "name": "AWSRAMDefaultPermissionAppMesh",
         "resourceType": "acm-pca:CertificateAuthority",
         "creationTime": 1623264861.085,
         "lastUpdatedTime": 1623264861.085,
         "isResourceTypeDefault": false
      }
   ]
}
```
For API details, see [ListPermissions](#) in *AWS CLI Command Reference*.

**list-principals**

The following code example shows how to use `list-principals`.

**AWS CLI**

**To list principals with access to a resource**

The following `list-principals` example displays a list of the principals that can access resources of the specified type through any resource shares.

```bash
aws ram list-principals
   --resource-type ec2:Subnet
```

Output:

```json
{
   "principals": [
```
For API details, see ListPrincipals in AWS CLI Command Reference.

list-resource-share-permissions

The following code example shows how to use list-resource-share-permissions.

**AWS CLI**

To list all of the RAM managed permissions currently attached to a resource share

The following list-resource-share-permissions example lists all of the RAM managed permissions that are attached to the specified resource share.

```
aws ram list-resource-share-permissions \\
```

Output:

```
{
  "permissions": [
    {
      "arn": "arn:aws:ram::aws:permission/AWSRAMDefaultPermissionLicenseConfiguration",
      "version": "1",
      "resourceType": "license-manager:LicenseConfiguration",
      "status": "ASSOCIATED",
      "lastUpdatedTime": 1632342984.234
    }
  ]
}
```
For API details, see `ListResourceSharePermissions` in *AWS CLI Command Reference*.

**list-resource-types**

The following code example shows how to use `list-resource-types`.

**AWS CLI**

**To list the resource types that are supported by AWS RAM**

The following `list-resource-types` example lists all of the resource types currently supported by AWS RAM.

```bash
aws ram list-resource-types
```

**Output:**

```json
{
  "resourceTypes": [
    {
      "resourceType": "route53resolver:FirewallRuleGroup",
      "serviceName": "route53resolver"
    },
    {
      "resourceType": "ec2:LocalGatewayRouteTable",
      "serviceName": "ec2"
    },
    ...OUTPUT TRUNCATED FOR BREVITY...
  }
}
```
The following code example shows how to use list-resources.

AWS CLI

To list the resources associated with a resource share

The following list-resources example lists all resources in the specified resource share that are of the specified resource type.

```
aws ram list-resources \
   --resource-type ec2:Subnet \
   --resource-owner SELF \
   --resource-share-arn arn:aws:ram:us-west-2:123456789012:resource-share/7ab63972-b505-7e2a-420d-6f5d3EXAMPLE
```

Output:

```
{
   "resources": [
   {
      "arn": "arn:aws:ec2:us-west-2:123456789012:subnet/subnet-0250c25a1f4e15235",
      "type": "ec2:Subnet",
      "resourceShareArn": "arn:aws:ram:us-west-2:123456789012:resource-share/7ab63972-b505-7e2a-420d-6f5d3EXAMPLE",
      "creationTime": 1565301545.023,
      "lastUpdatedTime": 1565301545.947
   }
   ]
}
```
• For API details, see [ListResources](#) in *AWS CLI Command Reference*.

**promote-resource-share-created-from-policy**

The following code example shows how to use `promote-resource-share-created-from-policy`.

**AWS CLI**

*To promote a resource-policy based resource share to full functionality in AWS RAM*

The following `promote-resource-share-created-from-policy` example takes a resource share that you created implicitly by attaching a resource-based policy, and converts it to be fully functional with the AWS RAM console and its CLI and API operations.

```
aws ram promote-resource-share-created-from-policy \
```

**Output:**

```
{
    "returnValue": true
}
```

• For API details, see [PromoteResourceShareCreatedFromPolicy](#) in *AWS CLI Command Reference*.

**reject-resource-share-invitation**

The following code example shows how to use `reject-resource-share-invitation`.

**AWS CLI**

*To reject a resource share invitation*

The following `reject-resource-share-invitation` example rejects the specified resource share invitation.
aws ram reject-resource-share-invitation \

Output:

"resourceShareInvitations": [
   {
      "resourceShareName": "project-resource-share",
      "senderAccountId": "11111111111",
      "receiverAccountId": "22222222222",
      "invitationTimestamp": 1565319592.463,
      "status": "REJECTED"
   }
]

• For API details, see RejectResourceShareInvitation in AWS CLI Command Reference.

tag-resource

The following code example shows how to use tag-resource.

AWS CLI

To add tags to a resource share

The following tag-resource example adds a tag key project and associated value lima to the specified resource share.

aws ram tag-resource \ 
   --tags key=project,value=lima \ 
   --resource-share-arn arn:aws:ram:us-west-2:123456789012:resource-share/7ab63972-\nb505-7a2e-420d-6f5d3EXAMPLE

This command produces no output.

• For API details, see TagResource in AWS CLI Command Reference.
untag-resource

The following code example shows how to use untag-resource.

AWS CLI

To remove tags from a resource share

The following untag-resource example removes the project tag key and associated value from the specified resource share.

```bash
aws ram untag-resource \
  --tag-keys project \
  --resource-share-arn arn:aws:ram:us-west-2:123456789012:resource-share/7ab63972-b505-7e2a-420d-6f5d3EXAMPLE
```

This command produces no output.

- For API details, see UnTagResource in AWS CLI Command Reference.

update-resource-share

The following code example shows how to use update-resource-share.

AWS CLI

To update a resource share

The following update-resource-share example changes the specified resource share to allow external principals that are not in an AWS Organization.

```bash
aws ram update-resource-share \
  --allow-external-principals \
  --resource-share-arn arn:aws:ram:us-west-2:123456789012:resource-share/7ab63972-b505-7e2a-420d-6f5d3EXAMPLE
```

Output:

```
{
  "resourceShare": {
    "resourceShareArn": "arn:aws:ram:us-west-2:123456789012:resource-share/7ab63972-b505-7e2a-420d-6f5d3EXAMPLE",
```

Actions and scenarios
Resource Explorer examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Resource Explorer.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- **Actions**

**Actions**

*associate-default-view*

The following code example shows how to use associate-default-view.

**AWS CLI**

To set a Resource Explorer view as the default for its AWS Region

The following associate-default-view example sets a view, as specified by its ARN, to be the default view for the AWS Region in which you call the operation.
aws resource-explorer-2 associate-default-view \

Output:

```
{}
```

For more information, see Setting a default view in an AWS Region in the AWS Resource Explorer Users Guide.

- For API details, see AssociateDefaultView in AWS CLI Command Reference.

**batch-get-view**

The following code example shows how to use batch-get-view.

**AWS CLI**

To retrieve details about multiple Resource Explorer views

The following batch-get-view example displays the details about two views specified by their ARNs. Use spaces to separate the multiple ARNs in the --view-arn paramter.

aws resource-explorer-2 batch-get-view \
    --view-arns arn:aws:resource-explorer-2:us-east-1:123456789012:view/My-EC2-Only-View/EXAMPLE8-90ab-cdef-fedc-EXAMPLE22222, \ 
    arn:aws:resource-explorer-2:us-east-1:123456789012:view/My-Main-View/EXAMPLE8-90ab-cdef-fedc-EXAMPLE11111

Output:

```
{
    "Views": [
        {
            "Filters": {
                "FilterString": "service:ec2"
            }
        }
    ]
}```
For more information about views, see About Resource Explorer views in the AWS Resource Explorer Users Guide.

- For API details, see BatchGetView in AWS CLI Command Reference.

create-index

The following code example shows how to use create-index.

AWS CLI

To turn on Resource Explorer in an AWS Region by creating an index
The following `create-index` example creates a local index in the AWS Region in which the operation is called. The AWS CLI automatically generates a random `client-token` parameter value and includes it in the call to AWS if you don't specify a value.

```bash
aws resource-explorer-2 create-index \  --region us-east-1
```

Output:

```json
{
   "Arn": "arn:aws:resource-explorer-2:us-east-1:123456789012:index/EXAMPLE8-90ab-cdef-fedc-EXAMPLE22222c",
   "CreatedAt": "2022-11-01T20:00:59.149Z",
   "State": "CREATING"
}
```

After you create a local index, you can convert it into the aggregator index for the account by running the `update-index-type` command.

For more information, see [Turning on Resource Explorer in an AWS Region to index your resources](https://docs.aws.amazon.com/resource-explorer/latest/userguide/turn-resource-explorer-cornerstone-aggregator-index.html) in the *AWS Resource Explorer Users Guide*.

- For API details, see [CreateIndex](https://docs.aws.amazon.com/cli/latest/reference/resource-explorer-2/create-index.html) in *AWS CLI Command Reference*.

### create-view

The following code example shows how to use `create-view`.

**AWS CLI**

**Example 1: To create an unfiltered view for the index in an AWS Region**

The following `create-view` example creates a view in the specified AWS Region that returns all results in the Region without any filtering. The view includes the optional Tags field on returned results. Because this view is created in the Region that contains the aggregator index, it can include results from all Regions in the account that contain a Resource Explorer index.

```bash
aws resource-explorer-2 create-view \  --view-name My-Main-View \  --included-properties Name=tags \  --region us-east-1
```
Example 2: To create a view that returns only resources associated with Amazon EC2

The following `create-view` creates a view in AWS Region `us-east-1` that returns only those resources in the Region that are associated with the Amazon EC2 service. The view includes the optional `Tags` field on returned results. Because this view is created in the Region that contains the aggregator index, it can include results from all Regions in the account that contain a Resource Explorer index.

```
aws resource-explorer-2 create-view \
    --view-name My-EC2-Only-View \
    --included-properties Name=tags \
    --filters FilterString="service:ec2" \
    --region us-east-1
```

Output:

```json
{
    "View": {
        "Filters": {
            "FilterString": "service:ec2"
        },
        "IncludedProperties": [
            "Name": "tags"
        ],
        "LastUpdatedAt": "2022-07-13T20:34:11.314000+00:00",
        "Owner": "123456789012",
        "Scope": "arn:aws:iam::123456789012:root",
        "ViewArn": "arn:aws:resource-explorer-2:us-east-1:123456789012:view/My-Main-View/EXAMPLE8-90ab-cdef-fedc-EXAMPLE11111"
    }
}
```
For more information, see Creating views for search in the AWS Resource Explorer Users Guide.

- For API details, see CreateView in AWS CLI Command Reference.

**delete-index**

The following code example shows how to use `delete-index`.

**AWS CLI**

To turn off Resource Explorer in an AWS Region by deleting its index

The following `delete-index` example deletes the specified Resource Explorer index in the AWS Region in which you make the request.

```
aws resource-explorer-2 delete-index \
    --arn arn:aws:resource-explorer-2:us-west-2:123456789012:index/EXAMPLE8-90ab-cdef-fedc-EXAMPLE22222 \
    --region us-west-2
```

Output:

```
{
    "State": "DELETING"
}
```

For more information about deleting an index, see Turning off AWS Resource Explorer in an AWS Region in the AWS Resource Explorer Users Guide.
For API details, see `DeleteIndex` in *AWS CLI Command Reference*.

**delete-view**

The following code example shows how to use `delete-view`.

**AWS CLI**

**To delete a Resource Explorer view**

The following `delete-view` example deletes a view specified by its ARN.

```
aws resource-explorer-2 delete-view \\
```

Output:

```
{
    "ViewArn": "arn:aws:resource-explorer-2:us-east-1:123456789012:view/EC2-Only-View/EXAMPLE8-90ab-cdef-fedc-EXAMPLE11111"
}
```

For more information, see *Deleting views* in the *AWS Resource Explorer Users Guide*.

For API details, see `DeleteView` in *AWS CLI Command Reference*.

**disassociate-default-view**

The following code example shows how to use `disassociate-default-view`.

**AWS CLI**

**To remove the default Resource Explorer view for an AWS Region**

The following `disassociate-default-view` removes the default Resource Explorer view for the AWS Region in which you call the operation. After performing this operation, all search operations in the Region must explicitly specify a view or the operation fails.

```
aws resource-explorer-2 disassociate-default-view
```

This command produces no output.
For more information, see Setting a default view in an AWS Region in the AWS Resource Explorer Users Guide.

- For API details, see DisassociateDefaultView in AWS CLI Command Reference.

get-default-view

The following code example shows how to use get-default-view.

AWS CLI

To retrieve the Resource Explorer view that is the default view for its AWS Region

The following get-default-view example retrieves the ARN of the view that is the default for the AWS Region in which you call the operation.

```bash
aws resource-explorer-2 get-default-view
```

Output:

```
{
  "ViewArn": "arn:aws:resource-explorer-2:us-east-1:123456789012:view/default-view/EXAMPLE8-90ab-cdef-fedc-EXAMPLE11111"
}
```

For more information, see Setting a default view in an AWS Region in the AWS Resource Explorer Users Guide.

- For API details, see GetDefaultView in AWS CLI Command Reference.

get-index

The following code example shows how to use get-index.

AWS CLI

Example 1: To retrieve the details for a Resource Explorer aggregator index

The following get-index example displays the details for the Resource Explorer index in the specified AWS Region. Because the specified Region contains the aggregator index for the account, the output lists the Regions that replicate data into this Region's index.
### Example 2: To retrieve the details for a Resource Explorer local index

The following `get-index` example displays the details for the Resource Explorer index in the specified AWS Region. Because the specified Region contains a local index, the output lists the Region to which it replicates data from this Region's index.

```bash
aws resource-explorer-2 get-index \\ --region us-west-2
```

Output:

```
{
   "CreatedAt": "2022-07-12T18:59:10.503000+00:00",
   "LastUpdatedAt": "2022-07-13T18:41:58.799000+00:00",
   "ReplicatingTo": ["us-west-2"],
   "State": "ACTIVE",
   "Tags": {},
   "Type": "LOCAL"
}
```
For more information about indexes, see Checking which AWS Regions have Resource Explorer turned on in the AWS Resource Explorer Users Guide.

- For API details, see GetIndex in AWS CLI Command Reference.

get-view

The following code example shows how to use get-view.

AWS CLI

To retrieve details about a Resource Explorer view

The following get-view example displays the details about a view specified by its ARN.

```bash
aws resource-explorer-2 get-view \
```

Output:

```json
{
   "Tags" : {},
   "View" : {
      "Filters" : {
         "FilterString" : "service:ec2"
      },
      "IncludedProperties" : [
         {
            "Name" : "tags"
         }
      ],
      "LastUpdatedAt" : "2022-07-13T21:33:45.249Z",
      "Owner" : "123456789012",
      "Scope" : "arn:aws:iam::123456789012:root",
   }
}
```
For more information about views, see About Resource Explorer views in the AWS Resource Explorer Users Guide.

- For API details, see GetView in AWS CLI Command Reference.

**list-indexes**

The following code example shows how to use list-indexes.

**AWS CLI**

**To list the AWS Regions where Resource Explorer has indexes**

The following list-indexes example lists the indexes for all Regions where Resource Explorer has an index. The response specifies the type of each index, its AWS Region, and its ARN.

```
aws resource-explorer-2 list-indexes
```

Output:

```json
{
   "Indexes": [
   {
       "Region": "us-west-2",
       "Type": "AGGREGATOR"
   },
   {
       "Region": "us-east-1",
       "Type": "LOCAL"
   },
   {
       "Region": "us-east-2",
       "Type": "LOCAL"
   },
   {
   }
}
```
For more information about indexes, see [Checking which AWS Regions have Resource Explorer turned on](https://docs.aws.amazon.com/AWSResourceExplorer/latest/UserGuide/regions.html) in the *AWS Resource Explorer Users Guide*.

- For API details, see [ListIndexes](https://docs.aws.amazon.com/cli/latest/reference/resource-explorer-2/list-indexes.html) in *AWS CLI Command Reference*.

### list-supported-resource-types

The following code example shows how to use `list-supported-resource-types`.

#### AWS CLI

**To list the AWS Regions where Resource Explorer has indexes**

The following `list-supported-resource-types` example lists all of the resource types currently supported by Resource Explorer. The example response includes a `NextToken` value, which indicates that there is more output available to retrieve with additional calls.

```bash
aws resource-explorer-2 list-supported-resource-types \    --max-items 10
```

**Output:**

```json
{
    "ResourceTypes": [
        {
            "ResourceType": "cloudfront:cache-policy",
            "Service": "cloudfront"
        },
        {
            "ResourceType": "cloudfront:distribution",
            "Service": "cloudfront"
        },
        {
            "ResourceType": "cloudfront:function",
            "Service": "cloudfront"
        }
    ]
}
```
To get the next part of the output, call the operation again, and pass the previous call's NextToken response value as the value for --starting-token. Repeat until NextToken is absent from the response.

```
aws resource-explorer-2 list-supported-resource-types \
   --max-items 10  \
   --starting-token
   eyJ0ZXh0VG9rZW4iOiBudWxsLCAiYm90b190cnVuY2F0ZW90cnVuY2F0bW91bnQiOiAxMH0=
```

Output:


```json
{
    "ResourceTypes": [
        {
            "ResourceType": "cloudwatch:metric-stream",
            "Service": "cloudwatch"
        },
        {
            "ResourceType": "dynamodb:table",
            "Service": "dynamodb"
        },
        {
            "ResourceType": "ec2:capacity-reservation",
            "Service": "ec2"
        },
        {
            "ResourceType": "ec2:capacity-reservation-fleet",
            "Service": "ec2"
        },
        {
            "ResourceType": "ec2:client-vpn-endpoint",
            "Service": "ec2"
        },
        {
            "ResourceType": "ec2:customer-gateway",
            "Service": "ec2"
        },
        {
            "ResourceType": "ec2:dedicated-host",
            "Service": "ec2"
        },
        {
            "ResourceType": "ec2:dhcp-options",
            "Service": "ec2"
        },
        {
            "ResourceType": "ec2:egress-only-internet-gateway",
            "Service": "ec2"
        },
        {
            "ResourceType": "ec2:elastic-gpu",
            "Service": "ec2"
        }
    ]
}
```
For more information about indexes, see [Checking which AWS Regions have Resource Explorer turned on](#) in the *AWS Resource Explorer Users Guide*.
- For API details, see [ListSupportedResourceTypes](#) in *AWS CLI Command Reference*.

### list-tags-for-resource

The following code example shows how to use `list-tags-for-resource`.

**AWS CLI**

**To list the tags attached to a Resource Explorer view or index**

The following `list-tags-for-resource` example lists the tag key and value pairs attached to view with the specified ARN. You must call the operation from the AWS Region that contains the resource.

```
aws resource-explorer-2 list-tags-for-resource \
```

Output:

```
{
   "Tags": {
        "application": "MainCorpApp",
        "department": "1234"
   }
}
```

For more information about tagging views, see [Tagging views for access control](#) in the *AWS Resource Explorer Users Guide*.
- For API details, see [ListTagsForResource](#) in *AWS CLI Command Reference*.

### list-views

The following code example shows how to use `list-views`.

```bash
```
AWS CLI

To list the Resource Explorer views available in an AWS Region

The following list-views example lists all of the views available in the Region in which you invoke the operation.

```bash
aws resource-explorer-2 list-views
```

Output:

```
{
   "Views": [
   "arn:aws:resource-explorer-2:us-east-1:123456789012:view/Production-Only-View/EXAMPLE8-90ab-cdef-fedc-EXAMPLE33333"
   ]
}
```

For more information about views, see About Resource Explorer views in the AWS Resource Explorer Users Guide.

- For API details, see ListViews in AWS CLI Command Reference.

search

The following code example shows how to use search.

AWS CLI

Example 1: To search using the default view

The following search example displays all resources in the specified that are associated with the service. The search uses the default view for the Region. The example response includes a NextToken value, which indicates that there is more output available to retrieve with additional calls.

```bash
aws resource-explorer-2 search \ --query-string "service:iam"
```
Example 2: To search using a specified view

The following search example search displays all resources ("*") in the specified AWS Region that are visible through the specified view. The results include only resources associated with Amazon EC2 because of the filters attached to the view.

```bash
aws resource-explorer-2 search \
-- query-string "*"
```
Output:

HTTP/1.1 200 OK
Date: Tue, 01 Nov 2022 20:00:59 GMT
Content-Type: application/json
Content-Length: <PayloadSizeBytes>

```json
{
    "Count": {
        "Complete": true,
        "TotalResources": 67
    },
    "Resources": [
        {
            "LastReportedAt": "2022-07-21T18:52:02Z",
            "OwningAccountId": "123456789012",
            "Properties": [
                {
                    "Data": [
                        {
                            "Key": "Department",
                            "Value": "AppDevelopment"
                        },
                        {
                            "Key": "Environment",
                            "Value": "Production"
                        }
                    ],
                    "LastReportedAt": "2021-11-15T14:48:29Z",
                    "Name": "tags"
                }
            ],
            "Region": "us-east-1",
            "ResourceType": "ec2:network-acl",
            "Service": "ec2"
        },
        {
            "Arn": "arn:aws:ec2:us-east-1:123456789012:subnet/subnet-1a2b3c4d",
            "LastReportedAt": "2022-07-21T21:22:23Z",
            "OwningAccountId": "123456789012",
            "Properties": [
                {
                    "Data": [
                        {
                            "Key": "Department",
                            "Value": "AppDevelopment"
                        },
                        {
                            "Key": "Environment",
                            "Value": "Production"
                        }
                    ],
                    "LastReportedAt": "2021-11-15T14:48:29Z",
                    "Name": "tags"
                }
            ],
            "Region": "us-east-1",
            "ResourceType": "ec2:subnet",
            "Service": "ec2"
        }
    ]
}
```
For more information, see Using AWS Resource Explorer to search for resources in the AWS Resource Explorer Users Guide.

- For API details, see Search in AWS CLI Command Reference.

tag-resource

The following code example shows how to use tag-resource.
AWS CLI

**To tag a Resource Explorer view**

The following `tag-resource` example adds the tag key "environment" with the value "production" to the view with the specified ARN.

```
aws resource-explorer-2 tag-resource \
    --resource-arn arn:aws:resource-explorer-2:us-east-1:123456789012:view/My-View//EXAMPLE8-90ab-cdef-fedc-EXAMPLE11111 \
    --tags environment=production
```

This command produces no output.

For more information, see [Tagging views for access control](#) in the *AWS Resource Explorer Users Guide*.

- For API details, see [TagResource](#) in *AWS CLI Command Reference*.

**untag-resource**

The following code example shows how to use `untag-resource`.

AWS CLI

**To remove a tag from a Resource Explorer view**

The following `untag-resource` example removes any tag with the key name "environment" from the view with the specified ARN.

```
aws resource-explorer-2 untag-resource \
    --resource-arn arn:aws:resource-explorer-2:us-east-1:123456789012:view/My-View//EXAMPLE8-90ab-cdef-fedc-EXAMPLE11111 \
    --tag-keys environment
```

This command produces no output.

For more information, see [Tagging views for access control](#) in the *AWS Resource Explorer Users Guide*.

- For API details, see [UntagResource](#) in *AWS CLI Command Reference*. 
**update-index-type**

The following code example shows how to use `update-index-type`.

**AWS CLI**

**To change the type of a Resource Explorer index**

The following `update-index-type` example converts the specified index from type `local` to type `aggregator` to turn on the ability to search for resources across all AWS Regions in the account. You must send the request to the AWS Region that contains the index you want to update.

```bash
aws resource-explorer-2 update-index-type \
   --arn arn:aws:resource-explorer-2:us-east-1:123456789012:index/EXAMPLE8-90abc-defc-EXAMPLE11111 \
   --type aggregator \
   --region us-east-1
```

Output:

```json
{
   "LastUpdatedAt":"2022-07-13T18:41:58.799Z",
   "State":"updating",
   "Type":"aggregator"
}
```

For more information about changing an index's type, see [Turning on cross-Region search by creating an aggregator index](https://aws.amazon.com) in the *AWS Resource Explorer Users Guide*.

- For API details, see [UpdateIndexType](https://www.awsdocs.com) in *AWS CLI Command Reference*.

**update-view**

The following code example shows how to use `update-view`.

**AWS CLI**

**Example 1: To update the IncludedProperties field for a Resource Explorer view**
The following `update-view` example updates the specified view by adding `tags` to the optional `IncludedProperties`. After running this operation, search operations that use this view include information about the tags attached to the resources that appear in the results.

```
aws resource-explorer-2 update-view \
    --included-properties Name=tags \
    --view-arn arn:aws:resource-explorer-2:us-east-1:123456789012:view/My-View/EXAMPLE8-90ab-cdef-fedc-EXAMPLE22222
```

Output:

```
{
    "View": {
        "Filters": {
            "FilterString": "",
            "IncludedProperties": [
                {
                    "Name": "tags"
                }
            ],
            "LastUpdatedAt": "2022-07-19T17:41:21.710000+00:00",
            "Owner": "123456789012",
            "Scope": "arn:aws:iam::123456789012:root",
            "ViewArn": "arn:aws:resource-explorer-2:us-east-1:123456789012:view/My-EC2-Only-View/EXAMPLE8-90ab-cdef-fedc-EXAMPLE11111"
    }
}
```

**Example 2: To update the filters attached to a view**

The following `update-view` example updates the specified view to use a filter that limits results to only resource types that are associated with the Amazon EC2 service.

```
aws resource-explorer-2 update-view \
    --filters FilterString="service:ec2" \
    --view-arn arn:aws:resource-explorer-2:us-east-1:123456789012:view/My-View/EXAMPLE8-90ab-cdef-fedc-EXAMPLE22222
```

Output:
For more information about views, see About Resource Explorer views in the AWS Resource Explorer Users Guide.

- For API details, see UpdateView in AWS CLI Command Reference.

Resource Groups examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Resource Groups.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics
- Actions
Actions

create-group

The following code example shows how to use create-group.

AWS CLI

Example 1: To create a tag-based resource group

The following create-group example creates a tag-based resource group of Amazon EC2 instances in the current region. It's based on a query for resources that are tagged with the key Name, and the value WebServers. The group name is tbq-WebServer. The query is in a separate JSON file that is passed to the command.

```
aws resource-groups create-group \
   --name tbq-WebServer \
   --resource-query file:///query.json
```

Contents of query.json:

```
{
   "Type": "TAG_FILTERS_1_0",
   "Query": "{"ResourceTypeFilters": ["AWS::EC2::Instance"], "TagFilters": ["{"Key": "Name", "Values": ["WebServers"]}]}
}
```

Output:

```
{
   "Group": {
      "Name": "tbq-WebServer"
   },
   "ResourceQuery": {
      "Type": "TAG_FILTERS_1_0",
      "Query": "{"ResourceTypeFilters": ["AWS::EC2::Instance"], "TagFilters": ["{"Key": "Name", "Values": ["WebServers"]}]}
   }
}
```
Example 2: To create a CloudFormation stack-based resource group

The following `create-group` example creates an AWS CloudFormation stack-based resource group named sampleCFNstackgroup. The query includes all resources in the specified CloudFormation stack that are supported by AWS Resource Groups.

```
aws resource-groups create-group
   --name cbq-CFNstackgroup 
   --resource-query file://query.json
```

Contents of `query.json`:

```
{
   "Type": "CLOUDFORMATION_STACK_1_0",
   "Query": "{"ResourceTypeFilters":["AWS::AllSupported"],"StackIdentifier ":"arn:aws:cloudformation:us-west-2:123456789012:stack/MyCFNStack/1415z9z0-
z39z-1lz8-97z5-500z21zz6fz"}"
}
```

Output:

```
{
   "Group": {
      "GroupArn": "arn:aws:resource-groups:us-west-2:123456789012:group/cbq-
      CFNstackgroup",
      "Name": "cbq-CFNstackgroup"
   },
   "ResourceQuery": {
      "Type": "CLOUDFORMATION_STACK_1_0",
      "Query": "{"ResourceTypeFilters":["AWS::AllSupported"],"StackIdentifier ":"arn:aws:cloudformation:us-east-2:123456789012:stack/MyCFNStack/1415z9z0-
z39z-1lz8-97z5-500z21zz6fz"}"
   }
}
```

For more information, see Create Groups in the AWS Resource Groups User Guide.

- For API details, see CreateGroup in AWS CLI Command Reference.

delete-group

The following code example shows how to use `delete-group`.
AWS CLI

To update the description for a resource group

The following delete-group example updates the specified resource group.

```bash
aws resource-groups delete-group \
   --group-name tbq-WebServer
```

Output:

```json
{
   "Group": {
      "Name": "tbq-WebServer"
   }
}
```

For more information, see Delete Groups in the AWS Resource Groups User Guide.

- For API details, see DeleteGroup in AWS CLI Command Reference.

get-group

The following code example shows how to use get-group.

AWS CLI

To get information about a resource group

The following get-group example displays details about the specified resource group. To get the query attached to the group, use get-group-query.

```bash
aws resource-groups get-group \
   --group-name tbq-WebServer
```

Output:

```json
{
   "Group": {
```
  "Name": "tbq-WebServer",
  "Description": "A tag-based query resource group of WebServers."
}.

- For API details, see GetGroup in AWS CLI Command Reference.

get-group-query

The following code example shows how to use get-group-query.

AWS CLI

To get the query attached to a resource group

The following get-group-query example displays query attached to the specified resource group.

```
aws resource-groups get-group-query \
  --group-name tbq-WebServer
```

Output:

```
{
  "GroupQuery": {
    "GroupName": "tbq-WebServer",
    "ResourceQuery": {
      "Type": "TAG_FILTERS_1_0",
      "Query": "{"ResourceTypeFilters\:"["AWS::EC2::Instance\"],"TagFilters\:"["Key":"Name", "Values":["WebServers"]]}"
    }
  }
}
```

- For API details, see GetGroupQuery in AWS CLI Command Reference.

get-tags

The following code example shows how to use get-tags.
**AWS CLI**

**To retrieve the tags attached to a resource group**

The following `get-tags` example displays the tag key and value pairs attached to the specified resource group (the group itself, not its members).

```bash
aws resource-groups get-tags \
```

Output:

```
{
  "Tags": {
    "QueryType": "tags",
    "QueryResources": "ec2-instances"
  }
}
```

- For API details, see [GetTags](#) in *AWS CLI Command Reference*.

**list-group-resources**

The following code example shows how to use `list-group-resources`.

**AWS CLI**

**To list all of the resources in a resource group**

Example 1: The following `list-resource-groups` example lists all of the resources that are part of the specified resource group.

```bash
aws resource-groups list-group-resources \
  --group-name tbq-WebServer
```

Output:

```
{
  "ResourceIdentifiers": [
    {
```

**Actions and scenarios**
Example 2: The following example lists all of the resources in the group that also have a 'resource-type' of the 'AWS::EC2::Instance':

```
aws resource-groups list-group-resources --group-name tbq-WebServer --filters Name=resource-type,Values=AWS::EC2::Instance
```

- For API details, see [ListGroupResources](https://docs.aws.amazon.com/cli/latest/reference/resource-groups/list-group-resources.html) in *AWS CLI Command Reference*.

### list-groups

The following code example shows how to use `list-groups`.

**AWS CLI**

**To list the available resource groups**

The following `list-groups` example displays a list of all of the resource groups.

```
aws resource-groups list-groups
```

**Output:**

```json
{
   "GroupIdentifiers": [
      {
         "GroupName": "tbq-WebServer",
      },
      {
         "GroupName": "cbq-CFNStackQuery",
         "GroupArn": "arn:aws:resource-groups:us-west-2:123456789012:group/cbq-CFNStackQuery"
      }
   ]
}
```
"Groups": [ 
  
  { 
    "Name": "tbq-WebServer"
  },
  
  { 
    "Name": "cbq-CFNStackQuery"
  }
]

• For API details, see ListGroups in AWS CLI Command Reference.

list-resource-groups

The following code example shows how to use list-resource-groups.

AWS CLI

To list all of the resources in a resource group

The following list-resource-groups example lists all of the resources that are part of the specified resource group.

aws resource-groups list-group-resources \
  --group-name tbq-WebServer

Output:

{ 
  "ResourceIdentifiers": [ 
    
    { 
      "ResourceArn": "arn:aws:ec2:us-west-2:123456789012:instance/i-09f77fa38c12345ab", 
      "ResourceType": "AWS::EC2::Instance"
    }
  ]
}
• For API details, see [ListResourceGroups](https://aws.amazon.com/cli/) in *AWS CLI Command Reference*.

**put-group-configuration**

The following code example shows how to use `put-group-configuration`.

**AWS CLI**

**To attach a service configuration to a resource group**

Example 1: The following `put-group-configuration` example specifies that the resource group is to contain only Amazon EC2 capacity reservations for instances in the C5 or M5 families.

```bash
aws resource-groups put-group-configuration \
   --group MyTestGroup \
   --configuration file://config.json
```

**Contents of config.json:**

```json
[
  {
    "Type": "AWS::EC2::HostManagement",
    "Parameters": [
      {
        "Name": "allowed-host-families",
        "Values": [ "c5", "m5" ]
      },
      {
        "Name": "any-host-based-license-configuration",
        "Values": [ "true" ]
      }
    ]
  },
  {
    "Type": "AWS::ResourceGroups::Generic",
    "Parameters": [
      {
        "Name": "allowed-resource-types",
        "Values": [ "AWS::EC2::Host" ]
      },
      {
```
This command produces no output if successful.

For more information, see Service configurations for resource groups in the Resource Groups API Reference Guide.

- For API details, see PutGroupConfiguration in AWS CLI Command Reference.

search-resources

The following code example shows how to use search-resources.

AWS CLI

To find resources that match a query

The following search-resources example retrieves a list of all AWS resources that match the specified query.

```bash
aws resource-groups search-resources \
--resource-query file://query.json
```

Contents of query.json:

```json
{
   "Type": "TAG_FILTERS_1_0",
   "Query": "{"ResourceTypeFilters": ["AWS::EC2::Instance"], "TagFilters": [{"Key": "Patch Group", "Values": ["Dev"]}]}
}
```

Output:

```json
{
   "ResourceIdentifiers": [
   {
```
"ResourceArn": "arn:aws:ec2:us-west-2:123456789012:instance/i-01a23bc45d6780ef",
  "ResourceType": "AWS::EC2::Instance"
}
]
}

- For API details, see SearchResources in AWS CLI Command Reference.

tag

The following code example shows how to use tag.

AWS CLI

To attach a tag to a resource group

The following tag example attaches the specified tag key and value pairs to the specified resource group (the group itself, not its members).

```
aws resource-groups tag \
  --tags QueryType=tags,QueryResources=ec2-instances \
```

Output:

```
{
  "Tags": {
    "QueryType": "tags",
    "QueryResources": "ec2-instances"
  }
}
```

For more information, see Manage tags in the AWS Resource Groups User Guide.

- For API details, see Tag in AWS CLI Command Reference.

untag

The following code example shows how to use untag.
AWS CLI

To remove tags from a resource group

The following untags example removes any tag with the specified key from the resource group itself, not its members.

```
aws resource-groups untag \
   --keys QueryType
```

Output:

```
{
   "Keys": [
      "QueryType"
   ]
}
```

For more information, see Manage tags in the AWS Resource Groups User Guide.

- For API details, see Untag in AWS CLI Command Reference.

update-group

The following code example shows how to use update-group.

AWS CLI

To update the description for a resource group

The following update-group example updates the description for the specified resource group.

```
aws resource-groups update-group \
   --group-name tbq-WebServer \ 
   --description "Resource group for all web server resources."
```

Output:
For more information, see [Update Groups](#) in the *AWS Resource Groups User Guide*.  
- For API details, see [UpdateGroup](#) in *AWS CLI Command Reference*.  

### update-group-query

The following code example shows how to use `update-group-query`.

**AWS CLI**

**Example 1: To update the query for a tag-based resource group**

The following `update-group-query` example updates the query attached to the specified tag-based resource group.

```
aws resource-groups update-group-query \
   --group-name tbq-WebServer \
   --resource-query '{"Type":"TAG_FILTERS_1_0", "Query":{"ResourceTypeFilters":["AWS::EC2::Instance"],"TagFilters":[{"Key":"Name", "Values":["WebServers"]}]}}'
```

**Output:**

```
{
   "Group": {
      "Name": "tbq-WebServer"
   },
   "ResourceQuery": {
      "Type": "TAG_FILTERS_1_0",
      "Query": {"ResourceTypeFilters":["AWS::EC2::Instance"],"TagFilters":[{"Key":"Name", "Values":["WebServers"]}]}
   }
}
```
Example 2: To update the query for a CloudFormation stack-based resource group

The following update-group-query example updates the query attached to the specified AWS CloudFormation stack-based resource group.

```
aws resource-groups update-group-query 
  --group-name cbq-CFNstackgroup 
  --resource-query '{"Type": "CLOUDFORMATION_STACK_1_0", "Query": 
    "{"ResourceTypeFilters":["AWS::AllSupported"],"StackIdentifier": 
    "arn:aws:cloudformation:us-west-2:123456789012:stack/MyCFNStack/1415z9z0-
    z39z-11z8-97z5-500z212zz6fz"}'}
```

Output:

```
{
  "Group": {
    "GroupArn": "arn:aws:resource-groups:us-west-2:123456789012:group/cbq-
    CFNstackgroup",
    "Name": "cbq-CFNstackgroup"
  },
  "ResourceQuery": {
    "Type": "CLOUDFORMATION_STACK_1_0",
    "Query": "{"ResourceTypeFilters":["AWS::AllSupported"],"StackIdentifier":
    "arn:aws:cloudformation:us-west-2:123456789012:stack/MyCFNStack/1415z9z0-
    z39z-11z8-97z5-500z212zz6fz"}"
  }
}
```

For more information, see Update Groups in the AWS Resource Groups User Guide.

- For API details, see UpdateGroupQuery in AWS CLI Command Reference.

### Resource Groups Tagging API examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Resource Groups Tagging API.
Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics
• Actions

Actions

get-resources

The following code example shows how to use get-resources.

AWS CLI

To get a list of tagged resources

The following get-resources example displays a list of resources in the account that are tagged with the specified key name and value.

```
aws resourcegroupstaggingapi get-resources \
  --tag-filters Key=Environment,Values=Production \
  --tags-per-page 100
```

Output:

```
{
  "ResourceTagMappingList": [
    {
      "Tags": [
        {
          "Key": "Environment",
          "Value": "Production"
        }
      ]
    }
  ]
}
```
get-tag-keys

The following code example shows how to use get-tag-keys.

AWS CLI

To get a list of all tag keys

The following get-tag-keys example retrieves the list of all tag key names used by resources in the account.

```bash
aws resourcegroupstaggingapi get-tag-keys
```

Output:

```json
{
  "TagKeys": [
    "Environment",
    "CostCenter",
    "Department"
  ]
}
```

For more information, see GetTagKeys in the Resource Groups Tagging API Reference.
- For API details, see GetTagKeys in AWS CLI Command Reference.

get-tag-values

The following code example shows how to use get-tag-values.

AWS CLI

To get a list of all tag values
The following get-tag-values example displays all of the values used for the specified key for all resources in the

```
aws resourcegroupstaggingapi get-tag-values \
   --key=Environment
```

Output:

```
{
   "TagValues": [
      "Alpha",
      "Gamma",
      "Production"
   ]
}
```

For more information, see [GetTagValues](https://docs.aws.amazon.com/cli/latest/reference/resourcegroupstaggingapi/get-tag-values) in the Resource Groups Tagging API Reference.

- For API details, see [GetTagValues](https://docs.aws.amazon.com/cli/latest/reference/aws/cli.html#operation/TagResources) in AWS CLI Command Reference.

**tag-resources**

The following code example shows how to use tag-resources.

**AWS CLI**

**To attach a tag to a resource**

The following tag-resources example tags the specified resource with a key name and value.

```
aws resourcegroupstaggingapi tag-resources \
   --resource-arn-list arn:aws:s3:::MyProductionBucket \
   --tags Environment=Production,CostCenter=1234
```

Output:

```
{
   "FailedResourcesMap": {}
}
```

For more information, see [TagResources](https://docs.aws.amazon.com/cli/latest/reference/resourcegroupstaggingapi/tag-resources) in the Resource Groups Tagging API Reference.
untag-resources

The following code example shows how to use untag-resources.

**AWS CLI**

**To remove a tag from a resource**

The following untag-resources example removes the specified tag keys and any associated values from the specified resource.

```bash
aws resourcegroupstaggingapi untag-resources \
  --resource-arn-list arn:aws:s3:::awsexamplebucket \
  --tag-keys Environment CostCenter
```

Output:

```json
{
  "FailedResourcesMap": {}
}
```

For more information, see [UntagResources](https://docs.aws.amazon.com/sgtapi/latest/userguide/untag-resources.html) in the [Resource Groups Tagging API Reference](https://docs.aws.amazon.com/sgtapi/latest/userguide/).

• For API details, see [UntagResources](https://docs.aws.amazon.com/sgtapi/latest/userguide/untag-resources.html) in AWS CLI Command Reference.

**AWS RoboMaker examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS RoboMaker.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.
Actions

batch-describe-simulation-job

The following code example shows how to use batch-describe-simulation-job.

AWS CLI

To batch describe simulation jobs

The following batch-describe-simulation-job example retrieves details for the three specified simulation jobs.

Command:

```bash
aws robomaker batch-describe-simulation-job \
ar:aws:robomaker:us-west-2:111111111111:simulation-job/sim-p0cpdrrwng2n \
ar:aws:robomaker:us-west-2:111111111111:simulation-job/sim-g8h6tglmblgw
```

Output:

```json
{
   "jobs": [
   {
   "status": "Completed",
   "lastUpdatedAt": 1548959178.0,
   "failureBehavior": "Continue",
   "clientRequestToken": "6020408e-b05c-4310-9f13-4ed71c5221ed",
   "outputLocation": {
   "s3Bucket": "awsrobomakerobjecttracker-111111111
 bundlesbucket-21k584kiq1oa",
   "s3Prefix": "output"
   },
   "maxJobDurationInSeconds": 3600,
   "simulationTimeMillis": 0,
```
"iamRole": "arn:aws:iam::111111111111:role/AWSRoboMakerObjectTracker-154895-SimulationJobRole-14D5ASA7PQE3A",
"simulationApplications": [
{
   "applicationVersion": "$LATEST",
   "launchConfig": {
      "packageName": "object_tracker_simulation",
      "launchFile": "local_training.launch",
      "environmentVariables": {
         "MARKOV_PRESET_FILE": "object_tracker.py",
         "MODEL_S3_BUCKET": "awsrobomakerobjecttracker-1111111111-f21k584kq1oa",
         "MODEL_S3_PREFIX": "model-store",
         "ROS_AWS_REGION": "us-west-2"
      }
   }
}
],
"tags": {},
"vpcConfig": {
   "subnets": [
      "subnet-716dd52a",
      "subnet-43c22325",
      "subnet-3f526976"
   ],
   "securityGroups": [
      "sg-3f4b40545"
   ],
   "vpcId": "vpc-99895eff",
   "assignPublicIp": true
}
},
{
   "status": "Completed",
   "lastUpdatedAt": 1548168817.0,
   "failureBehavior": "Continue",
   "clientRequestToken": "e4a23e75-f9a7-411d-835f-21881c82c58b",
   "outputLocation": {
      "arnArn": "arn:aws:robomaker:us-west-2:111111111111:output-location/1548959180096"
   }
}
"s3Bucket": "awsrobomakercloudwatch-111111111111-bundlesbucket-14e5s9jwttmv7",
    "s3Prefix": "output"
},
    "maxJobDurationInSeconds": 3600,
    "simulationTimeMillis": 0,
    "iamRole": "arn:aws:iam::111111111111:role/AWSRoboMakerCloudWatch-154766341-SimulationJobRole-G0OBWTQ8YBG6",
    "robotApplications": [
    {
      "applicationVersion": "$LATEST",
      "launchConfig": {
        "packageName": "cloudwatch_robot",
        "launchFile": "await_commands.launch",
        "environmentVariables": {
          "LAUNCH_ID": "1548168752173",
          "ROS_AWS_REGION": "us-west-2"
        }
      }
    }
    ],
    "simulationApplications": [
    {
      "applicationVersion": "$LATEST",
      "launchConfig": {
        "packageName": "cloudwatch_simulation",
        "launchFile": "bookstore_turtlebot_navigation.launch",
        "environmentVariables": {
          "LAUNCH_ID": "1548168752173",
          "ROS_AWS_REGION": "us-west-2",
          "TURTLEBOT3_MODEL": "waffle_pi"
        }
      }
    }
    ],
    "tags": {},
    "vpcConfig": {
      "subnets": [
        "subnet-716dd52a",
        Actions and scenarios
    5257
"subnet-43c22325",
          "subnet-3f526976"
        ],
        "securityGroups": [
          "sg-3fb40545"
        ],
        "vpcId": "vpc-99895eff",
        "assignPublicIp": true
      }
    },
    {
      "arn": "arn:aws:robomaker:us-west-2:111111111111:simulation-job/sim-
      g8h6tglmblgw",
      "status": "Canceled",
      "lastUpdatedAt": 1546543442.0,
      "failureBehavior": "Fail",
      "clientRequestToken": "d796bbb4-2a2c-1abc-f2a9-0d9e547d853f",
      "outputLocation": {
        "s3Bucket": "sample-bucket",
        "s3Prefix": "SimulationLog_115490482698"
      },
      "maxJobDurationInSeconds": 28800,
      "simulationTimeMillis": 0,
      "iamRole": "arn:aws:iam::111111111111:role/RoboMakerSampleTheFirst",
      "robotApplications": [
        {
          "application": "arn:aws:robomaker:us-west-2:111111111111:robot-
          application/RoboMakerHelloWorldRobot/1546541208251",
          "applicationVersion": "$LATEST",
          "launchConfig": {
            "packageName": "hello_world_robot",
            "launchFile": "rotate.launch"
          }
        }
      ],
      "simulationApplications": [
        {
          RoboMakerHelloWorldSimulation/1546541198985",
          "applicationVersion": "$LATEST",
          "launchConfig": {
            "packageName": "hello_world_simulation",
            "launchFile": "empty_world.launch"
          }
        }
      ]
    },
cancel-simulation-job

The following code example shows how to use cancel-simulation-job.

AWS CLI

To cancel a simulation job

The following cancel-simulation-job example cancels the specified simulation job.

```bash
aws robomaker cancel-simulation-job \
```

For API details, see CancelSimulationJob in AWS CLI Command Reference.

create-deployment-job

The following code example shows how to use create-deployment-job.

AWS CLI

To create a deployment job

This example creates a deployment job for fleet MyFleet. It includes an environment variable named "ENVIRONMENT". It also attaches a tag named "Region".

Command:

```bash
aws robomaker create-deployment-job --deployment-config
   concurrentDeploymentPercentage=20,failureThresholdPercentage=25
```
Output:

```
{
    "arn": "arn:aws:robomaker:us-west-2:111111111111:deployment-job/sim-0974h36s4v0t",
    "status": "Pending",
    "deploymentApplicationConfigs": [
        {
            "applicationVersion": "1",
            "launchConfig": {
                "packageName": "voice_interaction_robot",
                "launchFile": "await_commands.launch",
                "environmentVariables": {
                    "ENVIRONMENT": "Beta"
                }
            }
        }
    ],
    "createdAt": 1550770236.0,
    "deploymentConfig": {
        "concurrentDeploymentPercentage": 20,
        "failureThresholdPercentage": 25
    },
    "tags": {
        "Region": "West"
    }
}
```

- For API details, see [CreateDeploymentJob](https://awscli.amazonaws.com/v2/documentation/api/latest/reference/robomaker/create-deployment-job.html) in *AWS CLI Command Reference*.

### create-fleet

The following code example shows how to use `create-fleet`.

```bash
--tags Region=West
```
AWS CLI

To create a fleet

This example creates a fleet. It attaches a tag named Region.

Command:

```bash
aws robomaker create-fleet --name MyFleet --tags Region=East
```

Output:

```json
{
  "name": "MyFleet",
  "createdAt": 1550771394.0,
  "tags": {
    "Region": "East"
  }
}
```

- For API details, see [CreateFleet](AWS CLI Command Reference) in *AWS CLI Command Reference*.

create-robot

The following code example shows how to use create-robot.

AWS CLI

To create a robot

This example creates a robot. It uses the ARMHF architecture. It also attaches a tag named Region.

Command:

```bash
aws robomaker create-robot --name MyRobot --architecture ARMHF --greengrass-group-id 0f728a3c-7dbf-4a3e-976d-d16a8360caba --tags Region=East
```

Output:
create-robot-application

The following code example shows how to use create-robot-application.

AWS CLI

To create a robot application

This example creates a robot application.

Command:

```
aws robomaker create-robot-application --name MyRobotApplication --sources s3Bucket=my-bucket,s3Key=my-robot-application.tar.gz,architecture=X86_64 --robot-software-suite name=ROS,version=Kinetic
```

Output:

```
{
  "name": "MyRobotApplication",
  "version": "$LATEST",
  "sources": [
    {
      "s3Bucket": "my-bucket",
      "s3Key": "my-robot-application.tar.gz",
      "architecture": "ARMHF"
    }
  ]
}
```
create-robot-application-version

The following code example shows how to use create-robot-application-version.

AWS CLI

To create a robot application version

This example creates a robot application version.

Command:

```
```

Output:

```
{
    "name": "MyRobotApplication",
    "version": "1",
    "sources": [
    {
      "s3Bucket": "my-bucket",
      "s3Key": "my-robot-application.tar.gz",
      "etag": "f8cf5526f1c6e7b3a72c3ed3f79c5493-70",
      "architecture": "ARMHF"
    }
    ]
}
```
• For API details, see CreateRobotApplicationVersion in AWS CLI Command Reference.

create-simulation-application

The following code example shows how to use create-simulation-application.

AWS CLI

To create a simulation application

This example creates a simulation application.

Command:

```
aws robomaker create-simulation-application  --name MyRobotApplication --sources s3Bucket=my-bucket,s3Key=my-simulation-application.tar.gz,architecture=ARMHF --robot-software-suite name=ROS,version=Kinetic --simulation-software-suite name=Gazebo,version=7 --rendering-engine name=OGRE,version=1.x
```

Output:

```
{
   "name": "MyRobotApplication",
   "version": "$LATEST",
   "sources": [
      {
         "s3Bucket": "my-bucket",
         "s3Key": "my-simulation-application.tar.gz",
         "architecture": "X86_64"
      }
   ],
```
• For API details, see CreateSimulationApplication in AWS CLI Command Reference.

create-simulation-application-version

The following code example shows how to use create-simulation-application-version.

**AWS CLI**

To create a simulation application version

This example creates a robot application version.

Command:

```
aws robomaker create-simulation-application-version --application
  MySimulationApplication/1551203427605
```

Output:

```
{
  MyRobotApplication/1551203427605",
  "name": "MyRobotApplication",
  "version": "1",
}
"sources": [
  {
    "s3Bucket": "my-bucket",
    "s3Key": "my-simulation-application.tar.gz",
    "etag": "00d8a94ff113856688c4fce618ae0f45-94",
    "architecture": "x86_64"
  }
],
"simulationSoftwareSuite": {
  "name": "Gazebo",
  "version": "7"
},
"robotSoftwareSuite": {
  "name": "ROS",
  "version": "Kinetic"
},
"renderingEngine": {
  "name": "OGRE",
  "version": "1.x"
},
"lastUpdatedAt": 1551203853.0,
"revisionId": "ee753e53-519c-4d37-895d-65e79bcd1914",
"tags": {}
}

- For API details, see CreateSimulationApplicationVersion in AWS CLI Command Reference.

create-simulation-job

The following code example shows how to use create-simulation-job.

AWS CLI

To create a simulation job

This example creates a simulation job. It uses a robot application and a simulation application.

Command:

```
```
MyRobotApplication/1551203485821,launchConfig={packageName=hello_world_robot,launchFile=rotate.launch}
MySimulationApplication/1551203427605,launchConfig={packageName=hello_world_simulation,launchFile=empty_world.launch}
--tags Region=North

Output:

```json
{
    "arn": "arn:aws:robomaker:us-west-2:111111111111:simulation-job/sim-w7m68wpr05h8",
    "status": "Pending",
    "lastUpdatedAt": 1551213837.0,
    "failureBehavior": "Fail",
    "clientRequestToken": "b283ccce-e468-43ee-8642-be76a9d69f15",
    "maxJobDurationInSeconds": 3600,
    "simulationTimeMillis": 0,
    "iamRole": "arn:aws:iam::111111111111:role/MySimulationRole",
    "robotApplications": [
        {
            "applicationVersion": "$LATEST",
            "launchConfig": {
                "packageName": "hello_world_robot",
                "launchFile": "rotate.launch"
            }
        }
    ],
    "simulationApplications": [
        {
            "applicationVersion": "$LATEST",
            "launchConfig": {
                "packageName": "hello_world_simulation",
                "launchFile": "empty_world.launch"
            }
        }
    ],
    "tags": {
        "Region": "North"
    }
}
```
• For API details, see CreateSimulationJob in AWS CLI Command Reference.

delete-fleet

The following code example shows how to use delete-fleet.

AWS CLI

To delete a fleet

This example deletes a fleet.

Command:

```
```

• For API details, see DeleteFleet in AWS CLI Command Reference.

delete-robot

The following code example shows how to use delete-robot.

AWS CLI

To delete a robot

This example deletes a robot.

Command:

```
```

• For API details, see DeleteRobot in AWS CLI Command Reference.

delete-robot-application

The following code example shows how to use delete-robot-application.
AWS CLI

**To delete a robot application**

This example deletes a robot application.

Command:

```bash
```

- For API details, see [DeleteRobotApplication](aws_cli_command_reference) in *AWS CLI Command Reference*.

**delete-simulation-application**

The following code example shows how to use delete-simulation-application.

AWS CLI

**To delete a simulation application**

This example deletes a simulation application.

Command:

```bash
```

- For API details, see [DeleteSimulationApplication](aws_cli_command_reference) in *AWS CLI Command Reference*.

**deregister-robot**

The following code example shows how to use deregister-robot.

AWS CLI

**To deregister a robot from a fleet**

This example deregisters a robot from a fleet.

Command:

Output:

```
{
}
```

- For API details, see [DeregisterRobot](https://docs.aws.amazon.com/cli/latest/reference/robomaker/deregister-robot.html) in *AWS CLI Command Reference*.

**describe-deployment-job**

The following code example shows how to use `describe-deployment-job`.

**AWS CLI**

**To describe a deployment job**

The following `describe-deployment-job` example retrieves the details about the specified deployment job.

```
aws robomaker describe-deployment-job \
```

Output:

```
{
  "status": "InProgress",
  "deploymentConfig": {
    "concurrentDeploymentPercentage": 20,
    "failureThresholdPercentage": 25
  }
}
```
For API details, see [DescribeDeploymentJob](https://docs.aws.amazon.com/cli/latest/reference/robomaker/describe-deployment-job.html) in AWS CLI Command Reference.

**describe-fleet**

The following code example shows how to use describe-fleet.

**AWS CLI**

**To describe a fleet**

The following `describe-fleet` example retrieves the details for the specified fleet.

```bash
aws robomaker describe-fleet \
```

**Output:**
For API details, see DescribeFleet in AWS CLI Command Reference.

describe-robot

The following code example shows how to use describe-robot.

AWS CLI

To describe a robot

This example describes a robot.

Command:

```
```

Output:
For API details, see DescribeRobot in AWS CLI Command Reference.

describe-robot-application

The following code example shows how to use describe-robot-application.

AWS CLI

To describe a robot application

This example describes a robot application.

Command:

```bash
```

Output:

```json
{
    "name": "MyRobotApplication",
    "version": "$LATEST",
    "sources": [
        {
            "s3Bucket": "my-bucket",
            "s3Key": "my-robot-application.tar.gz",
            "architecture": "X86_64"
        }
    ]
}
```
For API details, see [DescribeRobotApplication](https://docs.aws.amazon.com/cli/latest/reference/robomaker/describe-robot-application) in *AWS CLI Command Reference*.

**describe-simulation-application**

The following code example shows how to use `describe-simulation-application`.

**AWS CLI**

**To describe a simulation application**

This example describes a simulation application.

**Command:**

```bash
```

**Output:**

```json
{
   "name": "MySimulationApplication",
   "version": "$LATEST",
   "sources": [
   {
      "s3Bucket": "my-bucket",
      "s3Key": "my-simulation-application.tar.gz",
      "architecture": "X86_64"
   }
   ],
}
```
For API details, see DescribeSimulationApplication in AWS CLI Command Reference.

describe-simulation-job

The following code example shows how to use describe-simulation-job.

AWS CLI

To describe a simulation job

This example describes a simulation job.

Command:

```
```

Output:

```
{
   "status": "Running",
   "lastUpdatedAt": 1551219349.0,
   "failureBehavior": "Continue",
   "clientRequestToken": "a19ec4b5-e50d-3591-33da-c2e593c60615",
}
```
For API details, see [DescribeSimulationJob](https://docs.aws.amazon.com/cli/latest/reference/robomaker/describesimulationjob.html) in *AWS CLI Command Reference*.

**list-deployment-jobs**

The following code example shows how to use `list-deployment-jobs`.

**AWS CLI**

*To list deployment jobs*

The following `list-deployment-jobs` example retrieves a list of deployment jobs.
aws robomaker list-deployment-jobs

Output:

```json
{
  "deploymentJobs": [
    {
      "status": "InProgress",
      "deploymentApplicationConfigs": [
        {
          "applicationVersion": "1",
          "launchConfig": {
            "packageName": "hello_world_robot",
            "launchFile": "rotate.launch",
            "environmentVariables": {
              "ENVIRONMENT": "Desert"
            }
          }
        }
      ],
      "deploymentConfig": {
        "concurrentDeploymentPercentage": 20,
        "failureThresholdPercentage": 25
      },
      "createdAt": 1550689373.0
    },
    {
      "status": "Pending",
      "deploymentApplicationConfigs": [
        {
          "applicationVersion": "1",
```
For API details, see ListDeploymentJobs in AWS CLI Command Reference.

**list-fleets**

The following code example shows how to use list-fleets.

**AWS CLI**

To list fleets

This example lists fleets. A maximum of 20 fleets will be returned.

Command:

```bash
aws robomaker list-fleets --max-items 20
```

Output:

```
{
   "fleetDetails": [
   {
      "name": "Trek",
      "createdAt": 1539894765.0,
   }
   ]
}
```
For API details, see ListFleets in AWS CLI Command Reference.

list-robot-applications

The following code example shows how to use list-robot-applications.

AWS CLI

To list robot applications

This example lists robot applications. Results are limited to 20 robot applications.

Command:

```
aws robomaker list-robot-applications --max-results 20
```

Output:

```
{
   "robotApplicationSummaries": [
   {
      "name": "MyRobot",
      "version": "$LATEST",
      "lastUpdatedAt": 1546540372.0
   },
   {
      "name": "AnotherRobot",
      "version": "$LATEST",
      "lastUpdatedAt": 1546541208.0
   },
```
For API details, see ListRobotApplications in AWS CLI Command Reference.

**list-robots**

The following code example shows how to use list-robots.

**AWS CLI**

**To list robots**

This example lists robots. A maximum of 20 robots will be returned.

Command:

```
aws robomaker list-robots --max-results 20
```

Output:

```
{
  "robots": [
    {
      "name": "Robot100",
      "status": "Available",
      "createdAt": 1544035373.0,
      "architecture": "X86_64"
    },
    {
      "name": "Robot101",
      "status": "Available",
      "createdAt": 1542146976.0,
      "architecture": "X86_64"
    }
  ]
}
```
For API details, see ListRobots in AWS CLI Command Reference.

list-simulation-applications

The following code example shows how to use list-simulation-applications.

AWS CLI

To list simulation applications

This example lists simulation applications. A maximum of 20 simulation applications will be returned.

Command:

```
aws robomaker list-simulation-applications --max-results 20
```
Output:

```json
{
  "simulationApplicationSummaries": [
    {
      "name": "AWSRoboMakerObjectTracker-1548959046124_NPvyfcatq",
      "version": "$LATEST",
      "lastUpdatedAt": 1548959170.0
    },
    {
      "name": "RoboMakerHelloWorldSimulation",
      "version": "$LATEST",
      "lastUpdatedAt": 1546541198.0
    },
    {
      "name": "RoboMakerObjectTrackerSimulation",
      "version": "$LATEST",
      "lastUpdatedAt": 1545847405.0
    },
    {
      "name": "RoboMakerVoiceInteractionSimulation",
      "version": "$LATEST",
      "lastUpdatedAt": 1546540352.0
    },
    {
      "name": "AWSRoboMakerCloudWatch-1547663411642_0LIt6D1h6",
      "version": "$LATEST",
      "lastUpdatedAt": 1547663521.0
    },
    {
      "name": "AWSRoboMakerDeepRacer-1545848257672_1YZCaieQ-",
      "version": "$LATEST",
      "lastUpdatedAt": 1545848370.525
    }
  ]
}
```
For API details, see [ListSimulationApplications](https://docs.aws.amazon.com/cli/latest/reference/robomaker/list-simulation-applications.html) in *AWS CLI Command Reference*.

**list-simulation-jobs**

The following code example shows how to use `list-simulation-jobs`.

### AWS CLI

#### To list simulation jobs

This example lists simulation jobs.

**Command:**

```
aws robomaker list-simulation-jobs
```

**Output:**

```
{
   "simulationJobSummaries": [
      {
         "lastUpdatedAt": 1548959178.0,
         "status": "Completed",
         "simulationApplicationNames": [
            "AWSRoboMakerObjectTracker-1548959046124_NPvyfcatq"
         ],
         "robotApplicationNames": [null]
      },
      {
         "lastUpdatedAt": 1543514088.0,
         "status": "Canceled",
         "simulationApplicationNames": [
         ]
      }
   ]
}
```
"AWSRoboMakerPersonDetection-1543513948280_T8rHW2_lu",
   "robotApplicationNames": [
   "AWSRoboMakerPersonDetection-1543513948280_EYaMT0mYb"
   ],
   
},

   
   "lastUpdatedAt": 1543508858.0,
   "status": "Canceled",
   "simulationApplicationNames": [
   "AWSRoboMakerCloudWatch-1543504747391_lFF9ZQyx6"
   ],
   "robotApplicationNames": [
   "AWSRoboMakerCloudWatch-1543504747391_axbYa3S3K"
   ],
   
   "lastUpdatedAt": 1543504862.0,
   "status": "Completed",
   "simulationApplicationNames": [
   "AWSRoboMakerCloudWatch-1543504747391_lFF9ZQyx6"
   ],
   "robotApplicationNames": [
   "AWSRoboMakerCloudWatch-1543504747391_axbYa3S3K"
   ],
   
   "lastUpdatedAt": 1543441430.0,
   "status": "Completed",
   "simulationApplicationNames": [
   "AWSRoboMakerHelloWorld-1543437372341__yb_Jg961"
   ],
   "robotApplicationNames": [
   "AWSRoboMakerHelloWorld-1543437372341_lNbmKHvs9"
   ],
   
}
For API details, see ListSimulationJobs in AWS CLI Command Reference.

list-tags-for-resource

The following code example shows how to use list-tags-for-resource.

AWS CLI

To list tags for a resource

This example lists tags for an AWS RoboMaker resource.

Command:

```bash
```

Output:

```json
{
   "tags": {
      "Region": "North",
      "Stage": "Initial"
   }
}
```

For API details, see ListTagsForResource in AWS CLI Command Reference.
**register-robot**

The following code example shows how to use `register-robot`.

**AWS CLI**

**To register a robot**

This example registers a robot to a fleet.

Command:

```bash
```

Output:

```json
{
}
```

- For API details, see [RegisterRobot](#) in *AWS CLI Command Reference*.

**restart-simulation-job**

The following code example shows how to use `restart-simulation-job`.

**AWS CLI**

**To restart a simulation**

This example restarts a simulation.

Command:

```bash
```

- For API details, see [RestartSimulationJob](#) in *AWS CLI Command Reference*. 
**sync-deployment-job**

The following code example shows how to use `sync-deployment-job`.

**AWS CLI**

**To sync a deployment job**

This example synchronizes a deployment job.

Command:

```
```

Output:

```
{
   "status": "Pending",
   "deploymentConfig": {
      "concurrentDeploymentPercentage": 20,
      "failureThresholdPercentage": 25
   },
   "deploymentApplicationConfigs": [
      {
         "applicationVersion": "1",
         "launchConfig": {
            "packageName": "hello_world_simulation",
            "launchFile": "empty_world.launch"
         }
      }
   ],
   "createdAt": 1551286954.0
}
```

- For API details, see [SyncDeploymentJob](#) in *AWS CLI Command Reference.*
tag-resource

The following code example shows how to use tag-resource.

AWS CLI

To tag a resource

This example tags a resource. It attaches two tags: Region and Stage.

Command:

```
```

- For API details, see TagResource in AWS CLI Command Reference.

untag-resource

The following code example shows how to use untag-resource.

AWS CLI

To untag a resource

This example removes a tag from a resource. It removes the Region tag.

Command:

```
```

- For API details, see UntagResource in AWS CLI Command Reference.

update-robot-application

The following code example shows how to use update-robot-application.

AWS CLI

To update a robot application
This example updates a robot application.

Command:

```bash
```

Output:

```
{
   "name": "MyRobotApplication",
   "version": "$LATEST",
   "sources": [
      {
         "s3Bucket": "my-bucket",
         "s3Key": "my-robot-application.tar.gz",
         "architecture": "X86_64"
      }
   ],
   "robotSoftwareSuite": {
      "name": "ROS",
      "version": "Kinetic"
   },
   "lastUpdatedAt": 1551287993.0,
   "revisionId": "20b5e331-24fd-4504-8b8c-531afe5f4c94"
}
```

- For API details, see [UpdateRobotApplication](#) in *AWS CLI Command Reference*.

**update-simulation-application**

The following code example shows how to use update-simulation-application.

**AWS CLI**

To update a simulation application

This example updates a simulation application.
Command:

```bash
```

Output:

```json
{
    "name": "MySimulationApplication",
    "version": "$LATEST",
    "sources": [
        {
            "s3Bucket": "my-bucket",
            "s3Key": "my-simulation-application.tar.gz",
            "architecture": "X86_64"
        }
    ],
    "simulationSoftwareSuite": {
        "name": "Gazebo",
        "version": "7"
    },
    "robotSoftwareSuite": {
        "name": "ROS",
        "version": "Kinetic"
    },
    "renderingEngine": {
        "name": "OGRE",
        "version": "1.x"
    },
    "lastUpdatedAt": 1551289361.0,
    "revisionId": "4a22cb5d-93c5-4cef-9311-52bdd119b79e"
}
```

- For API details, see [UpdateSimulationApplication](https://docs.aws.amazon.com/cli/latest/reference/robomaker/update-simulation-application.html) in *AWS CLI Command Reference*. 

---

**Actions and scenarios**

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Route 53 examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Route 53.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- [Actions](#)

**Actions**

**Get a list of the public and private hosted zones**

The following code example shows how to get a list of the public and private hosted zones.

**AWS CLI**

**To list the hosted zones associated with the current AWS account**

The following `list-hosted-zones` command lists summary information about the first 100 hosted zones that are associated with the current AWS account:

```
aws route53 list-hosted-zones
```

If you have more than 100 hosted zones, or if you want to list them in groups smaller than 100, include the `--max-items` parameter. For example, to list hosted zones one at a time, use the following command:

```
aws route53 list-hosted-zones --max-items 1
```
To view information about the next hosted zone, take the value of NextToken from the response to the previous command, and include it in the --starting-token parameter, for example:

```
aws route53 list-hosted-zones --max-items 1 --starting-token Z3M3LMPEXAMPLE
```

- For API details, see `ListHostedZones` in *AWS CLI Command Reference*.

### `change-resource-record-sets`

The following code example shows how to use `change-resource-record-sets`.

**AWS CLI**

**To create, update, or delete a resource record set**

The following `change-resource-record-sets` command creates a resource record set using the hosted-zone-id Z1R8UBAEXAMPLE and the JSON-formatted configuration in the file `C:\awscli\route53\change-resource-record-sets.json`:

```
aws route53 change-resource-record-sets --hosted-zone-id Z1R8UBAEXAMPLE --change-batch file://C:\awscli\route53\change-resource-record-sets.json
```

For more information, see POST ChangeResourceRecordSets in the *Amazon Route 53 API Reference*.

The configuration in the JSON file depends on the kind of resource record set you want to create:

- **Basic**
  - Weighted Alias
  - Weighted
  - Latency
  - Latency Alias
  - Failover
  - Failover Alias

**Basic Syntax:**

```
{
    "Comment": "optional comment about the changes in this change batch request",
    "Changes": [
        {
            "Action": "CREATE"|"DELETE"|"UPSERT",
            "ResourceRecordSet": {
                "Name": "DNS domain name",
            }
        }
    ]
}
```
"Type": "SOA"|"A"|"TXT"|"NS"|"CNAME"|"MX"|"PTR"|"SRV"|"SPF"|"AAAA",
"TTL": time to live in seconds,
"ResourceRecords": [
  {
    "Value": "applicable value for the record type"
  },
  {...}
],
...

Weighted Syntax:

{
  "Comment": "optional comment about the changes in this change batch request",
  "Changes": [
    {
      "Action": "CREATE"|"DELETE"|"UPSERT",
      "ResourceRecordSet": {
        "Name": "DNS domain name",
        "Type": "SOA"|"A"|"TXT"|"NS"|"CNAME"|"MX"|"PTR"|"SRV"|"SPF"|"AAAA",
        "SetIdentifier": "unique description for this resource record set",
        "Weight": value between 0 and 255,
        "TTL": time to live in seconds,
        "ResourceRecords": [
          {
            "Value": "applicable value for the record type"
          },
          {...}
        ],
        "HealthCheckId": "optional ID of an Amazon Route 53 health check"
      }
    },
    {...}
  ]
}

Alias Syntax:

{
"Comment": "optional comment about the changes in this change batch request",
"Changes": [
  {
    "Action": "CREATE"|"DELETE"|"UPSERT",
    "ResourceRecordSet": {
      "Name": "DNS domain name",
      "Type": "SOA"|"A"|"TXT"|"NS"|"CNAME"|"MX"|"PTR"|"SRV"|"SPF"|"AAAA",
      "AliasTarget": {
        "HostedZoneId": "hosted zone ID for your CloudFront distribution, Amazon S3 bucket, Elastic Load Balancing load balancer, or Amazon Route 53 hosted zone",
        "DNSName": "DNS domain name for your CloudFront distribution, Amazon S3 bucket, Elastic Load Balancing load balancer, or another resource record set in this hosted zone",
        "EvaluateTargetHealth": true|false
      },
      "HealthCheckId": "optional ID of an Amazon Route 53 health check"
    }
  },
  {...}
]

Weighted Alias Syntax:

{
  "Comment": "optional comment about the changes in this change batch request",
  "Changes": [
    {
      "Action": "CREATE"|"DELETE"|"UPSERT",
      "ResourceRecordSet": {
        "Name": "DNS domain name",
        "Type": "SOA"|"A"|"TXT"|"NS"|"CNAME"|"MX"|"PTR"|"SRV"|"SPF"|"AAAA",
        "SetIdentifier": "unique description for this resource record set",
        "Weight": value between 0 and 255,
        "AliasTarget": {
          "HostedZoneId": "hosted zone ID for your CloudFront distribution, Amazon S3 bucket, Elastic Load Balancing load balancer, or Amazon Route 53 hosted zone",
          "DNSName": "DNS domain name for your CloudFront distribution, Amazon S3 bucket, Elastic Load Balancing load balancer, or another resource record set in this hosted zone",
          "EvaluateTargetHealth": true|false
        },
        "HealthCheckId": "optional ID of an Amazon Route 53 health check"
Latency Syntax:

```
{
    "Comment": "optional comment about the changes in this change batch request",
    "Changes": [
    {
        "Action": "CREATE"|"DELETE"|"UPSERT",
        "ResourceRecordSet": {
            "Name": "DNS domain name",
            "Type": "SOA"|"A"|"TXT"|"NS"|"CNAME"|"MX"|"PTR"|"SRV"|"SPF"|"AAAA",
            "SetIdentifier": "unique description for this resource record set",
            "Region": "Amazon EC2 region name",
            "TTL": time to live in seconds,
            "ResourceRecords": [
                {
                    "Value": "applicable value for the record type"
                },
                {...}
            ],
            "HealthCheckId": "optional ID of an Amazon Route 53 health check"
        }
    },
    {...}
    ]
}
```

Latency Alias Syntax:

```
{
    "Comment": "optional comment about the changes in this change batch request",
    "Changes": [
    {
        "Action": "CREATE"|"DELETE"|"UPSERT",
        "ResourceRecordSet": {
            "Name": "DNS domain name",
            "Type": "SOA"|"A"|"TXT"|"NS"|"CNAME"|"MX"|"PTR"|"SRV"|"SPF"|"AAAA",
            "SetIdentifier": "unique description for this resource record set",
```
"Region": "Amazon EC2 region name",
"AliasTarget": {
  "HostedZoneId": "hosted zone ID for your CloudFront distribution, Amazon S3 bucket, Elastic Load Balancing load balancer, or Amazon Route 53 hosted zone",
  "DNSName": "DNS domain name for your CloudFront distribution, Amazon S3 bucket, Elastic Load Balancing load balancer, or another resource record set in this hosted zone",
  "EvaluateTargetHealth": true|false
},
"HealthCheckId": "optional ID of an Amazon Route 53 health check"
}

Failover Syntax:

{
  "Comment": "optional comment about the changes in this change batch request",
  "Changes": [
    {
      "Action": "CREATE"|"DELETE"|"UPSERT",
      "ResourceRecordSet": {
        "Name": "DNS domain name",
        "Type": "SOA"|"A"|"TXT"|"NS"|"CNAME"|"MX"|"PTR"|"SRV"|"SPF"|"AAAA",
        "SetIdentifier": "unique description for this resource record set",
        "Failover": "PRIMARY" | "SECONDARY",
        "TTL": time to live in seconds,
        "ResourceRecords": [
          {
            "Value": "applicable value for the record type"
          },
          {...}
        ],
        "HealthCheckId": "ID of an Amazon Route 53 health check"
      }
    },
    {...}
  ]
}

Failover Alias Syntax:
• For API details, see [ChangeResourceRecordSets](https://docs.aws.amazon.com/cli/latest/reference/route53/change-resource-record-sets.html) in *AWS CLI Command Reference*.

### change-tags-for-resource

The following code example shows how to use `change-tags-for-resource`.

#### AWS CLI

The following command adds a tag named `owner` to a healthcheck resource specified by ID:

```bash
aws route53 change-tags-for-resource --resource-type healthcheck --resource-id 6233434j-18c1-34433-ba8e-3443434 --add-tags Key=owner,Value=myboss
```

The following command removes a tag named `owner` from a hosted zone resource specified by ID:
aws route53 change-tags-for-resource --resource-type hostedzone --resource-id Z1523434445 --remove-tag-keys owner

- For API details, see [ChangeTagsForResource](https://docs.aws.amazon.com/cli/latest/reference/route53/change-tags-for-resource.html) in *AWS CLI Command Reference*.

### create-health-check

The following code example shows how to use `create-health-check`.

**AWS CLI**

#### To create a health check

The following `create-health-check` command creates a health check using the caller reference `2014-04-01-18:47` and the JSON-formatted configuration in the file `C:\awscli\route53\create-health-check.json`:

```
aws route53 create-health-check --caller-reference 2014-04-01-18:47 --health-check-config file://C:\awscli\route53\create-health-check.json
```

**JSON syntax:**

```json
{
    "IPAddress": "IP address of the endpoint to check",
    "Port": "port on the endpoint to check--required when Type is "TCP",
    "Type": "HTTP"|"HTTPS"|"HTTP_STR_MATCH"|"HTTPS_STR_MATCH"|"TCP",
    "ResourcePath": "path of the file that you want Amazon Route 53 to request--all Types except TCP",
    "FullyQualifiedDomainName": "domain name of the endpoint to check--all Types except TCP",
    "SearchString": "if Type is HTTP_STR_MATCH or HTTPS_STR_MATCH, the string to search for in the response body from the specified resource",
    "RequestInterval": 10 | 30,
    "FailureThreshold": integer between 1 and 10
}
```

To add the health check to a Route 53 resource record set, use the `change-resource-record-sets` command.

For more information, see Amazon Route 53 Health Checks and DNS Failover in the *Amazon Route 53 Developer Guide*. 
create-hosted-zone

The following code example shows how to use `create-hosted-zone`.

**AWS CLI**

To create a hosted zone

The following `create-hosted-zone` command adds a hosted zone named `example.com` using the caller reference `2014-04-01-18:47`. The optional comment includes a space, so it must be enclosed in quotation marks:

```
aws route53 create-hosted-zone --name example.com --caller-reference 2014-04-01-18:47 --hosted-zone-config Comment="command-line version"
```

For more information, see Working with Hosted Zones in the *Amazon Route 53 Developer Guide*.

• For API details, see [CreateHealthCheck](#) in *AWS CLI Command Reference*.

delete-health-check

The following code example shows how to use `delete-health-check`.

**AWS CLI**

To delete a health check

The following `delete-health-check` command deletes the health check with a health-check-id of `e75b48d9-547a-4c3d-88a5-ae4002397608`:

```
aws route53 delete-health-check --health-check-id e75b48d9-547a-4c3d-88a5-ae4002397608
```

• For API details, see [DeleteHealthCheck](#) in *AWS CLI Command Reference*.

delete-hosted-zone

The following code example shows how to use `delete-hosted-zone`.
**AWS CLI**

**To delete a hosted zone**

The following `delete-hosted-zone` command deletes the hosted zone with an id of Z36KTIQEXAMPLE:

```
aws route53 delete-hosted-zone --id Z36KTIQEXAMPLE
```

- For API details, see [DeleteHostedZone](https://docs.aws.amazon.com/cli/latest/reference/route53/delete-hosted-zone.html) in *AWS CLI Command Reference*.

---

**get-change**

The following code example shows how to use `get-change`.

**AWS CLI**

**To get the status of a change to resource record sets**

The following `get-change` command gets the status and other information about the `change-resource-record-sets` request that has an Id of `/change/CWPIK4URU2I5S`:

```
aws route53 get-change --id /change/CWPIK4URU2I5S
```

- For API details, see [GetChange](https://docs.aws.amazon.com/cli/latest/reference/route53/get-change.html) in *AWS CLI Command Reference*.

---

**get-health-check**

The following code example shows how to use `get-health-check`.

**AWS CLI**

**To get information about a health check**

The following `get-health-check` command gets information about the health check that has a health-check-id of 02ec8401-9879-4259-91fa-04e66d094674:

```
aws route53 get-health-check --health-check-id 02ec8401-9879-4259-91fa-04e66d094674
```
• For API details, see `GetHealthCheck` in `AWS CLI Command Reference`.

get-hosted-zone

The following code example shows how to use `get-hosted-zone`.

**AWS CLI**

**To get information about a hosted zone**

The following `get-hosted-zone` command gets information about the hosted zone with an id of Z1R8UBAEXAMPLE:

```
aws route53 get-hosted-zone --id Z1R8UBAEXAMPLE
```

• For API details, see `GetHostedZone` in `AWS CLI Command Reference`.

list-health-checks

The following code example shows how to use `list-health-checks`.

**AWS CLI**

**To list the health checks associated with the current AWS account**

The following `list-health-checks` command lists detailed information about the first 100 health checks that are associated with the current AWS account:

```
aws route53 list-health-checks
```

If you have more than 100 health checks, or if you want to list them in groups smaller than 100, include the `--max-items` parameter. For example, to list health checks one at a time, use the following command:

```
aws route53 list-health-checks --max-items 1
```

To view the next health check, take the value of `NextToken` from the response to the previous command, and include it in the `--starting-token` parameter, for example:
aws route53 list-health-checks --max-items 1 --starting-token Z3M3LMPEXAMPLE

- For API details, see ListHealthChecks in AWS CLI Command Reference.

**list-hosted-zones-by-name**

The following code example shows how to use list-hosted-zones-by-name.

**AWS CLI**

The following command lists up to 100 hosted zones ordered by domain name:

```
aws route53 list-hosted-zones-by-name
```

**Output:**

```
{
   "HostedZones": [
       {
           "ResourceRecordSetCount": 2,
           "CallerReference": "test20150527-2",
           "Config": {
               "Comment": "test2",
               "PrivateZone": false
           },
           "Id": "/hostedzone/Z119WBBTVP5WFX",
           "Name": "2.example.com."
       },
       {
           "ResourceRecordSetCount": 2,
           "CallerReference": "test20150527-1",
           "Config": {
               "Comment": "test",
               "PrivateZone": false
           },
           "Id": "/hostedzone/Z3P5QSUBK4POTI",
           "Name": "www.example.com."
       }
   ],
   "IsTruncated": false,
   "MaxItems": "100"
}
```
The following command lists hosted zones ordered by name, beginning with www.example.com:

```bash
aws route53 list-hosted-zones-by-name --dns-name www.example.com
```

Output:

```json
{
   "HostedZones": [
      {
         "ResourceRecordSetCount": 2,
         "CallerReference": "mwunderl20150527-1",
         "Config": {
            "Comment": "test",
            "PrivateZone": false
         },
         "Id": "/hostedzone/Z3P5QSUBK4POTI",
         "Name": "www.example.com."
      }
   ],
   "DNSName": "www.example.com",
   "IsTruncated": false,
   "MaxItems": "100"
}
```

- For API details, see ListHostedZonesByName in AWS CLI Command Reference.

list-query-logging-configs

The following code example shows how to use list-query-logging-configs.

**AWS CLI**

**To list query logging configurations**

The following list-query-logging-configs example lists information about the first 100 query logging configurations in your AWS account, for the hosted zone Z10X3WQEXAMPLE.

```bash
aws route53 list-query-logging-configs
```
--hosted-zone-id Z1OX3WQEXAMPLE

Output:

```
{
    "QueryLoggingConfigs": [
        {
            "Id": "964ff34e-ae03-4f06-80a2-9683cexample",
            "HostedZoneId": "Z1OX3WQEXAMPLE",
        }
    ]
}
```

For more information, see [Logging DNS queries](https://docs.aws.amazon.com/Route53/latest/DeveloperGuide/LoggingDNSQueries.html) in the Amazon Route 53 Developer Guide.


### list-resource-record-sets

The following code example shows how to use `list-resource-record-sets`.

**AWS CLI**

**To list the resource record sets in a hosted zone**

The following `list-resource-record-sets` command lists summary information about the first 100 resource record sets in a specified hosted zone:

```
aws route53 list-resource-record-sets --hosted-zone-id Z2LD58HEXAMPLE
```

If the hosted zone contains more than 100 resource record sets, or if you want to list them in groups smaller than 100, include the `--maxitems` parameter. For example, to list resource record sets one at a time, use the following command:

```
aws route53 list-resource-record-sets --hosted-zone-id Z2LD58HEXAMPLE --max-items 1
```

To view information about the next resource record set in the hosted zone, take the value of `NextToken` from the response to the previous command, and include it in the `--starting-token` parameter, for example:
aws route53 list-resource-record-sets --hosted-zone-id Z2LD58HEXAMPLE --max-items 1 --starting-token Z3M3LMPEXAMPLE

To view all the resource record sets of a particular name, use the --query parameter to filter them out. For example:

aws route53 list-resource-record-sets --hosted-zone-id Z2LD58HEXAMPLE --query "ResourceRecordSets[?Name == 'example.domain.']"

- For API details, see [ListResourceRecordSets](aws cli command reference) in *AWS CLI Command Reference*.

**Route 53 domain registration examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Route 53 domain registration.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- Actions

**Actions**

**check-domain-availability**

The following code example shows how to use check-domain-availability.

**AWS CLI**

To determine whether you can register a domain name with Route 53
The following check-domain-availability command returns information about whether the domain name example.com is available to be registered using Route 53.

This command runs only in the us-east-1 Region. If your default region is set to us-east-1, you can omit the region parameter.

```bash
aws route53domains check-domain-availability \
   --region us-east-1 \
   --domain-name example.com
```

Output:

```json
{
   "Availability": "UNAVAILABLE"
}
```

Route 53 supports a large number of top-level domains (TLDs), such as .com and .jp, but we don't support all available TLDs. If you check the availability of a domain and Route 53 doesn't support the TLD, check-domain-availability returns the following message.

```
An error occurred (UnsupportedTLD) when calling the CheckDomainAvailability operation: <top-level domain> tld is not supported.
```

For a list of the TLDs that you can use when registering a domain with Route 53, see Domains That You Can Register with Amazon Route 53 in the Amazon Route 53 Developer Guide. For more information about registering domains with Amazon Route 53, see Registering a New Domain in the Amazon Route 53 Developer Guide.

- For API details, see CheckDomainAvailability in AWS CLI Command Reference.

### check-domain-transferability

The following code example shows how to use check-domain-transferability.

**AWS CLI**

To determine whether a domain can be transferred to Route 53

The following check-domain-transferability command returns information about whether you can transfer the domain name example.com to Route 53.
This command runs only in the us-east-1 Region. If your default region is set to us-east-1, you can omit the region parameter.

```
aws route53domains check-domain-transferability \
   --region us-east-1 \
   --domain-name example.com
```

Output:

```
{
   "Transferability": {
      "Transferable": "UNTRANSFERABLE"
   }
}
```

For more information, see Transferring Registration for a Domain to Amazon Route 53 in the Amazon Route 53 Developer Guide.

- For API details, see CheckDomainTransferability in AWS CLI Command Reference.

delete-tags-for-domain

The following code example shows how to use delete-tags-for-domain.

**AWS CLI**

**To delete tags for a domain**

The following delete-tags-for-domain command deletes three tags from the specified domain. Note that you specify only the tag key, not the tag value.

This command runs only in the us-east-1 Region. If your default region is set to us-east-1, you can omit the region parameter.

```
aws route53domains delete-tags-for-domain \
   --region us-east-1 \
   --domain-name example.com \
   --tags-to-delete accounting-key hr-key engineering-key
```

This command produces no output.
To confirm that the tags were deleted, you can run `list-tags-for-domain`. For more information, see [Tagging Amazon Route 53 Resources](https://docs.aws.amazon.com/Route53/latest/DeveloperGuide/tagging.html) in the *Amazon Route 53 Developer Guide*.

- For API details, see [DeleteTagsForDomain](https://docs.aws.amazon.com/cli/latest/reference/route53domains/delete-tags-for-domain.html) in *AWS CLI Command Reference*.

### disable-domain-auto-renew

The following code example shows how to use `disable-domain-auto-renew`.

**AWS CLI**

**To disable automatic renewal of a domain**

The following `disable-domain-auto-renew` command configures Route 53 to *not* automatically renew the domain `example.com` before registration for the domain expires.

This command runs only in the `us-east-1` Region. If your default region is set to `us-east-1`, you can omit the `region` parameter.

```bash
aws route53domains disable-domain-auto-renew \
   --region us-east-1 \
   --domain-name example.com
```

This command produces no output.

To confirm that the setting was changed, you can run `get-domain-detail`. If automatic renewal is disabled, the value of `AutoRenew` is `False`. For more information about automatic renewal, see [Renewing Registration for a Domain](https://docs.aws.amazon.com/Route53/latest/DeveloperGuide/domain-renew.html) in the *Amazon Route 53 Developer Guide*.

- For API details, see [DisableDomainAutoRenew](https://docs.aws.amazon.com/cli/latest/reference/route53domains/disable-domain-auto-renew.html) in *AWS CLI Command Reference*.

### disable-domain-transfer-lock

The following code example shows how to use `disable-domain-transfer-lock`.

**AWS CLI**

**To disable the transfer lock on a domain**

```bash
```
The following `disable-domain-transfer-lock` command removes the transfer lock on the domain `example.com` so that the domain can be transferred to another registrar. This command changes the `clientTransferProhibited` status.

This command runs only in the `us-east-1` Region. If your default region is set to `us-east-1`, you can omit the `region` parameter.

```
aws route53domains disable-domain-transfer-lock \
    --region us-east-1 \
    --domain-name example.com
```

Output:

```
{
    "OperationId": "3f28e0ac-126a-4113-9048-cc930example"
}
```

To confirm that the transfer lock has been changed, you can run `get-domain-detail`. When the transfer lock is disabled, the value of `StatusList` does not include `clientTransferProhibited`.

For more information about the transfer process, see Transferring a Domain from Amazon Route 53 to Another Registrar in the Amazon Route 53 Developer Guide.

- For API details, see DisableDomainTransferLock in AWS CLI Command Reference.

### enable-domain-auto-renew

The following code example shows how to use `enable-domain-auto-renew`.

**AWS CLI**

To enable automatic renewal of a domain

The following `enable-domain-auto-renew` command configures Route 53 to automatically renew the domain `example.com` before registration for the domain expires.

This command runs only in the `us-east-1` Region. If your default region is set to `us-east-1`, you can omit the `region` parameter.

```
aws route53domains enable-domain-auto-renew \
    --region us-east-1 \
```
This command produces no output. To confirm that the setting was changed, you can run `get-domain-detail`. If automatic renewal is enabled, the value of `AutoRenew` is `True`.

For more information about automatic renewal, see Renewing Registration for a Domain <https://docs.aws.amazon.com/Route53/latest/DeveloperGuide/domain-renew.html in the Amazon Route 53 Developer Guide.>

- For API details, see `EnableDomainAutoRenew` in AWS CLI Command Reference.

### enable-domain-transfer-lock

The following code example shows how to use `enable-domain-transfer-lock`.

**AWS CLI**

**To enable the transfer lock on a domain**

The following `enable-domain-transfer-lock` command locks the specified domain so that it can't be transferred to another registrar. This command changes the `clientTransferProhibited` status.

This command runs only in the `us-east-1` Region. If your default region is set to `us-east-1`, you can omit the `region` parameter.

```
aws route53domains enable-domain-transfer-lock 
  --region us-east-1 
  --domain-name example.com
```

**Output:**

```
{
  "OperationId": "3f28e0ac-126a-4113-9048-cc930example"
}
```

To confirm that the transfer lock has been changed, you can run `get-domain-detail`. When the transfer lock is enabled, the value of `StatusList` includes `clientTransferProhibited`.

For more information about the transfer process, see Transferring a Domain from Amazon Route 53 to Another Registrar in the Amazon Route 53 Developer Guide.
get-contact-reachability-status

The following code example shows how to use get-contact-reachability-status.

AWS CLI

To determine whether the registrant contact has responded to a confirmation email

The following get-contact-reachability-status command returns information about whether the registrant contact for the specified domain has responded to a confirmation email.

This command runs only in the us-east-1 Region. If your default region is set to us-east-1, you can omit the region parameter.

```
aws route53domains get-contact-reachability-status \
   --region us-east-1 \ 
   --domain-name example.com
```

Output:

```
{
   "domainName": "example.com",
   "status": "DONE"
}
```

For more information, see Resending Authorization and Confirmation Emails in the Amazon Route 53 Developer Guide.

For API details, see GetContactReachabilityStatus in AWS CLI Command Reference.

get-domain-detail

The following code example shows how to use get-domain-detail.

AWS CLI

To get detailed information about a specified domain

The following get-domain-detail command displays detailed information about the specified domain.
This command runs only in the us-east-1 Region. If your default region is set to us-east-1, you can omit the region parameter.

```bash
aws route53domains get-domain-detail \
  --region us-east-1 \
  --domain-name example.com
```

Output:

```json
{
  "DomainName": "example.com",
  "Nameservers": [
    {
      "Name": "ns-2048.awsdns-64.com",
      "GlueIps": []
    },
    {
      "Name": "ns-2049.awsdns-65.net",
      "GlueIps": []
    },
    {
      "Name": "ns-2050.awsdns-66.org",
      "GlueIps": []
    },
    {
      "Name": "ns-2051.awsdns-67.co.uk",
      "GlueIps": []
    }
  ],
  "AutoRenew": true,
  "AdminContact": {
    "FirstName": "Saanvi",
    "LastName": "Sarkar",
    "ContactType": "COMPANY",
    "OrganizationName": "Example",
    "AddressLine1": "123 Main Street",
    "City": "Anytown",
    "State": "WA",
    "CountryCode": "US",
    "ZipCode": "98101",
    "PhoneNumber": "+1.8005551212",
    "Email": "ssarkar@example.com",
    "ExtraParams": []
  }
}
```


```
{
  "RegistrantContact": {
    "FirstName": "Alejandro",
    "LastName": "Rosalez",
    "ContactType": "COMPANY",
    "OrganizationName": "Example",
    "AddressLine1": "123 Main Street",
    "City": "Anytown",
    "State": "WA",
    "CountryCode": "US",
    "ZipCode": "98101",
    "PhoneNumber": "+1.8005551212",
    "Email": "arosalez@example.com",
    "ExtraParams": []
  },
  "TechContact": {
    "FirstName": "Wang",
    "LastName": "Xiulan",
    "ContactType": "COMPANY",
    "OrganizationName": "Example",
    "AddressLine1": "123 Main Street",
    "City": "Anytown",
    "State": "WA",
    "CountryCode": "US",
    "ZipCode": "98101",
    "PhoneNumber": "+1.8005551212",
    "Email": "wxiulan@example.com",
    "ExtraParams": []
  },
  "AdminPrivacy": true,
  "RegistrantPrivacy": true,
  "TechPrivacy": true,
  "RegistrarName": "Amazon Registrar, Inc.",
  "WhoIsServer": "whois.registrar.amazon.com",
  "RegistrarUrl": "http://registrar.amazon.com",
  "AbuseContactEmail": "abuse@registrar.amazon.com",
  "AbuseContactPhone": "+1.2062661000",
  "CreationDate": 1444934889.601,
  "ExpirationDate": 1602787689.0,
  "StatusList": [
    "clientTransferProhibited"
  ]
}
```
get-domain-suggestions

The following code example shows how to use get-domain-suggestions.

AWS CLI

To get a list of suggested domain names

The following get-domain-suggestions command displays a list of suggested domain names based on the domain name example.com. The response includes only domain names that are available. This command runs only in the us-east-1 Region. If your default region is set to us-east-1, you can omit the region parameter.

```
aws route53domains get-domain-suggestions \\
  --region us-east-1 \\
  --domain-name example.com \\
  --suggestion-count 10 \\
  --only-available
```

Output:

```
{
"SuggestionsList": [
  {
   "DomainName": "egzaampal.com",
   "Availability": "AVAILABLE"
  },
  {
   "DomainName": "examplelaw.com",
   "Availability": "AVAILABLE"
  },
  {
   "DomainName": "examplehouse.net",
   "Availability": "AVAILABLE"
  },
  {
   "DomainName": "homeexample.net",
   "Availability": "AVAILABLE"
  },
  {
```

- For API details, see GetDomainDetail in AWS CLI Command Reference.
For API details, see `GetDomainSuggestions` in *AWS CLI Command Reference*.

**get-operation-detail**

The following code example shows how to use `get-operation-detail`.

**AWS CLI**

**To get the current status of an operation**

Some domain registration operations operate asynchronously and return a response before they finish. These operations return an operation ID that you can use to get the current status. The following `get-operation-detail` command returns the status of the specified operation.

This command runs only in the `us-east-1` Region. If your default region is set to `us-east-1`, you can omit the `region` parameter.

```
aws route53domains get-operation-detail \
    --region us-east-1 \
```
--operation-id edbd8d63-7fe7-4343-9bc5-54033example

Output:

```json
{
  "OperationId": "edbd8d63-7fe7-4343-9bc5-54033example",
  "Status": "SUCCESSFUL",
  "DomainName": "example.com",
  "Type": "DOMAIN_LOCK",
  "SubmittedDate": 1573749367.864
}
```

- For API details, see [GetOperationDetail](https://awscli.amazonaws.com/v2/documentation/api/1.16.36/route53domains.html#aws-cli-route53domains-get-operation-detail) in *AWS CLI Command Reference*.

**list-domains**

The following code example shows how to use `list-domains`.

**AWS CLI**

**To list the domains that are registered with the current AWS account**

The following `list-domains` command lists summary information about the domains that are registered with the current AWS account.

This command runs only in the `us-east-1` Region. If your default region is set to `us-east-1`, you can omit the `region` parameter.

```bash
aws route53domains list-domains
--region us-east-1
```

Output:

```json
{
  "Domains": [
    {
      "DomainName": "example.com",
      "AutoRenew": true,
      "TransferLock": true,
      "Expiry": 1602712345.0
    }
  ]
}
```
For API details, see ListDomains in AWS CLI Command Reference.

list-operations

The following code example shows how to use list-operations.

AWS CLI

To list the status of operations that return an operation ID

Some domain registration operations run asynchronously and return a response before they finish. These operations return an operation ID that you can use to get the current status. The following list-operations command lists summary information, including the status, about the current domain-registration operations.

This command runs only in the us-east-1 Region. If your default region is set to us-east-1, you can omit the region parameter.

aws route53domains list-operations
   --region us-east-1

Output:

```json
{
   "Operations": [
      {
         "DomainName": "example.net",
         "AutoRenew": true,
         "TransferLock": true,
         "Expiry": 1602723456.0
      },
      {
         "DomainName": "example.org",
         "AutoRenew": true,
         "TransferLock": true,
         "Expiry": 1602734567.0
      }
   ]
}
```
The output includes all the operations that return an operation ID and that you have performed on all the domains that you have ever registered using the current AWS account. If you want to get only the operations that you submitted after a specified date, you can include the submitted-since parameter and specify a date in Unix format and Coordinated Universal Time (UTC). The following command gets the status of all operations that were submitted after 12:00 am UTC on January 1, 2020.

```
aws route53domains list-operations \
  --submitted-since 1577836800
```

- For API details, see [ListOperations](https://docs.aws.amazon.com/cli/latest/reference/route53domains/list-operations.html) in *AWS CLI Command Reference*.

**list-tags-for-domain**

The following code example shows how to use `list-tags-for-domain`. 
AWS CLI

To list tags for a domain

The following `list-tags-for-domain` command lists the tags that are currently associated with the specified domain.

This command runs only in the `us-east-1` Region. If your default region is set to `us-east-1`, you can omit the `region` parameter.

```
aws route53domains list-tags-for-domain \
--region us-east-1 \ 
--domain-name example.com
```

Output:

```
{
   "TagList": [
       {
           "Key": "key1",
           "Value": "value1"
       },
       {
           "Key": "key2",
           "Value": "value2"
       }
   ]
}
```

For more information, see [Tagging Amazon Route 53 Resources](https://docs.aws.amazon.com/Route53/latest/DeveloperGuide/tagging.html) in the *Amazon Route 53 Developer Guide*.

- For API details, see [ListTagsForDomain](https://docs.aws.amazon.com/cli/latest/reference/route53domains/list-tags-for-domain.html) in *AWS CLI Command Reference*.

register-domain

The following code example shows how to use `register-domain`.

AWS CLI

To register a domain
The following `register-domain` command registers a domain, retrieving all parameter values from a JSON-formatted file.

This command runs only in the `us-east-1` Region. If your default region is set to `us-east-1`, you can omit the `region` parameter.

```
aws route53domains register-domain \
  --region us-east-1 \
  --cli-input-json file://register-domain.json
```

Contents of `register-domain.json`:

```
{
  "DomainName": "example.com",
  "DurationInYears": 1,
  "AutoRenew": true,
  "AdminContact": {
    "FirstName": "Martha",
    "LastName": "Rivera",
    "ContactType": "PERSON",
    "OrganizationName": "Example",
    "AddressLine1": "1 Main Street",
    "City": "Anytown",
    "State": "WA",
    "CountryCode": "US",
    "ZipCode": "98101",
    "PhoneNumber": "+1.8005551212",
    "Email": "mrivera@example.com"
  },
  "RegistrantContact": {
    "FirstName": "Li",
    "LastName": "Juan",
    "ContactType": "PERSON",
    "OrganizationName": "Example",
    "AddressLine1": "1 Main Street",
    "City": "Anytown",
    "State": "WA",
    "CountryCode": "US",
    "ZipCode": "98101",
    "PhoneNumber": "+1.8005551212",
    "Email": "ljuan@example.com"
  },
  "TechContact": {
```

Actions and scenarios
Output:

```json
{
    "OperationId": "b114c44a-9330-47d1-a6e8-a0b11example"
}
```

To confirm that the operation succeeded, you can run `get-operation-detail`. For more information, see `get-operation-detail`.

For more information, see Registering a New Domain in the Amazon Route 53 Developer Guide.

For information about which top-level domains (TLDs) require values for ExtraParams and what the valid values are, see ExtraParam in the Amazon Route 53 API Reference.

- For API details, see RegisterDomain in AWS CLI Command Reference.

renew-domain

The following code example shows how to use renew-domain.

AWS CLI

To renew a domain
The following renew-domain command renews the specified domain for five years. To get the value for current-expiry-year, use the get-domain-detail command, and convert the value of ExpirationDate from Unix format.

This command runs only in the us-east-1 Region. If your default region is set to us-east-1, you can omit the region parameter.

```bash
aws route53domains renew-domain \
   --region us-east-1 \
   --domain-name example.com \
   --duration-in-years 5 \
   --current-expiry-year 2020
```

Output:

```
{
   "OperationId": "3f28e0ac-126a-4113-9048-cc930example"
}
```

To confirm that the operation succeeded, you can run get-operation-detail. For more information, see [get-operation-detail](#).

The registry for each top-level domain (TLD), such as .com or .org, controls the maximum number of years that you can renew a domain for. To get the maximum renewal period for your domain, see the "Registration and Renewal Period" section for your TLD in [Domains That You Can Register with Amazon Route 53](#) in the Amazon Route 53 Developer Guide.

For more information, see [Renewing Registration for a Domain](#) in the Amazon Route 53 Developer Guide.

- For API details, see [RenewDomain](#) in AWS CLI Command Reference.

resend-contact-reachability-email

The following code example shows how to use resend-contact-reachability-email.

**AWS CLI**

To resend the confirmation email to the current email address for the registrant contact

The following resend-contact-reachability-email command resends the confirmation email to the current email address for the registrant contact for the example.com domain.

resend-contact-reachability-email
This command runs only in the `us-east-1` Region. If your default region is set to `us-east-1`, you can omit the `region` parameter.

```
aws route53domains resend-contact-reachability-email
  --region us-east-1
  --domain-name example.com
```

Output:

```
{
  "domainName": "example.com",
  "emailAddress": "moliveira@example.com",
  "isAlreadyVerified": true
}
```

If the value of `isAlreadyVerified` is `true`, as in this example, the registrant contact has already confirmed that the specified email address is reachable.

For more information, see [Resending Authorization and Confirmation Emails](#) in the Amazon Route 53 Developer Guide.

- For API details, see [ResendContactReachabilityEmail](#) in AWS CLI Command Reference.

---

### retrieve-domain-auth-code

The following code example shows how to use `retrieve-domain-auth-code`.

#### AWS CLI

**To get the authorization code for a domain so you can transfer the domain to another registrar**

The following `retrieve-domain-auth-code` command gets the current authorization code for the example.com domain. You give this value to another domain registrar when you want to transfer the domain to that registrar.

This command runs only in the `us-east-1` Region. If your default region is set to `us-east-1`, you can omit the `region` parameter.

```
aws route53domains retrieve-domain-auth-code
  --region us-east-1
```
--domain-name example.com

Output:

```json
{
    "AuthCode": "\o!v3dJeXampLe"
}
```

For more information, see [Transferring a Domain from Amazon Route 53 to Another Registrar](https://docs.aws.amazon.com/Route53/latest/DeveloperGuide/transferring-domains.html) in the [Amazon Route 53 Developer Guide](https://docs.aws.amazon.com/Route53/latest/DeveloperGuide/).


### transfer-domain

The following code example shows how to use `transfer-domain`.

**AWS CLI**

**To transfer a domain to Amazon Route 53**

The following `transfer-domain` command transfers a domain to Route 53, with the parameters provided by the JSON-formatted file `C:\temp\transfer-domain.json`.

This command runs only in the `us-east-1` Region. If your default region is set to `us-east-1`, you can omit the `region` parameter.

```
aws route53domains transfer-domain \
    --region us-east-1 \
    --cli-input-json file://C:\temp\transfer-domain.json
```

**Contents of `transfer-domain.json`:**

```json
{
    "DomainName": "example.com",
    "DurationInYears": 1,
    "Nameservers": [
        {
            "Name": "ns-2048.awsdns-64.com"
        },
        {
            "Name": "ns-2049.awsdns-65.net"
        }
    ]
}
```
{
    "Name": "ns-2050.awsdns-66.org",
}
{
    "Name": "ns-2051.awsdns-67.co.uk"
}
"AuthCode": ")o!v3dJeXampLe",
"AutoRenew": true,
"AdminContact": {
    "FirstName": "Martha",
    "LastName": "Rivera",
    "ContactType": "PERSON",
    "OrganizationName": "Example",
    "AddressLine1": "1 Main Street",
    "City": "Anytown",
    "State": "WA",
    "CountryCode": "US",
    "ZipCode": "98101",
    "PhoneNumber": "+1.8005551212",
    "Email": "mrivera@example.com"
},
"RegistrantContact": {
    "FirstName": "Li",
    "LastName": "Juan",
    "ContactType": "PERSON",
    "OrganizationName": "Example",
    "AddressLine1": "1 Main Street",
    "City": "Anytown",
    "State": "WA",
    "CountryCode": "US",
    "ZipCode": "98101",
    "PhoneNumber": "+1.8005551212",
    "Email": "ljuan@example.com"
},
"TechContact": {
    "FirstName": "Mateo",
    "LastName": "Jackson",
    "ContactType": "PERSON",
    "OrganizationName": "Example",
    "AddressLine1": "1 Main Street",
    "City": "Anytown",
    "State": "WA",
    "CountryCode": "US",
    "ZipCode": "98101",
    "PhoneNumber": "+1.8005551212",
    "Email": "mrivera@example.com"
}
To confirm that the operation succeeded, you can run `get-operation-detail`. For more information, see [get-operation-detail](#).

For more information, see [Transferring Registration for a Domain to Amazon Route 53](#) in the [Amazon Route 53 Developer Guide](#).

- For API details, see [TransferDomain](#) in [AWS CLI Command Reference](#).

### update-domain-contact

The following code example shows how to use `update-domain-contact`.

**AWS CLI**

**To update the contact information for a domain**

The following `update-domain-contact` command updates the contact information for a domain, getting the parameters from the JSON-formatted file `C:\temp\update-domain-contact.json`.

This command runs only in the `us-east-1` Region. If your default region is set to `us-east-1`, you can omit the `region` parameter.

```
aws route53domains update-domain-contact 
  --region us-east-1 
  --cli-input-json file://C:\temp\update-domain-contact.json
```
Contents of update-domain-contact.json:

```json
{
    "AdminContact": {
        "AddressLine1": "101 Main Street",
        "AddressLine2": "Suite 1a",
        "City": "Seattle",
        "ContactType": "COMPANY",
        "CountryCode": "US",
        "Email": "w.xiulan@example.com",
        "FirstName": "Wang",
        "LastName": "Xiulan",
        "OrganizationName": "Example",
        "PhoneNumber": "+1.8005551212",
        "State": "WA",
        "ZipCode": "98101"
    },
    "DomainName": "example.com",
    "RegistrantContact": {
        "AddressLine1": "101 Main Street",
        "AddressLine2": "Suite 1a",
        "City": "Seattle",
        "ContactType": "COMPANY",
        "CountryCode": "US",
        "Email": "w.xiulan@example.com",
        "FirstName": "Wang",
        "LastName": "Xiulan",
        "OrganizationName": "Example",
        "PhoneNumber": "+1.8005551212",
        "State": "WA",
        "ZipCode": "98101"
    },
    "TechContact": {
        "AddressLine1": "101 Main Street",
        "AddressLine2": "Suite 1a",
        "City": "Seattle",
        "ContactType": "COMPANY",
        "CountryCode": "US",
        "Email": "w.xiulan@example.com",
        "FirstName": "Wang",
        "LastName": "Xiulan",
        "OrganizationName": "Example",
        "PhoneNumber": "+1.8005551212",
        "State": "WA",
        "ZipCode": "98101"
    }
}
```
To confirm that the operation succeeded, you can run `get-domain-detail`. For more information, see [Updating Contact Information for a Domain](https://docs.aws.amazon.com/AmazonRoute53/latest/DeveloperGuides/using-domain-contact-update.html) in the *Amazon Route 53 Developer Guide*.

- For API details, see [UpdateDomainContact](https://docs.aws.amazon.com/cli/latest/reference/route53domains/update-domain-contact-privacy.html) in *AWS CLI Command Reference*.

### update-domain-contact-privacy

The following code example shows how to use `update-domain-contact-privacy`.

#### AWS CLI

**To update the privacy settings for the contacts for a domain**

The following `update-domain-contact-privacy` command turns off privacy protection for the administrative contact for the example.com domain. This command runs only in the us-east-1 Region.

If your default region is set to us-east-1, you can omit the `region` parameter.

```bash
aws route53domains update-domain-contact-privacy \
  --region us-east-1 \
  --domain-name example.com \
  --no-admin-privacy
```

**Output:**

```json
{
  "OperationId": "b3a219e9-d801-4244-b533-b7256example"
}
```

To confirm that the operation succeeded, you can run `get-operation-detail`. For more information, see `get-operation-detail`.
For more information, see Enabling or Disabling Privacy Protection for Contact Information for a Domain in the Amazon Route 53 Developer Guide.

- For API details, see UpdateDomainContactPrivacy in AWS CLI Command Reference.

update-domain-nameservers

The following code example shows how to use update-domain-nameservers.

AWS CLI

To update the name servers for a domain

The following update-domain-nameservers command updates the name servers for a domain.

This command runs only in the us-east-1 Region. If your default region is set to us-east-1, you can omit the region parameter.

```bash
aws route53domains update-domain-nameservers
    --region us-east-1
    --domain-name example.com
    --nameservers Name=ns-1.awsdns-01.org Name=ns-2.awsdns-02.co.uk
    Name=ns-3.awsdns-03.net Name=ns-4.awsdns-04.com
```

Output:

```
{
    "OperationId": "f1691ec4-0e7a-489e-82e0-b19d3example"
}
```

To confirm that the operation succeeded, you can run get-domain-detail.

For more information, see Adding or Changing Name Servers and Glue Records for a Domain in the Amazon Route 53 Developer Guide.

- For API details, see UpdateDomainNameservers in AWS CLI Command Reference.

update-tags-for-domain

The following code example shows how to use update-tags-for-domain.

Actions and scenarios
To add or update tags for a domain

The following `update-tags-for-domain` command adds or updates two keys and the corresponding values for the example.com domain. To update the value for a key, just include the key and the new value. You can add or update tags in only one domain at a time.

This command runs only in the `us-east-1` Region. If your default region is set to `us-east-1`, you can omit the `region` parameter.

```
aws route53domains update-tags-for-domain
   --region us-east-1
   --domain-name example.com
   --tags-to-update "Key=key1,Value=value1" "Key=key2,Value=value2"
```

This command produces no output. To confirm that the tags were added or updated, you can run `list-tags-for-domain`.

For more information, see Tagging Amazon Route 53 Resources in the Amazon Route 53 Developer Guide.

- For API details, see UpdateTagsForDomain in AWS CLI Command Reference.

view-billing

The following code example shows how to use `view-billing`.

AWS CLI

To get billing information for domain registration charges for the current AWS account

The following `view-billing` command returns all the domain-related billing records for the current account for the period from January 1, 2018 (1514764800 in Unix time) and midnight on December 31, 2019 (1577836800 in Unix time).

This command runs only in the `us-east-1` Region. If your default region is set to `us-east-1`, you can omit the `region` parameter.

```
aws route53domains view-billing
   --region us-east-1
```
--start-time 1514764800 \
--end-time 1577836800

Output:

```json
{
    "BillingRecords": [
        {
            "DomainName": "example.com",
            "Operation": "RENEW_DOMAIN",
            "InvoiceId": "149962827",
            "BillDate": 1536618063.181,
            "Price": 12.0
        },
        {
            "DomainName": "example.com",
            "Operation": "RENEW_DOMAIN",
            "InvoiceId": "290913289",
            "BillDate": 1568162630.884,
            "Price": 12.0
        }
    ]
}
```

For more information, see [ViewBilling](#) in the [Amazon Route 53 API Reference](#).

- For API details, see [ViewBilling](#) in [AWS CLI Command Reference](#).

## Route 53 Resolver examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Route 53 Resolver.

**Actions** are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

**Scenarios** are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.
Actions

associate-firewall-rule-group

The following code example shows how to use associate-firewall-rule-group.

AWS CLI

To associate a firewall rule group with a VPC

The following associate-firewall-rule-group example associates a DNS Firewall rule group with an Amazon VPC.

```
aws route53resolver associate-firewall-rule-group \
   --name test-association \
   --firewall-rule-group-id rslvr-frg-47f93271fexample \
   --vpc-id vpc-31e92222 \
   --priority 101
```

Output:

```
{
   "FirewallRuleGroupAssociation": {
      "Id": "rslvr-frgassoc-57e8873d7example",
      "FirewallRuleGroupId": "rslvr-frg-47f93271fexample",
      "VpcId": "vpc-31e92222",
      "Name": "test-association",
      "Priority": 101,
      "MutationProtection": "DISABLED",
      "Status": "UPDATING",
      "StatusMessage": "Creating Firewall Rule Group Association",
      "CreatorRequestId": "2ca1a304-32b3-4f5f-bc4c-EXAMPLE11111",
   }
}
```
For more information, see Managing associations between your VPC and Route 53 Resolver DNS Firewall rule groups in the Amazon Route 53 Developer Guide.

- For API details, see AssociateFirewallRuleGroup in AWS CLI Command Reference.

associate-resolver-endpoint-ip-address

The following code example shows how to use associate-resolver-endpoint-ip-address.

AWS CLI

To associate another IP address with a Resolver endpoint

The following associate-resolver-endpoint-ip-address example associates another IP address with an inbound Resolver endpoint. If you specify only a subnet ID and omit the IP address from the --ip-address parameter, Resolver chooses an IP address for you from among the available IP addresses in the specified subnet.

```
aws route53resolver associate-resolver-endpoint-ip-address  
  --resolver-endpoint-id rslvr-in-497098ad5example  
  --ip-address="SubnetId=subnet-12d8exam,Ip=192.0.2.118"
```

Output:

```
{
   "ResolverEndpoint": {
      "Id": "rslvr-in-497098ad5example",
      "CreatorRequestId": "AWSConsole.25.0123456789",
      "Name": "my-inbound-endpoint",
      "SecurityGroupIds": [
         "sg-05cd7b25d6example"
      ],
      "Direction": "INBOUND",
      "IpAddressCount": 3,
      "HostVPCId": "vpc-304bexam",
      "Status": "UPDATING",
      "StatusMessage": "Updating the Resolver Endpoint",
      "CreationTime": "2020-01-02T23:25:45.538Z",
      "ModificationTime": "2020-01-02T23:25:45.538Z"
   }
}```
For more information, see Values That You Specify When You Create or Edit Inbound Endpoints in the Amazon Route 53 Developer Guide.

- For API details, see AssociateResolverEndpointIpAddress in AWS CLI Command Reference.

associate-resolver-rule

The following code example shows how to use associate-resolver-rule.

AWS CLI

To associate a Resolver rule with a VPC

The following associate-resolver-rule example associates a Resolver rule with an Amazon VPC. After you run the command, Resolver starts to forward DNS queries to your network based on the settings in the rule, such as the domain name of the queries that are forwarded.

```
aws route53resolver associate-resolver-rule 
   --name my-resolver-rule-association 
   --resolver-rule-id rslvr-rr-42b60677c0example 
   --vpc-id vpc-304bexam
```

Output:

```
{
   "ResolverRuleAssociation": {
      "Id": "rslvr-rrassoc-d61cbb2c8bexample",
      "ResolverRuleId": "rslvr-rr-42b60677c0example",
      "Name": "my-resolver-rule-association",
      "VPCId": "vpc-304bexam",
      "Status": "CREATING",
      "StatusMessage": "[Trace id: 1-5dc5a8fa-ec2cc480d2ef07617example] Creating the association."
   }
}
```

For more information, see Forwarding Outbound DNS Queries to Your Network in the Amazon Route 53 Developer Guide.
For API details, see AssociateResolverRule in AWS CLI Command Reference.

create-firewall-domain-list

The following code example shows how to use create-firewall-domain-list.

AWS CLI

To create a Route 53 Resolver DNS Firewall domain list

The following create-firewall-domain-list example creates a Route 53 Resolver DNS Firewall domain list, named test, in your AWS account.

```bash
aws route53resolver create-firewall-domain-list \
   --creator-request-id my-request-id \
   --name test
```

Output:

```json
{
   "FirewallDomainList": {
     "Id": "rslvr-fdl-d61cbb2cbexample",
     "Name": "test",
     "DomainCount": 0,
     "Status": "COMPLETE",
     "StatusMessage": "Created Firewall Domain List",
     "CreatorRequestId": "my-request-id",
   }
}
```

For more information, see Managing your own domain lists in the Amazon Route 53 Developer Guide.

For API details, see CreateFirewallDomainList in AWS CLI Command Reference.

create-firewall-rule

The following code example shows how to use create-firewall-rule.
AWS CLI

**To create a firewall rule**

The following `create-firewall-rule` example creates a firewall rule in a DNS Firewall rule for domains listed in a DNS Firewall domain list.

```
aws route53resolver create-firewall-rule \
   --name allow-rule \
   --firewall-rule-group-id rslvr-frg-47f93271fexample \
   --firewall-domain-list-id rslvr-fdl-9e956e9ffexample \
   --priority 101 \
   --action ALLOW
```

Output:

```
{
   "FirewallRule": {
      "FirewallRuleGroupId": "rslvr-frg-47f93271fexample",
      "FirewallDomainListId": "rslvr-fdl-9e956e9ffexample",
      "Name": "allow-rule",
      "Priority": 101,
      "Action": "ALLOW",
      "CreatorRequestId": "d81e3fb7-020b-415e-939f-EXAMPLE11111",
      "CreationTime": "2021-05-25T21:44:00.346093Z",
      "ModificationTime": "2021-05-25T21:44:00.346093Z"
   }
}
```

For more information, see [Managing rule groups and rules in DNS Firewall](https://docs.aws.amazon.com/AmazonRoute53/latest/DeveloperGuide/dns-firewall.html) in the *Amazon Route 53 Developer Guide*.

- For API details, see [CreateFirewallRule](https://docs.aws.amazon.com/cli/latest/reference/route53resolver/create-firewall-rule.html) in *AWS CLI Command Reference*.

**create-firewall-rule-group**

The following code example shows how to use `create-firewall-rule-group`.

AWS CLI

**To create a Firewall rule group**

The following `create-firewall-rule-group` example creates a DNS Firewall rule group.
aws route53resolver create-firewall-rule-group \
   --creator-request-id my-request-id \
   --name test

Output:

{  
   "FirewallRuleGroup": {  
      "Id": "rslvr-frg-47f93271fexample",  
      "Name": "test",  
      "RuleCount": 0,  
      "Status": "COMPLETE",  
      "StatusMessage": "Created Firewall Rule Group",  
      "OwnerId": "123456789012",  
      "CreatorRequestId": "my-request-id",  
      "ShareStatus": "NOT_SHARED",  
   }  
}

For more information, see Managing rule groups and rules in DNS Firewall in the Amazon Route 53 Developer Guide.

- For API details, see CreateFirewallRuleGroup in AWS CLI Command Reference.

create-resolver-endpoint

The following code example shows how to use create-resolver-endpoint.

AWS CLI

To create an inbound Resolver endpoint

The following create-resolver-endpoint example creates an inbound Resolver endpoint. You can use the same command to create both inbound and outbound endpoints.

aws route53resolver create-resolver-endpoint --name my-inbound-endpoint --creator-request-id 2020-01-01-18:47 --security-group-ids "sg-f62bexam" --direction INBOUND --ip-addresses SubnetId=subnet-ba47exam,Ip=192.0.2.255 SubnetId=subnet-12d8exam,Ip=192.0.2.254
Output:

```
{
    "ResolverEndpoint": {
        "Id": "rslvr-in-f9ab8a03f1example",
        "CreatorRequestId": "2020-01-01-18:47",
        "Name": "my-inbound-endpoint",
        "SecurityGroupIds": [
            "sg-f62bexam"
        ],
        "Direction": "INBOUND",
        "IpAddressCount": 2,
        "HostVPCId": "vpc-304exam",
        "Status": "CREATING",
        "StatusMessage": "[Trace id: 1-5dc1ff84-f3477826e4a190025example] Creating the Resolver Endpoint",
        "CreationTime": "2020-01-01T23:02:29.583Z",
        "ModificationTime": "2020-01-01T23:02:29.583Z"
    }
}
```

To create an outbound Resolver endpoint

The following create-resolver-endpoint example creates an outbound resolver endpoint using the values in the JSON-formatted document create-outbound-resolver-endpoint.json.

```
aws route53resolver create-resolver-endpoint \
    --cli-input-json file://c:\temp\create-outbound-resolver-endpoint.json
```

Contents of create-outbound-resolver-endpoint.json:

```
{
    "CreatorRequestId": "2020-01-01-18:47",
    "Direction": "OUTBOUND",
    "IpAddresses": [
        {
            "Ip": "192.0.2.255",
            "SubnetId": "subnet-ba47exam"
        }
    ]
}
```
create-resolver-rule

The following code example shows how to use create-resolver-rule.

AWS CLI

To create a Resolver rule

The following create-resolver-rule example creates a Resolver forwarding rule. The rule uses the outbound endpoint rslvr-out-d5e5920e37example to forward DNS queries for example.com to the IP addresses 10.24.8.75 and 10.24.8.156.

```
aws route53resolver create-resolver-rule \
  --creator-request-id 2020-01-02-18:47 \
  --domain-name example.com \
  --name my-rule \
  --resolver-endpoint-id rslvr-out-d5e5920e37example \
  --rule-type FORWARD \
  --target-ips "Ip=10.24.8.75" "Ip=10.24.8.156"
```

Output:

```json
{
  
}
```
• For API details, see [CreateResolverRule](https://docs.aws.amazon.com/cli/latest/reference/route53resolver/create-resolver-rule.html) in *AWS CLI Command Reference*.

### delete-firewall-domain-list

The following code example shows how to use `delete-firewall-domain-list`.

**AWS CLI**

**To delete a Route 53 Resolver DNS Firewall domain list**

The following `delete-firewall-domain-list` example deletes a Route 53 Resolver DNS Firewall domain list, named test, in your AWS account.

```bash
aws route53resolver delete-firewall-domain-list
```
The following code example shows how to use **delete-firewall-rule**.

**AWS CLI**

To delete a firewall rule

The following `delete-firewall-rule` example deletes a specified firewall rule.

```bash
aws route53resolver delete-firewall-rule \
    --firewall-rule-group-id rslvr-frg-47f93271fexample \
    --firewall-domain-list-id rslvr-fdl-9e956e9ffexample
```

Output:

```json
{
    "FirewallRule": {

    }
}
```

For more information, see [Managing your own domain lists](https://docs.aws.amazon.com/Route53/latest/DeveloperGuide/firewall-domain-lists.html) in the *Amazon Route 53 Developer Guide*.

- For API details, see [DeleteFirewallDomainList](https://docs.aws.amazon.com/Route53/latest/APIReference/API_DeleteFirewallDomainList.html) in *AWS CLI Command Reference*. 

---

**delete-firewall-rule**

The following code example shows how to use **delete-firewall-rule**.
"FirewallRuleGroupId": "rslvr-frg-47f93271fexample",
"FirewallDomainListId": "rslvr-fdl-9e956e9ffexample",
"Name": "allow-rule",
"Priority": 102,
"Action": "ALLOW",
"CreatorRequestId": "d81e3fb7-020b-415e-939f-EXAMPLE11111",
"CreationTime": "2021-05-25T21:44:00.346093Z",
"ModificationTime": "2021-05-25T21:45:59.611600Z"
}
}

For more information, see [Managing rule groups and rules in DNS Firewall](https://docs.aws.amazon.com/Route53/latest/DeveloperGuide/) in the Amazon Route 53 Developer Guide.


### delete-firewall-rule-group

The following code example shows how to use `delete-firewall-rule-group`.

**AWS CLI**

To delete a firewall rule group

The following `delete-firewall-rule-group` example deletes a firewall rule group.

```bash
aws route53resolver delete-firewall-rule-group \
    --firewall-rule-group-id rslvr-frg-47f93271fexample
```

Output:

```json
{
    "FirewallRuleGroup": {
        "Id": "rslvr-frg-47f93271fexample",
        "Name": "test",
        "RuleCount": 0,
        "Status": "UPDATING",
        "StatusMessage": "Updating Firewall Rule Group",
        "OwnerId": "123456789012",
        "CreatorRequestId": "my-request-id",
        "ShareStatus": "NOT_SHARED",
    }
}
```
For more information, see [Managing rule groups and rules in DNS Firewall](https://docs.aws.amazon.com/Route53/latest/DeveloperGuide/dns-firewall.html) in the *Amazon Route 53 Developer Guide*.

- For API details, see [DeleteFirewallRuleGroup](https://docs.aws.amazon.com/cli/latest/reference/route53resolver/delete-firewall-rule-group.html) in *AWS CLI Command Reference*.

### delete-resolver-endpoint

The following code example shows how to use `delete-resolver-endpoint`.

**AWS CLI**

**To delete a Resolver endpoint**

The following `delete-resolver-endpoint` example deletes the specified endpoint.

**Important** If you delete an inbound endpoint, DNS queries from your network are no longer forwarded to Resolver in the VPC that you specified in the endpoint. If you delete an outbound endpoint, Resolver stops forwarding DNS queries from your VPC to your network for rules that specify the deleted outbound endpoint.

```
aws route53resolver delete-resolver-endpoint \
  --resolver-endpoint-id rslvr-in-497098ad59example
```

**Output:**

```
{
  "ResolverEndpoint": {
    "Id": "rslvr-in-497098ad59example",
    "CreatorRequestId": "AWSConsole.25.157290example",
    "Name": "my-inbound-endpoint",
    "SecurityGroupIds": [
      "sg-05cd7b25d6example"
    ],
    "Direction": "INBOUND",
    "IpAddressCount": 5,
  }
}
```
For API details, see [DeleteResolverEndpoint](https://docs.aws.amazon.com/cli/latest/reference/route53resolver/delete-resolver-endpoint) in *AWS CLI Command Reference*.

deleteresolver-rule

The following code example shows how to use `delete-resolver-rule`.

**AWS CLI**

To delete a Resolver rule

The following `delete-resolver-rule` example deletes the specified rule.

**Note** If a rule is associated with any VPCs, you must first disassociate the rule from the VPCs before you can delete it.

```bash
aws route53resolver delete-resolver-rule \
   --resolver-rule-id rslvr-rr-5b3809426bexample
```

Output:

```json
{
   "ResolverRule": {
      "Id": "rslvr-rr-5b3809426bexample",
      "CreatorRequestId": "2020-01-03-18:47",
      "DomainName": "zenith.example.com.",
      "Status": "DELETING",
      "StatusMessage": "[Trace id: 1-5dc5e05b-602e67b052cb74f05example] Deleting Resolver Rule.",
      "RuleType": "FORWARD",
      "Name": "my-resolver-rule",
      "TargetIps": [
```
For API details, see [DeleteResolverRule](#) in *AWS CLI Command Reference*.

**disassociate-firewall-rule-group**

The following code example shows how to use `disassociate-firewall-rule-group`.

**AWS CLI**

To disassociate a firewall rule group from a VPC

The following `disassociate-firewall-rule-group` example disassociates a DNS Firewall rule group from an Amazon VPC.

```bash
aws route53resolver disassociate-firewall-rule-group \
  --firewall-rule-group-association-id rslvr-frgassoc-57e8873d7example
```

Output:

```json
{
  "FirewallRuleGroupAssociation": {
    "Id": "rslvr-frgassoc-57e8873d7example",
    "FirewallRuleGroupId": "rslvr-frg-47f93271fexample",
    "VpcId": "vpc-31e92222",
    "Name": "test-association",
    "Priority": 103,
    "MutationProtection": "DISABLED",
    "Status": "DELETING",
    "StatusMessage": "Deleting the Firewall Rule Group Association",
    "CreatorRequestId": "2ca1a304-32b3-4f5f-bc4c-EXAMPLE111111",
  }
}
```
disassociate-resolver-endpoint-ip-address

The following code example shows how to use disassociate-resolver-endpoint-ip-address.

**AWS CLI**

**To disassociate an IP address from a Resolver endpoint**

The following disassociate-resolver-endpoint-ip-address example removes an IP address from a specified Resolver inbound or outbound endpoint.

**Note** An endpoint must have at least two IP addresses. If an endpoint currently has only two IP addresses and you want to replace one address with another address, you must first use associate-resolver-endpoint-ip-address to associate the new IP address. Then you can disassociate one of the original IP addresses from the endpoint.

```
aws route53resolver disassociate-resolver-endpoint-ip-address \
  --resolver-endpoint-id rslvr-in-f9ab8a03f1example \
  --ip-address="SubnetId=subnet-12d8a459,Ip=172.31.40.121"
```

**Output:**

```
{
  "ResolverEndpoint": {
    "Id": "rslvr-in-f9ab8a03f1example",
    "CreatorRequestId": "2020-01-01-18:47",
    "Name": "my-inbound-endpoint",
    "SecurityGroupIds": [
      "sg-f62bexam"
  ]
}
```
For API details, see `DisassociateResolverEndpointIpAddress` in *AWS CLI Command Reference*.

**disassociate-resolver-rule**

The following code example shows how to use `disassociate-resolver-rule`.

**AWS CLI**

To disassociate a Resolver rule from an Amazon VPC

The following `disassociate-resolver-rule` example removes the association between the specified Resolver rule and the specified VPC. You can disassociate a rule from a VPC in the following circumstances:

For DNS queries that originate in this VPC, you want Resolver to stop forwarding queries to your network for the domain name that is specified in the rule. You want to delete the forwarding rule. If a rule is currently associated with one or more VPCs, you must disassociate the rule from all VPCs before you can delete it.

```
aws route53resolver disassociate-resolver-rule \
    --resolver-rule-id rslvr-rr-4955cb98ceexample \
    --vpc-id vpc-304bexam
```

Output:

```
{
    "ResolverRuleAssociation": {
        "Id": "rslvr-rrassoc-322f4e8b9ceexample",
        "ResolverRuleId": "rslvr-rr-4955cb98ceexample",
        "Name": "my-resolver-rule-association",
        "VPCId": "vpc-304bexam",
```
"Status": "DELETING",
"StatusMessage": "[Trace id: 1-5dc5ffa2-a26c38004c1f94006example] Deleting Association"
}
}

- For API details, see DisassociateResolverRule in AWS CLI Command Reference.

get-firewall-config

The following code example shows how to use get-firewall-config.

AWS CLI

To get a firewall config for a VPC

The following get-firewall-config example retrieves the DNS Firewall behavior for the specified VPC.

```
aws route53resolver get-firewall-config \
    --resource-id vpc-31e92222
```

Output:

```
{
    "FirewallConfig": {
        "Id": "rslvr-fc-86016850cexample",
        "ResourceId": "vpc-31e9222",
        "OwnerId": "123456789012",
        "FirewallFailOpen": "DISABLED"
    }
}
```

For more information, see DNS Firewall VPC configuration in the Amazon Route 53 Developer Guide.

- For API details, see GetFirewallConfig in AWS CLI Command Reference.

get-firewall-domain-list

The following code example shows how to use get-firewall-domain-list.
AWS CLI

To get a Route 53 Resolver DNS Firewall domain list

The following get-firewall-domain-list example retrieves the domain list with the ID you specify.

```
aws route53resolver get-firewall-domain-list \\
   --firewall-domain-list-id rslvr-fdl-42b60677cexample
```

Output:

```
{
   "FirewallDomainList": {
       "Id": "rslvr-fdl-9e956e9ffexample",
       "Name": "test",
       "DomainCount": 0,
       "Status": "COMPLETE",
       "StatusMessage": "Created Firewall Domain List",
       "CreatorRequestId": "my-request-id",
   }
}
```

For more information, see Managing your own domain lists in the Amazon Route 53 Developer Guide.

- For API details, see GetFirewallDomainList in AWS CLI Command Reference.

get-firewall-rule-group

The following code example shows how to use get-firewall-rule-group.

AWS CLI

To get a Firewall rule group

The following get-firewall-rule-group example retrieves information about a DNS Firewall rule group with the ID you provide.
aws route53resolver get-firewall-rule-group \
--firewall-rule-group-id rslvr-frg-47f93271fexample

Output:

```
{
    "FirewallRuleGroup": {
        "Id": "rslvr-frg-47f93271fexample",
        "Name": "test",
        "RuleCount": 0,
        "Status": "COMPLETE",
        "StatusMessage": "Created Firewall Rule Group",
        "OwnerId": "123456789012",
        "CreatorRequestId": "my-request-id",
        "ShareStatus": "NOT_SHARED",
    }
}
```

For more information, see [Managing rule groups and rules in DNS Firewall](https://docs.aws.amazon.com/Route53/latest/DeveloperGuide/route53-firewall-manage-rules-groups.html) in the *Amazon Route 53 Developer Guide*.

- For API details, see [GetFirewallRuleGroup](https://docs.aws.amazon.com/cli/latest/reference/route53resolver/get-firewall-rule-group-association.html) in *AWS CLI Command Reference*.

### get-firewall-rule-group-association

The following code example shows how to use get-firewall-rule-group-association.

**AWS CLI**

To get a firewall rule group association

The following `get-firewall-rule-group-association` example retrieves a firewall rule group association.

```
aws route53resolver get-firewall-rule-group-association \
--firewall-rule-group-association-id rslvr-frgassoc-57e8873d7example
```

Output:
For more information, see Managing associations between your VPC and Route 53 Resolver DNS Firewall rule groups in the Amazon Route 53 Developer Guide.

- For API details, see GetFirewallRuleGroupAssociation in AWS CLI Command Reference.

get-firewall-rule-group-policy

The following code example shows how to use get-firewall-rule-group-policy.

AWS CLI

To get an AWS IAM policy

The following get-firewall-rule-group-policy example gets the AWS Identity and Access Management (AWS IAM) policy for sharing the specified rule group.

```
aws route53resolver get-firewall-rule-group-policy \
```

Output:

```
{
    "FirewallRuleGroupAssociation": {
        "Id": "rslvr-frgassoc-57e8873d7example",
        "FirewallRuleGroupId": "rslvr-frg-47f93271fexample",
        "VpcId": "vpc-31e92222",
        "Name": "test-association",
        "Priority": 101,
        "MutationProtection": "DISABLED",
        "Status": "COMPLETE",
        "StatusMessage": "Finished rule group association update",
        "CreatorRequestId": "2ca1a304-32b3-4f5f-bc4c-EXAMPLE11111",
    }
}
```
For more information, see Managing rule groups and rules in DNS Firewall in the Amazon Route 53 Developer Guide.

- For API details, see GetFirewallRuleGroupPolicy in AWS CLI Command Reference.

get-resolver-endpoint

The following code example shows how to use get-resolver-endpoint.

AWS CLI

To get information about a Resolver endpoint

The following get-resolver-endpoint example displays details for the outbound specified endpoint. You can use get-resolver-endpoint for both inbound and outbound endpoints by specifying the applicable endpoint ID.

```bash
aws route53resolver get-resolver-endpoint \\
  --resolver-endpoint-id rslvr-out-d5e5920e37example
```

Output:

```json
{
    "ResolverEndpoint": {
        "Id": "rslvr-out-d5e5920e37example",
        "CreatorRequestId": "2020-01-01-18:47",
        "Name": "my-outbound-endpoint",
        "SecurityGroupIds": [
            "sg-05cd7b25d6example"
        ],
        "Direction": "OUTBOUND",
        "IpAddressCount": 2,
    }
}
```
For more information, see Values That You Specify When You Create or Edit Inbound Endpoints in the Amazon Route 53 Developer Guide.

- For API details, see GetResolverEndpoint in AWS CLI Command Reference.

**get-resolver-rule**

The following code example shows how to use get-resolver-rule.

**AWS CLI**

To get information about a Resolver rule

The following get-resolver-rule example displays details about the specified Resolver rule, such as the domain name that the rule forwards DNS queries for and the ID of the outbound resolver endpoint that the rule is associated with.

```bash
aws route53resolver get-resolver-rule \
    --resolver-rule-id rslvr-rr-42b60677c0example
```

Output:

```json
{
    "ResolverRule": {
        "Id": "rslvr-rr-42b60677c0example",
        "CreatorRequestId": "2020-01-01-18:47",
        "DomainName": "example.com.",
        "Status": "COMPLETE",
        "StatusMessage": "[Trace id: 1-5dc4b177-ff1d9d001a0f80005example] Successfully created Resolver Rule.",
        "RuleType": "FORWARD",
        "Name": "my-rule",
    }
}
```
"TargetIps": [
    {
        "Ip": "192.0.2.45",
        "Port": 53
    }
],
"ResolverEndpointId": "rslvr-out-d5e5920e37example",
"OwnerId": "111122223333",
"ShareStatus": "NOT_SHARED"
}
}

For more information, see Values That You Specify When You Create or Edit Rules in the Amazon Route 53 Developer Guide.

- For API details, see GetResolverRule in AWS CLI Command Reference.

get-resolver-rule-association

The following code example shows how to use get-resolver-rule-association.

AWS CLI

To get information about the association between a Resolver rule and a VPC

The following get-resolver-rule-association example displays details about the association between a specified Resolver rule and a VPC. You associate a resolver rule and a VPC using associate-resolver-rule.

aws route53resolver get-resolver-rule-association \
    --resolver-rule-association-id rslvr-rrassoc-d61cbb2c8bexample

Output:

{
    "ResolverRuleAssociation": {
        "Id": "rslvr-rrassoc-d61cbb2c8bexample",
        "ResolverRuleId": "rslvr-rr-42b60677c0example",
        "Name": "my-resolver-rule-association",
        "VPCId": "vpc-304bexam",
        "Status": "COMPLETE",
        "StatusMessage": ""
    }
}
import-firewall-domains

The following code example shows how to use `import-firewall-domains`.

**AWS CLI**

**To import domains into a domain list**

The following `import-firewall-domains` example imports a set of domains from a file into a DNS Firewall domain list that you specify.

```bash
aws route53resolver import-firewall-domains \
    --firewall-domain-list-id rslvr-fdl-d61cbb2cbexample \
    --operation REPLACE \
    --domain-file-url s3://PATH/TO/YOUR/FILE
```

Output:

```json
{
    "Id": "rslvr-fdl-d61cbb2cbexample",
    "Name": "test",
    "Status": "IMPORTING",
    "StatusMessage": "Importing domains from provided file."
}
```

For more information, see [Managing your own domain lists](https://docs.aws.amazon.com/Route53/latest/DeveloperGuide) in the *Amazon Route 53 Developer Guide*.

- For API details, see `GetResolverRuleAssociation` in *AWS CLI Command Reference*.

list-firewall-configs

The following code example shows how to use `list-firewall-configs`.

**AWS CLI**

**To list firewall configs**
The following `list-firewall-configs` example lists your DNS Firewall configurations.

```
aws route53resolver list-firewall-configs
```

Output:

```
{
   "FirewallConfigs": [
   {
      "Id": "rslvr-fc-86016850cexample",
      "ResourceId": "vpc-31e92222",
      "OwnerId": "123456789012",
      "FirewallFailOpen": "DISABLED"
   }
   ]
}
```

For more information, see [DNS Firewall VPC configuration](#) in the *Amazon Route 53 Developer Guide*.

- For API details, see [ListFirewallConfigs](#) in *AWS CLI Command Reference*.

---

**list-firewall-domain-lists**

The following code example shows how to use `list-firewall-domain-lists`.

**AWS CLI**

**To list all of Route 53 Resolver DNS Firewall domain lists**

The following `list-firewall-domain-lists` example lists all the domain lists.

```
aws route53resolver list-firewall-domain-lists
```

Output:

```
{
   "FirewallDomainLists": [
   {
      "Id": "rslvr-fdl-2c46f2ecfexample",
   }
   ]
}
```
For more information, see [Route 53 Resolver DNS Firewall domain lists](https://docs.aws.amazon.com/Route53/latest/DeveloperGuide/route53防火墙DNS域列表的.html) in the *Amazon Route 53 Developer Guide*.

- For API details, see [ListFirewallDomainLists](https://docs.aws.amazon.com/cli/latest/reference/route53resolver/list-firewall-domains.html) in *AWS CLI Command Reference*.

### list-firewall-domains

The following code example shows how to use `list-firewall-domains`.

**AWS CLI**

**To list domains in a domain list**

The following `list-firewall-domains` example lists the domains in a DNS Firewall domain list that you specify.

```bash
aws route53resolver list-firewall-domains \
   --firewall-domain-list-id rslvr-fdl-d61cbb2cbexample
```

**Output:**

```json

```

Actions and scenarios
```json
{
    "Domains": [
        "test1.com.",
        "test2.com.",
        "test3.com"
    ]
}
```

For more information, see [Managing your own domain lists](https://docs.aws.amazon.com/Route53/latest/DeveloperGuide/setting-up-your-own-domain-lists.html) in the *Amazon Route 53 Developer Guide*.

- For API details, see [ListFirewallDomains](https://docs.aws.amazon.com/cli/latest/reference/route53resolver/list-firewall-domains.html) in *AWS CLI Command Reference*.

### list-firewall-rule-group-associations

The following code example shows how to use `list-firewall-rule-group-associations`.

**AWS CLI**

To list DNS Firewall rule group associations

The following `list-firewall-rule-group-associations` example lists your DNS Firewall rule group associations with Amazon VPCs.

```bash
aws route53resolver list-firewall-rule-group-associations
```

Output:

```json
{
    "FirewallRuleGroupAssociations": [
        {
            "Id": "rslvr-frgassoc-57e8873d7example",
            "FirewallRuleGroupId": "rslvr-frg-47f93271fexample",
            "VpcId": "vpc-31e92222",
            "Name": "test-association",
            "Priority": 101,
            "MutationProtection": "DISABLED",
            "Status": "UPDATING",
            "StatusMessage": "Creating Firewall Rule Group Association",
            "CreatorRequestId": "2ca1a304-32b3-4f5f-bc4c-EXAMPLE111111",
```
For more information, see Managing associations between your VPC and Route 53 Resolver DNS Firewall rule group in the Amazon Route 53 Developer Guide.

- For API details, see ListFirewallRuleGroupAssociations in AWS CLI Command Reference.

list-firewall-rule-groups

The following code example shows how to use list-firewall-rule-groups.

AWS CLI

To get a list of your Firewall rule groups

The following list-firewall-rule-groups example lists your DNS Firewall rule groups.

```
aws route53resolver list-firewall-rule-groups
```

Output:

```
{
    "FirewallRuleGroups": [
    {
      "Id": "rslvr-frg-47f93271fexample",
      "Name": "test",
      "OwnerId": "123456789012",
      "CreatorRequestId": "my-request-id",
      "ShareStatus": "NOT_SHARED"
    }
    ]
}
```

For more information, see Managing rule groups and rules in DNS Firewall in the Amazon Route 53 Developer Guide.
• For API details, see ListFirewallRuleGroups in AWS CLI Command Reference.

list-firewall-rules

The following code example shows how to use list-firewall-rules.

AWS CLI

To list firewall rules

The following list-firewall-rules example list all of your DNS Firewall rules within a firewall rule group.

```bash
aws route53resolver list-firewall-rules \
    --firewall-rule-group-id rslvr-frg-47f93271fexample
```

Output:

```json
{
    "FirewallRules": [
        {
            "FirewallRuleGroupId": "rslvr-frg-47f93271fexample",
            "FirewallDomainListId": "rslvr-fdl-9e956e9ffexample",
            "Name": "allow-rule",
            "Priority": 101,
            "Action": "ALLOW",
            "CreatorRequestId": "d81e3fb7-020b-415e-939f-EXAMPLE11111",
            "CreationTime": "2021-05-25T21:44:00.346093Z",
            "ModificationTime": "2021-05-25T21:44:00.346093Z"
        }
    ]
}
```

For more information, see Managing rule groups and rules in DNS Firewall in the Amazon Route 53 Developer Guide.

• For API details, see ListFirewallRules in AWS CLI Command Reference.

list-resolver-endpoint-ip-addresses

The following code example shows how to use list-resolver-endpoint-ip-addresses.
AWS CLI

To list IP addresses for a specified inbound or outbound endpoint

The following `list-resolver-endpoint-ip-addresses` example lists information about the IP addresses that are associated with the inbound endpoint `rslvr-in-f9ab8a03f1example`. You can also use `list-resolver-endpoint-ip-addresses` for outbound endpoints by specifying the applicable endpoint ID.

```
aws route53resolver list-resolver-endpoint-ip-addresses \
   --resolver-endpoint-id rslvr-in-f9ab8a03f1example
```

Output:

```json
{
   "MaxResults": 10,
   "IpAddresses": [
       {
           "IpId": "rni-1de60cdbfeexample",
           "SubnetId": "subnet-ba47exam",
           "Ip": "192.0.2.44",
           "Status": "ATTACHED",
           "StatusMessage": "This IP address is operational.",
           "CreationTime": "2020-01-03T23:02:29.587Z",
           "ModificationTime": "2020-01-03T23:03:05.555Z"
       },
       {
           "IpId": "rni-aac7085e38example",
           "SubnetId": "subnet-12d8exam",
           "Ip": "192.0.2.45",
           "Status": "ATTACHED",
           "StatusMessage": "This IP address is operational.",
           "CreationTime": "2020-01-03T23:02:29.593Z",
           "ModificationTime": "2020-01-03T23:02:55.060Z"
       }
   ]
}
```

For more information about the values in the output, see Values That You Specify When You Create or Edit Inbound Endpoints, and Values That You Specify When You Create or Edit Outbound Endpoints, both in the Amazon Route 53 Developer Guide.

- For API details, see ListResolverEndpointIpAddresses in AWS CLI Command Reference.
list-resolver-endpoints

The following code example shows how to use list-resolver-endpoints.

AWS CLI

To list Resolver endpoints in an AWS Region

The following list-resolver-endpoints example lists the inbound and outbound Resolver endpoints that exist in the current account.

```
aws route53resolver list-resolver-endpoints
```

Output:

```
{
    "MaxResults": 10,
    "ResolverEndpoints": [
    {
        "Id": "rslvr-in-497098ad59example",
        "CreatorRequestId": "2020-01-01-18:47",
        "Name": "my-inbound-endpoint",
        "SecurityGroupIds": [
            "sg-05cd7b25d6example"
        ],
        "Direction": "INBOUND",
        "IpAddressCount": 2,
        "HostVPCId": "vpc-304bexam",
        "Status": "OPERATIONAL",
        "StatusMessage": "This Resolver Endpoint is operational.",
        "CreationTime": "2020-01-01T23:25:45.538Z",
        "ModificationTime": "2020-01-01T23:25:45.538Z"
    },
    {
        "Id": "rslvr-out-d5e5920e37example",
        "CreatorRequestId": "2020-01-01-18:48",
        "Name": "my-outbound-endpoint",
        "SecurityGroupIds": [
            "sg-05cd7b25d6example"
        ]
    }
]
```
For API details, see ListResolverEndpoints in AWS CLI Command Reference.

list-resolver-rule-associations

The following code example shows how to use list-resolver-rule-associations.

AWS CLI

To list associations between Resolver rules and VPCs

The following list-resolver-rule-associations example lists the associations between resolver rules and VPCs in the current AWS account.

aws route53resolver list-resolver-rule-associations

Output:

```json
{
   "MaxResults": 30,
   "ResolverRuleAssociations": [
      {
         "Id": "rslvr-autodefined-assoc-vpc-304bexam-internet-resolver",
         "ResolverRuleId": "rslvr-autodefined-rr-internet-resolver",
         "Name": "System Rule Association",
         "VPCId": "vpc-304bexam",
         "Status": "COMPLETE",
         "StatusMessage": ""
      },
      {
         "Id": "rslvr-rrassoc-d61cbb2c8bexample",
```
For more information, see How Route 53 Resolver Forwards DNS Queries from Your VPCs to Your Network in the Amazon Route 53 Developer Guide.

- For API details, see ListResolverRuleAssociations in AWS CLI Command Reference.

list-resolver-rules

The following code example shows how to use list-resolver-rules.

AWS CLI

To list Resolver rules

The following list-resolver-rules example lists all the Resolver rules in the current AWS account.

```
aws route53resolver list-resolver-rules
```

Output:

```json
{
    "MaxResults": 30,
    "ResolverRules": [
    {
        "Id": "rslvr-autodefined-rr-internet-resolver",
        "CreatorRequestId": "",
        "DomainName": ".",
        "Status": "COMPLETE",
        "RuleType": "RECURSIVE",
        "Name": "Internet Resolver",
        "OwnerId": "Route 53 Resolver",
```
For more information, see How Route 53 Resolver Forwards DNS Queries from Your VPCs to Your Network in the Amazon Route 53 Developer Guide.

- For API details, see ListResolverRules in AWS CLI Command Reference.

**list-tags-for-resource**

The following code example shows how to use list-tags-for-resource.

**AWS CLI**

To list the tags for a Resolver resource

The following list-tags-for-resource example lists the tags that are assigned to the specified Resolver rule.

```bash
aws route53resolver list-tags-for-resource \
```

Output:

```json
{
    "Tags": [
        {
            "Key": "my-key-1",
            "Value": "my-value-1"
        },
        {
            "Key": "my-key-2",
            "Value": "my-value-2"
        }
    ]
}
```

For information about using tags for cost allocation, see Using Cost Allocation Tags in the AWS Billing and Cost Management User Guide.

- For API details, see ListTagsForResource in AWS CLI Command Reference.

**put-firewall-rule-group-policy**

The following code example shows how to use `put-firewall-rule-group-policy`.

**AWS CLI**

**To attach an AWS IAM policy to share a Firewall rule group policy**

The following `put-firewall-rule-group-policy` example attaches an AWS Identity and Access Management (AWS IAM) policy for sharing the rule group.

```bash
aws route53resolver put-firewall-rule-group-policy \
```
For more information, see Managing rule groups and rules in DNS Firewall in the Amazon Route 53 Developer Guide.

- For API details, see PutFirewallRuleGroupPolicy in AWS CLI Command Reference.

**put-resolver-rule-policy**

The following code example shows how to use put-resolver-rule-policy.

**AWS CLI**

To share a Resolver rule with another AWS account

The following put-resolver-rule-policy example specifies a Resolver rule that you want to share with another AWS account, the account that you want to share the rule with, and the rule-related operations that you want the account to be able to perform on the rules.

**Note** You must run this command using credentials from the same account that created the rule.

```
aws route53resolver put-resolver-rule-policy 
 --region us-east-1 
 --arn "arn:aws:route53resolver:us-east-1:111122223333:resolver-rule/rslvr-rr-42b60677c0example" 
 --resolver-rule-policy "{"Version": "2012-10-17", 
 "Statement": [ { 
 "Effect" : "Allow", 
 "Principal" : {"AWS" : "444455556666" }, 
 "Action" : [ 
  "route53resolver:GetResolverRule", 
  "route53resolver:AssociateResolverRule", 
  "route53resolver:DisassociateResolverRule", 
  "route53resolver:ListResolverRules", 
  "route53resolver:ListResolverRuleAssociations" ], 
  
  
```
After you run `put-resolver-rule-policy`, you can run the following two Resource Access Manager (RAM) commands. You must use the account that you want to share the rule with:

`get-resource-share-invitations` returns the value `resourceShareInvitationArn`. You need this value to accept the invitation to use the shared rule. `accept-resource-share-invitation` accepts the invitation to use the shared rule.

For more information, see the following documentation:

- [get-resource-share-invitations](#)
- [accept-resource-share-invitation](#)
- [Sharing Forwarding Rules with Other AWS Accounts and Using Shared Rules](#) in the [Amazon Route 53 Developer Guide](#)
- For API details, see [PutResolverRulePolicy](#) in [AWS CLI Command Reference](#).

### tag-resource

The following code example shows how to use `tag-resource`.

**AWS CLI**

To associate tags with a Resolver resource

The following `tag-resource` example associates two tag key/value pairs with the specified Resolver rule.

```bash
aws route53resolver tag-resource \
  --tags "Key=my-key-1,Value=my-value-1" "Key=my-key-2,Value=my-value-2"
```

This command produces no output.

For information about using tags for cost allocation, see [Using Cost Allocation Tags](#) in the [AWS Billing and Cost Management User Guide](#).

- For API details, see [TagResource](#) in [AWS CLI Command Reference](#).
untag-resource

The following code example shows how to use untag-resource.

AWS CLI

To remove tags from a Resolver resource

The following untag-resource example removes two tags from the specified Resolver rule.

```
aws route53resolver untag-resource \
    --tag-keys my-key-1 my-key-2
```

This command produces no output. To confirm that the tags were removed, you can use list-tags-for-resource.

For information about using tags for cost allocation, see Using Cost Allocation Tags in the AWS Billing and Cost Management User Guide.

- For API details, see UntagResource in AWS CLI Command Reference.

update-firewall-config

The following code example shows how to use update-firewall-config.

AWS CLI

To update a firewall config

The following update-firewall-config example updates DNS Firewall configuration.

```
aws route53resolver update-firewall-config \
    --resource-id vpc-31e92222 \
    --firewall-fail-open DISABLED
```

Output:

```
{
    "FirewallConfig": {
```
For more information, see [DNS Firewall VPC configuration](http://example.com) in the *Amazon Route 53 Developer Guide*.

- For API details, see [UpdateFirewallConfig](http://example.com) in *AWS CLI Command Reference*.

**update-firewall-domains**

The following code example shows how to use `update-firewall-domains`.

**AWS CLI**

**To update a domain list**

The following `update-firewall-domains` example adds the domains to a domain list with the ID you provide.

```bash
aws route53resolver update-firewall-domains \
  --firewall-domain-list-id rslvr-fdl-42b60677cexampleb \
  --operation ADD \
  --domains test1.com test2.com test3.com
```

Output:

```json
{
  "Id": "rslvr-fdl-42b60677cexample",
  "Name": "test",
  "Status": "UPDATING",
  "StatusMessage": "Updating the Firewall Domain List"
}
```

For more information, see [Managing your own domain lists](http://example.com) in the *Amazon Route 53 Developer Guide*.

- For API details, see [UpdateFirewallDomains](http://example.com) in *AWS CLI Command Reference*. 

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update-firewall-rule

The following code example shows how to use update-firewall-rule.

AWS CLI

To update a firewall rule

The following update-firewall-rule example updates a firewall rule with the parameters you specify.

```bash
aws route53resolver update-firewall-rule \
  --firewall-rule-group-id rslvr-frg-47f93271fexample \
  --firewall-domain-list-id rslvr-fdl-9e956e9ffexample \
  --priority 102
```

Output:

```
{
  "FirewallRule": {
    "FirewallRuleGroupId": "rslvr-frg-47f93271fexample",
    "FirewallDomainListId": "rslvr-fdl-9e956e9ffexample",
    "Name": "allow-rule",
    "Priority": 102,
    "Action": "ALLOW",
    "CreatorRequestId": "d81e3fb7-020b-415e-939f-EXAMPLE11111",
    "CreationTime": "2021-05-25T21:44:00.346093Z",
    "ModificationTime": "2021-05-25T21:45:59.611600Z"
  }
}
```

For more information, see Managing rule groups and rules in DNS Firewall in the Amazon Route 53 Developer Guide.

- For API details, see UpdateFirewallRule in AWS CLI Command Reference.

update-firewall-rule-group-association

The following code example shows how to use update-firewall-rule-group-association.

AWS CLI

To update a firewall rule group association
The following `update-firewall-rule-group-association` example updates a firewall rule group association.

```
aws route53resolver update-firewall-rule-group-association \
  --firewall-rule-group-association-id rslvr-frgassoc-57e8873d7example \
  --priority 103
```

Output:

```
{
    "FirewallRuleGroupAssociation": {
        "Id": "rslvr-frgassoc-57e8873d7example",
        "FirewallRuleGroupId": "rslvr-frg-47f93271fexample",
        "VpcId": "vpc-31e92222",
        "Name": "test-association",
        "Priority": 103,
        "MutationProtection": "DISABLED",
        "Status": "UPDATING",
        "StatusMessage": "Updating the Firewall Rule Group Association Attributes",
        "CreatorRequestId": "2ca1a304-32b3-4f5f-bc4c-EXAMPLE11111",
        "ModificationTime": "2021-05-25T21:50:09.272569Z"
    }
}
```

For more information, see Managing associations between your VPC and Route 53 Resolver DNS Firewall rule group in the Amazon Route 53 Developer Guide.

- For API details, see `UpdateFirewallRuleGroupAssociation` in AWS CLI Command Reference.

**update-resolver-endpoint**

The following code example shows how to use `update-resolver-endpoint`.

**AWS CLI**

To update the name of a Resolver endpoint

The following `update-resolver-endpoint` example updates the name of a Resolver endpoint. Updating other values isn't supported.
aws route53resolver update-resolver-endpoint \
  --resolver-endpoint-id rslvr-in-b5d45e32bdc445f09 \
  --name my-renamed-inbound-endpoint

Output:

```
{
  "ResolverEndpoint": {
    "Id": "rslvr-in-b5d45e32bdcexample",
    "CreatorRequestId": "2020-01-02-18:48",
    "Name": "my-renamed-inbound-endpoint",
    "SecurityGroupIds": [
      "sg-f62bexam"
    ],
    "Direction": "INBOUND",
    "IpAddressCount": 2,
    "HostVPCId": "vpc-304bexam",
    "Status": "OPERATIONAL",
    "StatusMessage": "This Resolver Endpoint is operational.",
    "CreationTime": "2020-01-01T18:33:59.265Z",
    "ModificationTime": "2020-01-08T18:33:59.265Z"
  }
}
```

- For API details, see [UpdateResolverEndpoint](#) in *[AWS CLI Command Reference](#)*.

**update-resolver-rule**

The following code example shows how to use update-resolver-rule.

**AWS CLI**

**Example 1: To update settings Resolver endpoint**

The following update-resolver-rule example updates the name of the rule, the IP addresses on your on-premises network that DNS queries are forwarded to, and the ID of the outbound Resolver endpoint that you’re using to forward queries to your network.

**Note** Existing values for TargetIps are overwritten, so you must specify all the IP addresses that you want the rule to have after the update.
aws route53resolver update-resolver-rule \
--resolver-rule-id rslvr-rr-1247fa64f3example \
--config Name="my-2nd-rule",TargetIps=[{Ip=192.0.2.45,Port=53},
{Ip=192.0.2.46,Port=53}],ResolverEndpointId=rslvr-out-7b89ed0d25example

Output:

{
   "ResolverRule": {
      "Id": "rslvr-rr-1247fa64f3example",
      "CreatorRequestId": "2020-01-02-18:47",
      "DomainName": "www.example.com.",
      "Status": "COMPLETE",
      "StatusMessage": "[Trace id: 1-5dcc90b9-8a8ee860aba1ebd89example]
Successfully updated Resolver Rule.",
      "RuleType": "FORWARD",
      "Name": "my-2nd-rule",
      "TargetIps": [
      {
         "Ip": "192.0.2.45",
         "Port": 53
      },
      {
         "Ip": "192.0.2.46",
         "Port": 53
      }]
   },
   "ResolverEndpointId": "rslvr-out-7b89ed0d25example",
   "OwnerId": "111122223333",
   "ShareStatus": "NOT_SHARED"
}

Example 2: To update settings Resolver endpoint using a file for `config` settings

You can alternatively include the config settings in a JSON file and then specify that file when you call update-resolver-rule.

aws route53resolver update-resolver-rule \
--resolver-rule-id rslvr-rr-1247fa64f3example \

--config file://c:\temp\update-resolver-rule.json

Contents of update-resolver-rule.json.

```json
{
    "Name": "my-2nd-rule",
    "TargetIps": [
        {
            "Ip": "192.0.2.45",
            "Port": 53
        },
        {
            "Ip": "192.0.2.46",
            "Port": 53
        }
    ],
    "ResolverEndpointId": "rslvr-out-7b89ed0d25example"
}
```

For more information, see [Values That You Specify When You Create or Edit Rules](https://docs.aws.amazon.com/(route53/latest/DeveloperGuide/flipflop-values-specify-create-update-rule.html) in the Amazon Route 53 Developer Guide.


**Amazon S3 examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon S3.

**Actions** are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

**Scenarios** are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- [Actions](#)
Add CORS rules to a bucket

The following code example shows how to add cross-origin resource sharing (CORS) rules to an S3 bucket.

AWS CLI

The following example enables PUT, POST, and DELETE requests from www.example.com, and enables GET requests from any domain:

```
aws s3api put-bucket-cors --bucket MyBucket --cors-configuration file://cors.json

cors.json:
{
    "CORSRules": [
        {
            "AllowedOrigins": ["http://www.example.com"],
            "AllowedHeaders": ["*"]
        },
        {
            "AllowedOrigins": ["*"],
            "AllowedHeaders": ["Authorization"],
            "AllowedMethods": ["GET"],
            "MaxAgeSeconds": 3000
        }
    ]
}
```

- For API details, see PutBucketCors in AWS CLI Command Reference.

Add a lifecycle configuration to a bucket

The following code example shows how to add a lifecycle configuration to an S3 bucket.

AWS CLI

The following command applies a lifecycle configuration to a bucket named my-bucket:
aws s3api put-bucket-lifecycle-configuration --bucket my-bucket --lifecycle-configuration file://lifecycle.json

The file lifecycle.json is a JSON document in the current folder that specifies two rules:

```json
{
   "Rules": [
      {
         "ID": "Move rotated logs to Glacier",
         "Prefix": "rotated/",
         "Status": "Enabled",
         "Transitions": [
            {
               "Date": "2015-11-10T00:00:00.000Z",
               "StorageClass": "GLACIER"
            }
         ]
      },
      {
         "Status": "Enabled",
         "Prefix": "",
         "NoncurrentVersionTransitions": [
            {
               "NoncurrentDays": 2,
               "StorageClass": "GLACIER"
            }
         ],
         "ID": "Move old versions to Glacier"
      }
   ]
}
```

The first rule moves files with the prefix `rotated` to Glacier on the specified date. The second rule moves old object versions to Glacier when they are no longer current. For information on acceptable timestamp formats, see Specifying Parameter Values in the AWS CLI User Guide.

- For API details, see PutBucketLifecycleConfiguration in AWS CLI Command Reference.

**Add a policy to a bucket**

The following code example shows how to add a policy to an S3 bucket.
AWS CLI

This example allows all users to retrieve any object in \textit{MyBucket} except those in the \textit{MySecretFolder}. It also grants put and delete permission to the root user of the AWS account 1234-5678-9012:

```bash
aws s3api put-bucket-policy --bucket MyBucket --policy file://policy.json
```

`policy.json`

```json
{
    "Statement": [
        {
            "Effect": "Allow",
            "Principal": "*",
            "Action": "s3:GetObject",
            "Resource": "arn:aws:s3:::MyBucket/*"
        },
        {
            "Effect": "Deny",
            "Principal": "*",
            "Action": "s3:GetObject",
            "Resource": "arn:aws:s3:::MyBucket/MySecretFolder/*"
        },
        {
            "Effect": "Allow",
            "Principal": {
                "AWS": "arn:aws:iam::123456789012:root"
            },
            "Action": [
                "s3:DeleteObject",
                "s3:PutObject"
            ],
            "Resource": "arn:aws:s3:::MyBucket/*"
        }
    ]
}
```

- For API details, see \textit{PutBucketPolicy} in \textit{AWS CLI Command Reference}.

Complete a multipart upload

The following code example shows how to complete a multipart upload action.
The following command completes a multipart upload for the key `multipart/01` in the bucket `my-bucket`:

```bash
aws s3api complete-multipart-upload --multipart-upload file://mpustruct --bucket my-bucket --key 'multipart/01' --upload-id dfRtDYU0WwCCcH43C3WFbkRONycyCPtJju2i5GYkZljF.Yxwh6XG7WFS2vC4to6HHiV6Yjlx.cph0gtNBt38P3URC5
```

The upload ID required by this command is output by `create-multipart-upload` and can also be retrieved with `list-multipart-uploads`.

The multipart upload option in the above command takes a JSON structure that describes the parts of the multipart upload that should be reassembled into the complete file. In this example, the `file://` prefix is used to load the JSON structure from a file in the local folder named `mpustruct`.

```
mpustruct:
{
   "Parts": [
   {
      "ETag": "e868e0f4719e394144ef36531ee6824c",
      "PartNumber": 1
   },
   {
      "ETag": "6bb2b12753d66fe86da4998aa33fff0b",
      "PartNumber": 2
   },
   {
      "ETag": "d0a0112e841abec9c9ec83406f0159c8",
      "PartNumber": 3
   }
   ]
}
```

The ETag value for each part is upload is output each time you upload a part using the `upload-part` command and can also be retrieved by calling `list-parts` or calculated by taking the MD5 checksum of each part.

Output:
Copy an object from one bucket to another

The following code example shows how to copy an S3 object from one bucket to another.

**AWS CLI**

The following command copies an object from bucket-1 to bucket-2:

```bash
aws s3api copy-object --copy-source bucket-1/test.txt --key test.txt --bucket bucket-2
```

Output:

```
{
    "CopyObjectResult": {
        "LastModified": "2015-11-10T01:07:25.000Z",
        "ETag": "589c8b79c230a6ecd5a7e1d040a9a030"
    },
    "VersionId": "YdnYvTCVDQRFA.NFJjy36p0hxifM1kA"
}
```

**For API details, see [CopyObject](https://docs.aws.amazon.com/cli/latest/reference/s3api/copy-object.html) in AWS CLI Command Reference.**

Create a bucket

The following code example shows how to create an S3 bucket.

**AWS CLI**

**Example 1: To create a bucket**

The following `create-bucket` example creates a bucket named `my-bucket`:
aws s3api create-bucket \
    --bucket my-bucket \
    --region us-east-1

Output:

```
{
    "Location": "/my-bucket"
}
```

For more information, see Creating a bucket in the Amazon S3 User Guide.

**Example 2: To create a bucket with owner enforced**

The following create-bucket example creates a bucket named my-bucket that uses the bucket owner enforced setting for S3 Object Ownership.

```
aws s3api create-bucket \
    --bucket my-bucket \
    --region us-east-1 \
    --object-ownership BucketOwnerEnforced
```

Output:

```
{
    "Location": "/my-bucket"
}
```

For more information, see Controlling ownership of objects and disabling ACLs in the Amazon S3 User Guide.

**Example 3: To create a bucket outside of the `us-east-1` region**

The following create-bucket example creates a bucket named my-bucket in the eu-west-1 region. Regions outside of us-east-1 require the appropriate LocationConstraint to be specified in order to create the bucket in the desired region.

```
aws s3api create-bucket \
    --bucket my-bucket \
    --region eu-west-1 \
```
Output:

```json
{
   "Location": "http://my-bucket.s3.amazonaws.com/
}
```

For more information, see [Creating a bucket](https://docs.aws.amazon.com/AmazonS3/latest/userguide/creating-a-bucket.html) in the *Amazon S3 User Guide*.

- For API details, see [CreateBucket](https://docs.aws.amazon.com/cli/latest/reference/s3api/create-bucket.html) in *AWS CLI Command Reference*.

### Create a multipart upload

The following code example shows how to create the structure to build a multipart upload action.

**AWS CLI**

The following command creates a multipart upload in the bucket `my-bucket` with the key `multipart/01`:

```bash
aws s3api create-multipart-upload --bucket my-bucket --key 'multipart/01'
```

Output:

```json
{
   "Bucket": "my-bucket",
   "UploadId": "dfRtDYU0WCCcH43C3WFbkRONyCyCpTJJvxu2i5GyKZ1jF.Yxwh6XG7WfS2vC4to6HiV6Yjlx.cph0gtNBtJJ8P3URCGRp",
   "Key": "multipart/01"
}
```

The completed file will be named `01` in a folder called `multipart` in the bucket `my-bucket`. Save the upload ID, key and bucket name for use with the `upload-part` command.

- For API details, see [CreateMultipartUpload](https://docs.aws.amazon.com/cli/latest/reference/s3api/create-multipart-upload.html) in *AWS CLI Command Reference*.

### Delete CORS rules from a bucket

The following code example shows how to delete CORS rules from an S3 bucket.
AWS CLI

The following command deletes a Cross-Origin Resource Sharing configuration from a bucket named my-bucket:

```
aws s3api delete-bucket-cors --bucket my-bucket
```

- For API details, see `DeleteBucketCors` in *AWS CLI Command Reference*.

Delete a policy from a bucket

The following code example shows how to delete a policy from an S3 bucket.

AWS CLI

The following command deletes a bucket policy from a bucket named my-bucket:

```
aws s3api delete-bucket-policy --bucket my-bucket
```

- For API details, see `DeleteBucketPolicy` in *AWS CLI Command Reference*.

Delete an empty bucket

The following code example shows how to delete an empty S3 bucket.

AWS CLI

The following command deletes a bucket named my-bucket:

```
aws s3api delete-bucket --bucket my-bucket --region us-east-1
```

- For API details, see `DeleteBucket` in *AWS CLI Command Reference*.

Delete an object

The following code example shows how to delete an S3 object.

AWS CLI

The following command deletes an object named test.txt from a bucket named my-bucket:
aws s3api delete-object --bucket my-bucket --key test.txt

If bucket versioning is enabled, the output will contain the version ID of the delete marker:

```json
{
   "VersionId": "9_gKg5vG56F.TTEUdwkxGpJ3tND1W1Gq",
   "DeleteMarker": true
}
```

For more information about deleting objects, see Deleting Objects in the Amazon S3 Developer Guide.

- For API details, see [DeleteObject](#) in AWS CLI Command Reference.

### Delete multiple objects

The following code example shows how to delete multiple objects from an S3 bucket.

#### AWS CLI

The following command deletes an object from a bucket named `my-bucket`:

```
aws s3api delete-objects --bucket my-bucket --delete file://delete.json
```

delete.json is a JSON document in the current directory that specifies the object to delete:

```json
{
   "Objects": [
      {
         "Key": "test1.txt"
      }
   ],
   "Quiet": false
}
```

Output:

```json
{
   "Deleted": [
      {
         "DeleteMarkerVersionId": "mYAT5Mc6F7aeUL8SS7FAAqUP01koHwzU",
```
For API details, see DeleteObjects in AWS CLI Command Reference.

Delete the lifecycle configuration of a bucket

The following code example shows how to delete the lifecycle configuration of an S3 bucket.

AWS CLI

The following command deletes a lifecycle configuration from a bucket named my-bucket:

```bash
aws s3api delete-bucket-lifecycle --bucket my-bucket
```

For API details, see DeleteBucketLifecycle in AWS CLI Command Reference.

Delete the website configuration from a bucket

The following code example shows how to delete the website configuration from an S3 bucket.

AWS CLI

The following command deletes a website configuration from a bucket named my-bucket:

```bash
aws s3api delete-bucket-website --bucket my-bucket
```

For API details, see DeleteBucketWebsite in AWS CLI Command Reference.

Determine the existence and content type of an object

The following code example shows how to determine the existence and content type of an object in an S3 bucket.

AWS CLI

The following command retrieves metadata for an object in a bucket named my-bucket:
Determine the existence of a bucket

The following code example shows how to determine the existence of an S3 bucket.

AWS CLI

The following command verifies access to a bucket named `my-bucket`:

```bash
aws s3api head-bucket --bucket my-bucket
```

If the bucket exists and you have access to it, no output is returned. Otherwise, an error message will be shown. For example:

```plaintext
A client error (404) occurred when calling the HeadBucket operation: Not Found
```

For API details, see `HeadBucket` in AWS CLI Command Reference.

Enable notifications

The following code example shows how to enable notifications for an S3 bucket.

AWS CLI

The applies a notification configuration to a bucket named `my-bucket`:
aws s3api put-bucket-notification --bucket my-bucket --notification-configuration file://notification.json

The file `notification.json` is a JSON document in the current folder that specifies an SNS topic and an event type to monitor:

```json
{
    "TopicConfiguration": {
        "Event": "s3:ObjectCreated:*",
    }
}
```

The SNS topic must have an IAM policy attached to it that allows Amazon S3 to publish to it:

```json
{
    "Version": "2008-10-17",
    "Id": "example-ID",
    "Statement": [
        {
            "Sid": "example-statement-ID",
            "Effect": "Allow",
            "Principal": {
                "Service": "s3.amazonaws.com"
            },
            "Action": ["SNS:Publish"],
            "Condition": {
                "ArnLike": {
                    "aws:SourceArn": "arn:aws:s3::*:my-bucket"
                }
            }
        }
    ]
}
```

Get CORS rules for a bucket

The following code example shows how to get cross-origin resource sharing (CORS) rules for an S3 bucket.

AWS CLI

The following command retrieves the Cross-Origin Resource Sharing configuration for a bucket named my-bucket:

```bash
aws s3api get-bucket-cors --bucket my-bucket
```

Output:

```json
{
    "CORSRules": [
        {
            "AllowedHeaders": ["*"]
        },
        {
            "AllowedHeaders": ["Authorization"]
        }
    ],
    "MaxAgeSeconds": 3000,
    "AllowedOrigins": ["http://www.example.com"]
}
```
For API details, see `GetBucketCors` in *AWS CLI Command Reference*.

**Get an object from a bucket**

The following code example shows how to read data from an object in an S3 bucket.

**AWS CLI**

The following example uses the `get-object` command to download an object from Amazon S3:

```bash
aws s3api get-object --bucket text-content --key dir/my_images.tar.bz2
my_images.tar.bz2
```

Note that the outfile parameter is specified without an option name such as `--outfile`. The name of the output file must be the last parameter in the command.

The example below demonstrates the use of `--range` to download a specific byte range from an object. Note the byte ranges needs to be prefixed with "bytes=":

```bash
aws s3api get-object --bucket text-content --key dir/my_data --range bytes=8888-9999
my_data_range
```

For more information about retrieving objects, see Getting Objects in the *Amazon S3 Developer Guide*.

For API details, see `GetObject` in *AWS CLI Command Reference*.

**Get the ACL of a bucket**

The following code example shows how to get the access control list (ACL) of an S3 bucket.

**AWS CLI**

The following command retrieves the access control list for a bucket named `my-bucket`:
aws s3api get-bucket-acl --bucket my-bucket

Output:

```json
{
   "Owner": {
      "DisplayName": "my-username",
      "ID": "7009a8971cd538e11f6b6606438875e7c86c5b672f46db45460ddcd087d36c32"
   },
   "Grants": [
      {
         "Grantee": {
            "DisplayName": "my-username",
            "ID": "7009a8971cd538e11f6b6606438875e7c86c5b672f46db45460ddcd087d36c32"
         },
         "Permission": "FULL_CONTROL"
      }
   ]
}
```

- For API details, see [GetBucketAcl](#) in *AWS CLI Command Reference*.

**Get the ACL of an object**

The following code example shows how to get the access control list (ACL) of an S3 object.

**AWS CLI**

The following command retrieves the access control list for an object in a bucket named `my-bucket`:

```bash
aws s3api get-object-acl --bucket my-bucket --key index.html
```

Output:

```json
{
   "Owner": {
      "DisplayName": "my-username",
      "ID": "7009a8971cd538e11f6b6606438875e7c86c5b672f46db45460ddcd087d36c32"
   }
}
```
For API details, see [GetObjectAcl](https://aws.amazon.com/cli) in *AWS CLI Command Reference*.

### Get the Region location for a bucket

The following code example shows how to get the Region location for an S3 bucket.

**AWS CLI**

The following command retrieves the location constraint for a bucket named `my-bucket`, if a constraint exists:

```bash
aws s3api get-bucket-location --bucket my-bucket
```

**Output:**

```
{
   "LocationConstraint": "us-west-2"
}
```

For API details, see [GetBucketLocation](https://aws.amazon.com/cli) in *AWS CLI Command Reference*. 
Get the lifecycle configuration of a bucket

The following code example shows how to get the lifecycle configuration of an S3 bucket.

AWS CLI

The following command retrieves the lifecycle configuration for a bucket named my-bucket:

```bash
aws s3api get-bucket-lifecycle-configuration --bucket my-bucket
```

Output:

```
{
  "Rules": [
    {
      "ID": "Move rotated logs to Glacier",
      "Prefix": "rotated/",
      "Status": "Enabled",
      "Transitions": [
        {
          "Date": "2015-11-10T00:00:00.000Z",
          "StorageClass": "GLACIER"
        }
      ]
    },
    {
      "Status": "Enabled",
      "Prefix": "",
      "NoncurrentVersionTransitions": [
        {
          "NoncurrentDays": 0,
          "StorageClass": "GLACIER"
        }
      ],
      "ID": "Move old versions to Glacier"
    }
  ]
}
```

Get the object lock configuration of a bucket

The following code example shows how to get the object lock configuration of an S3 bucket.

AWS CLI

To retrieve an object lock configuration for a bucket

The following get-object-lock-configuration example retrieves the object lock configuration for the specified bucket.

```bash
aws s3api get-object-lock-configuration \
--bucket my-bucket-with-object-lock
```

Output:

```json
{
    "ObjectLockConfiguration": {
        "ObjectLockEnabled": "Enabled",
        "Rule": {
            "DefaultRetention": {
                "Mode": "COMPLIANCE",
                "Days": 50
            }
        }
    }
}
```

- For API details, see [GetObjectLockConfiguration](#) in [AWS CLI Command Reference](#).

Get the policy for a bucket

The following code example shows how to get the policy for an S3 bucket.

AWS CLI

The following command retrieves the bucket policy for a bucket named my-bucket:

```bash
aws s3api get-bucket-policy --bucket my-bucket
```

Output:
Get and put a bucket policy

The following example shows how you can download an Amazon S3 bucket policy, make modifications to the file, and then use put-bucket-policy to apply the modified bucket policy. To download the bucket policy to a file, you can run:

```
aws s3api get-bucket-policy --bucket mybucket --query Policy --output text > policy.json
```

You can then modify the `policy.json` file as needed. Finally you can apply this modified policy back to the S3 bucket by running:

```
aws s3api put-bucket-policy --bucket mybucket --policy file://policy.json
```

- For API details, see [GetBucketPolicy](#) in *AWS CLI Command Reference*.

### Get the retention configuration of an object

The following code example shows how to get the retention configuration of an S3 object.

#### AWS CLI

**To retrieve the object retention configuration for an object**

The following `get-object-retention` example retrieves the object retention configuration for the specified object.

```
aws s3api get-object-retention \\
    --bucket my-bucket-with-object-lock \\
```
### Get the website configuration for a bucket

The following code example shows how to get the website configuration for an S3 bucket.

**AWS CLI**

The following command retrieves the static website configuration for a bucket named *my-bucket*:

```bash
aws s3api get-bucket-website --bucket my-bucket
```

**Output:**

```json
{
   "IndexDocument": {
      "Suffix": "index.html"
   },
   "ErrorDocument": {
      "Key": "error.html"
   }
}
```

- For API details, see [GetObjectRetention](https://docs.aws.amazon.com/cli/latest/reference/s3api/get-object-retention.html) in *AWS CLI Command Reference*.

### List buckets

The following code example shows how to list S3 buckets.
The following command uses the list-buckets command to display the names of all your Amazon S3 buckets (across all regions):

```bash
aws s3api list-buckets --query "Buckets[].Name"
```

The query option filters the output of list-buckets down to only the bucket names.

For more information about buckets, see Working with Amazon S3 Buckets in the Amazon S3 Developer Guide.

- For API details, see ListBuckets in AWS CLI Command Reference.

### List in-progress multipart uploads

The following code example shows how to list in-progress multipart uploads to an S3 bucket.

#### AWS CLI

The following command lists all of the active multipart uploads for a bucket named my-bucket:

```bash
aws s3api list-multipart-uploads --bucket my-bucket
```

**Output:**

```json
{
  "Uploads": [
    {
      "Initiator": {
        "DisplayName": "username",
        "ID": "arn:aws:iam::0123456789012:user/username"
      },
      "Initiated": "2015-06-02T18:01:30.000Z",
      "UploadId": "dfRtDYU0WCCcH43C3WFbkRONycyCpTJvuxu2i5GYkZljf.Yxwh6XG7Wfs2vC4to6HiV6Yjlx.cph0gtNBtJ8P3URC",
      "StorageClass": "STANDARD",
      "Key": "multipart/01",
      "Owner": {
        "DisplayName": "aws-account-name",
```
In progress multipart uploads incur storage costs in Amazon S3. Complete or abort an active multipart upload to remove its parts from your account.

- For API details, see [ListMultipartUploads](#) in *AWS CLI Command Reference*.

### List object versions in a bucket

The following code example shows how to list object versions in an S3 bucket.

**AWS CLI**

The following command retrieves version information for an object in a bucket named `my-bucket`:

```bash
aws s3api list-object-versions --bucket my-bucket --prefix index.html
```

**Output:**

```json
{
  "DeleteMarkers": [
    {
      "Owner": {
        "DisplayName": "my-username",
        "ID": "7009a8971cd660687538875e7c86c5b672fe116bd438f46db45460ddcd036c32"
      },
      "IsLatest": true,
      "VersionId": "B2VsEK5saUNNHKc0AJj7hIE86RozToyq",
      "Key": "index.html",
      "LastModified": "2015-11-10T00:57:03.000Z"
    },
    {
      "Owner": {
        "DisplayName": "my-username",
        "ID": "7009a8971cd660687538875e7c86c5b672fe116bd438f46db45460ddcd036c32"
      },
      "IsLatest": false,
      "VersionId": "B2VsEK5saUNNHKc0AJj7hIE86RozToyq",
      "Key": "index.html",
      "LastModified": "2015-11-10T00:57:03.000Z"
    }
  ]
}
```
Actions and scenarios
List objects in a bucket

The following code example shows how to list objects in an S3 bucket.

AWS CLI

The following example uses the `list-objects` command to display the names of all the objects in the specified bucket:

```bash
aws s3api list-objects --bucket text-content --query 'Contents[].{Key: Key, Size: Size}'
```

The example uses the `--query` argument to filter the output of `list-objects` down to the key value and size for each object

For more information about objects, see Working with Amazon S3 Objects in the Amazon S3 Developer Guide.

- For API details, see `ListObjectsV2` in AWS CLI Command Reference.

Restore an archived copy of an object

The following code example shows how to restore an archived copy of an object back into an S3 bucket.

AWS CLI

To create a restore request for an object
The following `restore-object` example restores the specified Amazon S3 Glacier object for the bucket `my-glacier-bucket` for 10 days.

```bash
aws s3api restore-object \
   --bucket my-glacier-bucket \
   --key doc1.rtf \
   --restore-request Days=10
```

This command produces no output.

- For API details, see `RestoreObject` in *AWS CLI Command Reference*.

### Set a new ACL for a bucket

The following code example shows how to set a new access control list (ACL) for an S3 bucket.

**AWS CLI**

This example grants full control to two AWS users (`user1@example.com` and `user2@example.com`) and read permission to everyone:

```bash
aws s3api put-bucket-acl --bucket MyBucket --grant-full-control emailaddress=user1@example.com,emailaddress=user2@example.com --grant-read uri=http://acs.amazonaws.com/groups/global/AllUsers
```

See [http://docs.aws.amazon.com/AmazonS3/latest/API/RESTBucketPUTacl.html](http://docs.aws.amazon.com/AmazonS3/latest/API/RESTBucketPUTacl.html) for details on custom ACLs (the `s3api` ACL commands, such as `put-bucket-acl`, use the same shorthand argument notation).

- For API details, see `PutBucketAcl` in *AWS CLI Command Reference*.

### Set the ACL of an object

The following code example shows how to set the access control list (ACL) of an S3 object.

**AWS CLI**

The following command grants full control to two AWS users (`user1@example.com` and `user2@example.com`) and read permission to everyone:
aws s3api put-object-acl --bucket MyBucket --key file.txt --grant-full-control
e-mailaddress=user1@example.com,emailaddress=user2@example.com --grant-read
uri=http://acs.amazonaws.com/groups/global/AllUsers

See http://docs.aws.amazon.com/AmazonS3/latest/API/RESTBucketPUTacl.html for details on custom ACLs (the s3api ACL commands, such as put-object-acl, use the same shorthand argument notation).

- For API details, see PutObjectAcl in AWS CLI Command Reference.

### Set the legal hold configuration of an object

The following code example shows how to set the legal hold configuration of an S3 object.

**AWS CLI**

**To apply a Legal Hold to an object**

The following put-object-legal-hold example sets a Legal Hold on the object doc1.rtf.

```bash
aws s3api put-object-legal-hold \
  --bucket my-bucket-with-object-lock \
  --key doc1.rtf \
  --legal-hold Status=ON
```

This command produces no output.

- For API details, see PutObjectLegalHold in AWS CLI Command Reference.

### Set the object lock configuration of an bucket

The following code example shows how to set the object lock configuration of an existing S3 bucket.

**AWS CLI**

**To set an object lock configuration on a bucket**

The following put-object-lock-configuration example sets a 50-day object lock on the specified bucket.

```bash
aws s3api put-object-lock-configuration \
```
This command produces no output.

- For API details, see [PutObjectLockConfiguration](https://docs.aws.amazon.com/cli/latest/reference/s3api/put-object-lock.html) in *AWS CLI Command Reference*.

**Set the retention period of an object**

The following code example shows how to set the retention period of an S3 object.

**AWS CLI**

**To set an object retention configuration for an object**

The following `put-object-retention` example sets an object retention configuration for the specified object until 2025-01-01.

```
aws s3api put-object-retention 
--bucket my-bucket-with-object-lock 
--key doc1.rtf 
--retention '{ "Mode": "GOVERNANCE", "RetainUntilDate": "2025-01-01T00:00:00" }'
```

This command produces no output.

- For API details, see [PutObjectRetention](https://docs.aws.amazon.com/cli/latest/reference/s3api/put-object-retention.html) in *AWS CLI Command Reference*.

**Set the website configuration for a bucket**

The following code example shows how to set the website configuration for an S3 bucket.

**AWS CLI**

The applies a static website configuration to a bucket named `my-bucket`:

```
aws s3api put-bucket-website --bucket my-bucket --website-configuration file://website.json
```

The file `website.json` is a JSON document in the current folder that specifies index and error pages for the website:
• For API details, see [PutBucketWebsite](#) in *AWS CLI Command Reference*.

**Upload a single part of a multipart upload**

The following code example shows how to upload a single part of a multipart upload.

**AWS CLI**

The following command uploads the first part in a multipart upload initiated with the `create-multipart-upload` command:

```bash
aws s3api upload-part --bucket my-bucket --key 'multipart/01' --part-number 1 --body part01 --upload-id "dfRtDYU0WWCCcH43C3WFbkRONycyCpTJJvxu2i5GYkZ1jF.Yxwh6XG7WfS2vC4to6HiV6Yjlx.cph0gtNBtJ8P3URC0"
```

The `body` option takes the name or path of a local file for upload (do not use the file:// prefix). The minimum part size is 5 MB. Upload ID is returned by `create-multipart-upload` and can also be retrieved with `list-multipart-uploads`. Bucket and key are specified when you create the multipart upload.

**Output:**

```json
{
  "ETag": "\"e868e0f4719e394144ef36531ee6824c\"
}
```

Save the ETag value of each part for later. They are required to complete the multipart upload.

• For API details, see [UploadPart](#) in *AWS CLI Command Reference*. 

---

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### Upload an object to a bucket

The following code example shows how to upload an object to an S3 bucket.

**AWS CLI**

The following example uses the put-object command to upload an object to Amazon S3:

```bash
aws s3api put-object --bucket text-content --key dir-1/my_images.tar.bz2 --body my_images.tar.bz2
```

The following example shows an upload of a video file (The video file is specified using Windows file system syntax.):

```bash
aws s3api put-object --bucket text-content --key dir-1/big-video-file.mp4 --body e:\media\videos\f-sharp-3-data-services.mp4
```

For more information about uploading objects, see Uploading Objects in the *Amazon S3 Developer Guide*.

- For API details, see [PutObject](#) in *AWS CLI Command Reference*.

### Use SQL with Amazon S3 Select

The following code example shows how to retrieve a subset of data using SQL.

**AWS CLI**

To filter the contents of an Amazon S3 object based on an SQL statement

The following `select-object-content` example filters the object `my-data-file.csv` with the specified SQL statement and sends output to a file.

```bash
aws s3api select-object-content
   --bucket my-bucket
   --key my-data-file.csv
   --expression "select * from s3object limit 100"
   --expression-type 'SQL'
   --input-serialization '{"CSV": {}, "CompressionType": "NONE"}"
   --output-serialization '{"CSV": {}}' "output.csv"
```
This command produces no output.

- For API details, see `SelectObjectContent` in *AWS CLI Command Reference*.

**abort-multipart-upload**

The following code example shows how to use `abort-multipart-upload`.

**AWS CLI**

**To abort the specified multipart upload**

The following `abort-multipart-upload` command aborts a multipart upload for the key `multipart/01` in the bucket `my-bucket`.

```
aws s3api abort-multipart-upload \\
  --bucket my-bucket \\
  --key multipart/01 \\
  --upload-id
  dfRtDYU0WwCCcH43C3WFbKRONycyCpTJJvxu2i5GYkZljjF.Yxwh6XG7wFS2vC4to6HiV6Yjlx.cph0gtNBTj3UP3URCS
```

The upload ID required by this command is output by `create-multipart-upload` and can also be retrieved with `list-multipart-uploads`.

- For API details, see `AbortMultipartUpload` in *AWS CLI Command Reference*.

**cp**

The following code example shows how to use `cp`.

**AWS CLI**

**Example 1: Copying a local file to S3**

The following `cp` command copies a single file to a specified bucket and key:

```
aws s3 cp test.txt s3://mybucket/test2.txt
```

Output:

```
upload: test.txt to s3://mybucket/test2.txt
```
Example 2: Copying a local file to S3 with an expiration date

The following `cp` command copies a single file to a specified bucket and key that expires at the specified ISO 8601 timestamp:

```bash
aws s3 cp test.txt s3://mybucket/test2.txt \
--expires 2014-10-01T20:30:00Z
```

Output:

`upload: test.txt to s3://mybucket/test2.txt`

Example 3: Copying a file from S3 to S3

The following `cp` command copies a single s3 object to a specified bucket and key:

```bash
aws s3 cp s3://mybucket/test.txt s3://mybucket/test2.txt
```

Output:

`copy: s3://mybucket/test.txt to s3://mybucket/test2.txt`

Example 4: Copying an S3 object to a local file

The following `cp` command copies a single object to a specified file locally:

```bash
aws s3 cp s3://mybucket/test.txt test2.txt
```

Output:

`download: s3://mybucket/test.txt to test2.txt`

Example 5: Copying an S3 object from one bucket to another

The following `cp` command copies a single object to a specified bucket while retaining its original name:

```bash
aws s3 cp s3://mybucket/test.txt s3://mybucket2/
```
Copy: s3://mybucket/test.txt to s3://mybucket2/test.txt

**Example 6: Recursively copying S3 objects to a local directory**

When passed with the parameter `--recursive`, the following `cp` command recursively copies all objects under a specified prefix and bucket to a specified directory. In this example, the bucket `mybucket` has the objects `test1.txt` and `test2.txt`:

```
aws s3 cp s3://mybucket . \
  --recursive
```

Output:

```
download: s3://mybucket/test1.txt to test1.txt
download: s3://mybucket/test2.txt to test2.txt
```

**Example 7: Recursively copying local files to S3**

When passed with the parameter `--recursive`, the following `cp` command recursively copies all files under a specified directory to a specified bucket and prefix while excluding some files by using an `--exclude` parameter. In this example, the directory `myDir` has the files `test1.txt` and `test2.jpg`:

```
aws s3 cp myDir s3://mybucket/ \
  --recursive \
  --exclude "*.jpg"
```

Output:

```
upload: myDir/test1.txt to s3://mybucket/test1.txt
```

**Example 8: Recursively copying S3 objects to another bucket**

When passed with the parameter `--recursive`, the following `cp` command recursively copies all objects under a specified bucket to another bucket while excluding some objects by using an `--exclude` parameter. In this example, the bucket `mybucket` has the objects `test1.txt` and `another/test1.txt`:
aws s3 cp s3://mybucket/ s3://mybucket2/ 
   --recursive 
   --exclude "another/*"

Output:

copy: s3://mybucket/test1.txt to s3://mybucket2/test1.txt

You can combine --exclude and --include options to copy only objects that match a pattern, excluding all others:

aws s3 cp s3://mybucket/logs/ s3://mybucket2/logs/ 
   --recursive 
   --exclude "*" 
   --include "*.log"

Output:


Example 9: Setting the Access Control List (ACL) while copying an S3 object

The following cp command copies a single object to a specified bucket and key while setting the ACL to public-read-write:

aws s3 cp s3://mybucket/test.txt s3://mybucket/test2.txt 
   --acl public-read-write

Output:

copy: s3://mybucket/test.txt to s3://mybucket2/test2.txt

Note that if you're using the --acl option, ensure that any associated IAM policies include the "s3:PutObjectAcl" action:

aws iam get-user-policy 
   --user-name myuser 

--policy-name mypolicy

Output:

```
{
  "UserName": "myuser",
  "PolicyName": "mypolicy",
  "PolicyDocument": {
    "Version": "2012-10-17",
    "Statement": [
      {
        "Action": [
          "s3:PutObject",
          "s3:PutObjectAcl"
        ],
        "Resource": [
          "arn:aws:s3:::mybucket/*"
        ],
        "Effect": "Allow",
        "Sid": "Stmt1234567891234"
      }
    ]
  }
}
```

**Example 10: Granting permissions for an S3 object**

The following `cp` command illustrates the use of the `--grants` option to grant read access to all users identified by URI and full control to a specific user identified by their Canonical ID:

```
aws s3 cp file.txt s3://mybucket/ --grants read=uri=http://acs.amazonaws.com/groups/global/AllUsers
full=id=79a59df900b949e55d96a1e698fbacedfd6e09d98eacf8f8d5218e7cd47ef2be
```

Output:

```
upload: file.txt to s3://mybucket/file.txt
```

**Example 11: Uploading a local file stream to S3**

PowerShell may alter the encoding of or add a CRLF to piped input.
The following `cp` command uploads a local file stream from standard input to a specified bucket and key:

```bash
aws s3 cp - s3://mybucket/stream.txt
```

**Example 12: Uploading a local file stream that is larger than 50GB to S3**

The following `cp` command uploads a 51GB local file stream from standard input to a specified bucket and key. The `--expected-size` option must be provided, or the upload may fail when it reaches the default part limit of 10,000:

```bash
aws s3 cp - s3://mybucket/stream.txt --expected-size 54760833024
```

**Example 13: Downloading an S3 object as a local file stream**

PowerShell may alter the encoding of or add a CRLF to piped or redirected output.

The following `cp` command downloads an S3 object locally as a stream to standard output. Downloading as a stream is not currently compatible with the `--recursive` parameter:

```bash
aws s3 cp s3://mybucket/stream.txt -
```

**Example 14: Uploading to an S3 access point**

The following `cp` command uploads a single file (`mydoc.txt`) to the access point (`myaccesspoint`) at the key (`mykey`):

```bash
aws s3 cp mydoc.txt s3://arn:aws:s3:us-west-2:123456789012:accesspoint/myaccesspoint/mykey
```

Output:

```bash
```

**Example 15: Downloading from an S3 access point**

The following `cp` command downloads a single object (`mykey`) from the access point (`myaccesspoint`) to the local file (`mydoc.txt`):
aws s3 cp s3://arn:aws:s3:us-west-2:123456789012:accesspoint/myaccesspoint/mykey mydoc.txt

Output:


- For API details, see Cp in AWS CLI Command Reference.

delete-bucket-analytics-configuration

The following code example shows how to use delete-bucket-analytics-configuration.

AWS CLI

To delete an analytics configuration for a bucket

The following delete-bucket-analytics-configuration example removes the analytics configuration for the specified bucket and ID.

```bash
aws s3api delete-bucket-analytics-configuration \
   --bucket my-bucket \
   --id 1
```

This command produces no output.

- For API details, see DeleteBucketAnalyticsConfiguration in AWS CLI Command Reference.

delete-bucket-encryption

The following code example shows how to use delete-bucket-encryption.

AWS CLI

To delete the server-side encryption configuration of a bucket

The following delete-bucket-encryption example deletes the server-side encryption configuration of the specified bucket.

```bash
aws s3api delete-bucket-encryption \
```
--bucket my-bucket

This command produces no output.

- For API details, see DeleteBucketEncryption in AWS CLI Command Reference.

**delete-bucket-intelligent-tiering-configuration**

The following code example shows how to use delete-bucket-intelligent-tiering-configuration.

**AWS CLI**

**To remove an S3 Intelligent-Tiering configuration on a bucket**

The following delete-bucket-intelligent-tiering-configuration example removes an S3 Intelligent-Tiering configuration, named ExampleConfig, on a bucket.

```
aws s3api delete-bucket-intelligent-tiering-configuration \
--bucket DOC-EXAMPLE-BUCKET \
--id ExampleConfig
```

This command produces no output.

For more information, see Using S3 Intelligent-Tiering in the Amazon S3 User Guide.

- For API details, see DeleteBucketIntelligentTieringConfiguration in AWS CLI Command Reference.

**delete-bucket-inventory-configuration**

The following code example shows how to use delete-bucket-inventory-configuration.

**AWS CLI**

**To delete the inventory configuration of a bucket**

The following delete-bucket-inventory-configuration example deletes the inventory configuration with ID 1 for the specified bucket.

```
aws s3api delete-bucket-inventory-configuration \
```
This command produces no output.

- For API details, see `DeleteBucketInventoryConfiguration` in *AWS CLI Command Reference*.

### delete-bucket-metrics-configuration

The following code example shows how to use `delete-bucket-metrics-configuration`.

**AWS CLI**

**To delete a metrics configuration for a bucket**

The following `delete-bucket-metrics-configuration` example removes the metrics configuration for the specified bucket and ID.

```bash
aws s3api delete-bucket-metrics-configuration \
   --bucket my-bucket \
   --id 123
```

This command produces no output.

- For API details, see `DeleteBucketMetricsConfiguration` in *AWS CLI Command Reference*.

### delete-bucket-ownership-controls

The following code example shows how to use `delete-bucket-ownership-controls`.

**AWS CLI**

**To remove the bucket ownership settings of a bucket**

The following `delete-bucket-ownership-controls` example removes the bucket ownership settings of a bucket.

```bash
aws s3api delete-bucket-ownership-controls \
   --bucket DOC-EXAMPLE-BUCKET
```

This command produces no output.
For more information, see Setting Object Ownership on an existing bucket in the Amazon S3 User Guide.

- For API details, see DeleteBucketOwnershipControls in AWS CLI Command Reference.

**delete-bucket-replication**

The following code example shows how to use delete-bucket-replication.

**AWS CLI**

The following command deletes a replication configuration from a bucket named my-bucket:

```bash
aws s3api delete-bucket-replication --bucket my-bucket
```

- For API details, see DeleteBucketReplication in AWS CLI Command Reference.

**delete-bucket-tagging**

The following code example shows how to use delete-bucket-tagging.

**AWS CLI**

The following command deletes a tagging configuration from a bucket named my-bucket:

```bash
aws s3api delete-bucket-tagging --bucket my-bucket
```

- For API details, see DeleteBucketTagging in AWS CLI Command Reference.

**delete-object-tagging**

The following code example shows how to use delete-object-tagging.

**AWS CLI**

To delete the tag sets of an object

The following delete-object-tagging example deletes the tag with the specified key from the object doc1.rtf.

```bash
aws s3api delete-object-tagging \
```
delete-public-access-block

The following code example shows how to use delete-public-access-block.

AWS CLI

To delete the block public access configuration for a bucket

The following delete-public-access-block example removes the block public access configuration on the specified bucket.

```
aws s3api delete-public-access-block \
--bucket my-bucket
```

This command produces no output.

- For API details, see DeletePublicAccessBlock in AWS CLI Command Reference.

get-bucket-accelerate-configuration

The following code example shows how to use get-bucket-accelerate-configuration.

AWS CLI

To retrieve the accelerate configuration of a bucket

The following get-bucket-accelerate-configuration example retrieves the accelerate configuration for the specified bucket.

```
aws s3api get-bucket-accelerate-configuration \
--bucket my-bucket
```

Output:

```
{
```
"Status": "Enabled"
}

- For API details, see [GetBucketAccelerateConfiguration](#) in *AWS CLI Command Reference*.

### get-bucket-analytics-configuration

The following code example shows how to use `get-bucket-analytics-configuration`.

**AWS CLI**

**To retrieve the analytics configuration for a bucket with a specific ID**

The following `get-bucket-analytics-configuration` example displays the analytics configuration for the specified bucket and ID.

```bash
aws s3api get-bucket-analytics-configuration \
  --bucket my-bucket \
  --id 1
```

**Output:**

```json
{
  "AnalyticsConfiguration": {
    "StorageClassAnalysis": {},
    "Id": "1"
  }
}
```

- For API details, see [GetBucketAnalyticsConfiguration](#) in *AWS CLI Command Reference*.

### get-bucket-encryption

The following code example shows how to use `get-bucket-encryption`.

**AWS CLI**

**To retrieve the server-side encryption configuration for a bucket**

The following `get-bucket-encryption` example retrieves the server-side encryption configuration for the bucket `my-bucket`.

Actions and scenarios
aws s3api get-bucket-encryption
   --bucket my-bucket

Output:

```
{
   "ServerSideEncryptionConfiguration": {
      "Rules": [
         {
            "ApplyServerSideEncryptionByDefault": {
               "SSEAlgorithm": "AES256"
            }
         }
      ]
   }
}
```

- For API details, see [GetBucketEncryption](https://awscli.slack.com/archives/C11111111) in *AWS CLI Command Reference*.

### get-bucket-intelligent-tiering-configuration

The following code example shows how to use `get-bucket-intelligent-tiering-configuration`.

**AWS CLI**

**To retrieve an S3 Intelligent-Tiering configuration on a bucket**

The following `get-bucket-intelligent-tiering-configuration` example retrieves an S3 Intelligent-Tiering configuration, named ExampleConfig, on a bucket.

```
aws s3api get-bucket-intelligent-tiering-configuration
   --bucket DOC-EXAMPLE-BUCKET
   --id ExampleConfig
```

Output:

```
{
   "IntelligentTieringConfiguration": {
      "Id": "ExampleConfig2",
      "Filter": {
```

Actions and scenarios
For more information, see [Using S3 Intelligent-Tiering](https://docs.aws.amazon.com/AmazonS3/latest/userguide/using-s3-intelligent-tiering.html) in the *Amazon S3 User Guide*.

- For API details, see [GetBucketIntelligentTieringConfiguration](https://docs.aws.amazon.com/cli/latest/reference/s3api/get-bucket-intelligent-tiering-configuration.html) in *AWS CLI Command Reference*.

### get-bucket-inventory-configuration

The following code example shows how to use get-bucket-inventory-configuration.

**AWS CLI**

**To retrieve the inventory configuration for a bucket**

The following `get-bucket-inventory-configuration` example retrieves the inventory configuration for the specified bucket with ID 1.

```bash
aws s3api get-bucket-inventory-configuration \
  --bucket my-bucket \
  --id 1
```

**Output:**

```json
{
  "InventoryConfiguration": {
    "IsActive": true,
    "Destination": {
      "S3BucketDestination": {
      }
    }
  }
}
```
"Format": "ORC",
"Bucket": "arn:aws:s3:::my-bucket",
"AccountId": "123456789012"
}
},
"IncludedObjectVersions": "Current",
"Id": "1",
"Schedule": {
   "Frequency": "Weekly"
}
}
}

- For API details, see GetBucketInventoryConfiguration in AWS CLI Command Reference.

get-bucket-lifecycle

The following code example shows how to use get-bucket-lifecycle.

AWS CLI

The following command retrieves the lifecycle configuration for a bucket named my-bucket:

aws s3api get-bucket-lifecycle --bucket my-bucket

Output:

{
   "Rules": [
   {
      "ID": "Move to Glacier after sixty days (objects in logs/2015/)",
      "Prefix": "logs/2015/",
      "Status": "Enabled",
      "Transition": {
         "Days": 60,
         "StorageClass": "GLACIER"
      }
   },
   {
      "Expiration": {
         "Date": "2016-01-01T00:00:00.000Z"
      }
   }
   ]
}
"ID": "Delete 2014 logs in 2016.",
"Prefix": "logs/2014/",
"Status": "Enabled"
]
]


**get-bucket-logging**

The following code example shows how to use get-bucket-logging.

**AWS CLI**

To retrieve the logging status for a bucket

The following `get-bucket-logging` example retrieves the logging status for the specified bucket.

```
aws s3api get-bucket-logging
   --bucket my-bucket
```

Output:

```
{
   "LoggingEnabled": {
      "TargetPrefix": "",
      "TargetBucket": "my-bucket-logs"
   }
}
```


**get-bucket-metrics-configuration**

The following code example shows how to use get-bucket-metrics-configuration.

**AWS CLI**

To retrieve the metrics configuration for a bucket with a specific ID
The following `get-bucket-metrics-configuration` example displays the metrics configuration for the specified bucket and ID.

```
aws s3api get-bucket-metrics-configuration \
   --bucket my-bucket \
   --id 123
```

Output:

```
{
   "MetricsConfiguration": {
      "Filter": {
         "Prefix": "logs"
      },
      "Id": "123"
   }
}
```

- For API details, see [GetBucketMetricsConfiguration](#) in *AWS CLI Command Reference*.

`get-bucket-notification`

The following code example shows how to use `get-bucket-notification`.

**AWS CLI**

The following command retrieves the notification configuration for a bucket named `my-bucket`:

```
aws s3api get-bucket-notification --bucket my-bucket
```

Output:

```
{
   "TopicConfiguration": {
      "Id": "YmQzMmEwM2EjZWVlI0NGItNzVtZjI1MC00ZjgyLWZDBiZWNl",
      "Event": "s3:ObjectCreated:*",
      "Events": [
         "s3:ObjectCreated:"}
```
• For API details, see GetBucketNotification in AWS CLI Command Reference.

get-bucket-notification-configuration

The following code example shows how to use get-bucket-notification-configuration.

AWS CLI

The following command retrieves the notification configuration for a bucket named my-bucket:

```
aws s3api get-bucket-notification-configuration --bucket my-bucket
```

Output:

```
{
    "TopicConfigurations": [
    {
        "Id": "YmQzMmEwM2EjZWV1I0NGItNzVtZjI1MC00ZjgyLWZDBiZWNl",
        "Events": [
            "s3:ObjectCreated:*"
        ]
    }
    ]
}
```

• For API details, see GetBucketNotificationConfiguration in AWS CLI Command Reference.

get-bucket-ownership-controls

The following code example shows how to use get-bucket-ownership-controls.

AWS CLI

To retrieve the bucket ownership settings of a bucket
The following `get-bucket-ownership-controls` example retrieves the bucket ownership settings of a bucket.

```
aws s3api get-bucket-ownership-controls \\
    --bucket DOC-EXAMPLE-BUCKET
```

Output:

```
{
    "OwnershipControls": {
        "Rules": [
            {
                "ObjectOwnership": "BucketOwnerEnforced"
            }
        ]
    }
}
```

For more information, see [Viewing the Object Ownership setting for an S3 bucket](https://docs.aws.amazon.com/AmazonS3/latest/userguide/ViewingObjectOwnership.html) in the [Amazon S3 User Guide](https://docs.aws.amazon.com/AmazonS3/latest/userguide/).


**get-bucket-policy-status**

The following code example shows how to use `get-bucket-policy-status`.

**AWS CLI**

To retrieve the policy status for a bucket indicating whether the bucket is public

The following `get-bucket-policy-status` example retrieves the policy status for the bucket `my-bucket`.

```
aws s3api get-bucket-policy-status \\
    --bucket my-bucket
```

Output:

```
{
}
```
• For API details, see GetBucketPolicyStatus in AWS CLI Command Reference.

get-bucket-replication

The following code example shows how to use `get-bucket-replication`.

AWS CLI

The following command retrieves the replication configuration for a bucket named `my-bucket`:

```
aws s3api get-bucket-replication --bucket my-bucket
```

Output:

```
{
   "ReplicationConfiguration": {
      "Rules": [ 
      {
         "Status": "Enabled",
         "Prefix": "",
         "Destination": { 
            "Bucket": "arn:aws:s3:::my-bucket-backup",
            "StorageClass": "STANDARD"
         },
         "ID": "ZmUwNzE4ZmQ4tMjVhOS00MTlkOGI4NDkzZTIWJjNTUtYTA1"
      }],
      "Role": "arn:aws:iam::123456789012:role/s3-replication-role"
   }
}
```

• For API details, see GetBucketReplication in AWS CLI Command Reference.

get-bucket-request-payment

The following code example shows how to use `get-bucket-request-payment`.

Actions and scenarios
AWS CLI

**To retrieve the request payment configuration for a bucket**

The following `get-bucket-request-payment` example retrieves the requester pays configuration for the specified bucket.

```
aws s3api get-bucket-request-payment \
   --bucket my-bucket
```

Output:

```
{
   "Payer": "BucketOwner"
}
```

- For API details, see [GetBucketRequestPayment](https://awscli.amazonaws.com/v2/documentation/api/current/reference/services/s3api/operations/GetBucketRequestPayment.html) in *AWS CLI Command Reference*.

**get-bucket-tagging**

The following code example shows how to use `get-bucket-tagging`.

AWS CLI

The following command retrieves the tagging configuration for a bucket named `my-bucket`:

```
aws s3api get-bucket-tagging --bucket my-bucket
```

Output:

```
{
   "TagSet": [
   {
      "Value": "marketing",
      "Key": "organization"
   }
   ]
}
```

- For API details, see [GetBucketTagging](https://awscli.amazonaws.com/v2/documentation/api/current/reference/services/s3api/operations/GetBucketTagging.html) in *AWS CLI Command Reference*.
get-bucket-versioning

The following code example shows how to use get-bucket-versioning.

**AWS CLI**

The following command retrieves the versioning configuration for a bucket named `my-bucket`:

```bash
aws s3api get-bucket-versioning --bucket my-bucket
```

Output:

```json
{
    "Status": "Enabled"
}
```

- For API details, see [GetBucketVersioning](https://docs.aws.amazon.com/cli/latest/reference/s3api/get-bucket-versioning.html) in *AWS CLI Command Reference*.

get-object-attributes

The following code example shows how to use get-object-attributes.

**AWS CLI**

To retrieve metadata from an object without returning the object itself

The following get-object-attributes example retrieves metadata from the object `doc1.rtf`.

```bash
aws s3api get-object-attributes \
    --bucket my-bucket \
    --key doc1.rtf \
    --object-attributes "StorageClass" "ETag" "ObjectSize"
```

Output:

```json
{
    "LastModified": "2022-03-15T19:37:31+00:00",
    "VersionId": "IuCPjXTDzHNfldAuitVBIKJpF2p1fg4P",
    "ETag": "b662d79adeb7c8d787ea7eafb9ef6207",
    "StorageClass": "STANDARD",
```
For more information, see `GetObjectAttributes` in the Amazon S3 API Reference.

- For API details, see `GetObjectAttributes` in *AWS CLI Command Reference*.

### get-object-legal-hold

The following code example shows how to use `get-object-legal-hold`.

**AWS CLI**

Retrieves the Legal Hold status of an object

The following `get-object-legal-hold` example retrieves the Legal Hold status for the specified object.

```bash
aws s3api get-object-legal-hold \
   --bucket my-bucket-with-object-lock \
   --key doc1.rtf
```

Output:

```json
{
   "LegalHold": {
      "Status": "ON"
   }
}
```

- For API details, see `GetObjectLegalHold` in *AWS CLI Command Reference*.

### get-object-tagging

The following code example shows how to use `get-object-tagging`.

**AWS CLI**

To retrieve the tags attached to an object

The following `get-object-tagging` example retrieves the values for the specified key from the specified object.
aws s3api get-object-tagging \
   --bucket my-bucket \
   --key doc1.rtf

Output:

```
{
  "TagSet": [
    {
      "Value": "confidential",
      "Key": "designation"
    }
  ]
}
```

The following `get-object-tagging` example tries to retrieve the tag sets of the object `doc2.rtf`, which has no tags.

aws s3api get-object-tagging \
   --bucket my-bucket \
   --key doc2.rtf

Output:

```
{
  "TagSet": []
}
```

The following `get-object-tagging` example retrieves the tag sets of the object `doc3.rtf`, which has multiple tags.

aws s3api get-object-tagging \
   --bucket my-bucket \
   --key doc3.rtf

Output:

```
{
  "TagSet": [
```
The following code example shows how to use `get-object-torrent`.

**AWS CLI**

The following command creates a torrent for an object in a bucket named `my-bucket`:

```
aws s3api get-object-torrent --bucket my-bucket --key large-video-file.mp4 large-video-file.torrent
```

The torrent file is saved locally in the current folder. Note that the output filename (`large-video-file.torrent`) is specified without an option name and must be the last argument in the command.

- For API details, see `GetObjectTorrent` in *AWS CLI Command Reference*. 

### get-public-access-block

The following code example shows how to use `get-public-access-block`.

**AWS CLI**

To set or modify the block public access configuration for a bucket
The following `get-public-access-block` example displays the block public access configuration for the specified bucket.

```bash
aws s3api get-public-access-block \
   --bucket my-bucket
```

Output:

```json
{
   "PublicAccessBlockConfiguration": {
      "IgnorePublicAcls": true,
      "BlockPublicPolicy": true,
      "BlockPublicAcls": true,
      "RestrictPublicBuckets": true
   }
}
```


### list-bucket-analytics-configurations

The following code example shows how to use `list-bucket-analytics-configurations`.

**AWS CLI**

**To retrieve a list of analytics configurations for a bucket**

The following `list-bucket-analytics-configurations` retrieves a list of analytics configurations for the specified bucket.

```bash
aws s3api list-bucket-analytics-configurations \
   --bucket my-bucket
```

Output:

```json
{
   "AnalyticsConfigurationList": [
      {
         "StorageClassAnalysis": {},
         "Id": "1"
      }
   ]
}
```
- For API details, see ListBucketAnalyticsConfigurations in AWS CLI Command Reference.

list-bucket-intelligent-tiering-configurations

The following code example shows how to use list-bucket-intelligent-tiering-configurations.

AWS CLI

To retrieve all S3 Intelligent-Tiering configurations on a bucket

The following list-bucket-intelligent-tiering-configurations example retrieves all S3 Intelligent-Tiering configuration on a bucket.

```bash
aws s3api list-bucket-intelligent-tiering-configurations \ --bucket DOC-EXAMPLE-BUCKET
```

Output:

```json
{
  "IsTruncated": false,
  "IntelligentTieringConfigurationList": [
  {
    "Id": "ExampleConfig",
    "Filter": {
      "Prefix": "images"
    },
    "Status": "Enabled",
    "Tierings": [
      {
        "Days": 90,
        "AccessTier": "ARCHIVE_ACCESS"
      },
      {
        "Days": 180,
        "AccessTier": "DEEP_ARCHIVE_ACCESS"
      }
    ]
  }
}
```
The following code example shows how to use `list-bucket-inventory-configurations`.

For more information, see [Using S3 Intelligent-Tiering](https://docs.aws.amazon.com/AmazonS3/latest/userguide/using-s3-intelligent-tiering.html) in the *Amazon S3 User Guide*.


### list-bucket-inventory-configurations

The following code example shows how to use list-bucket-inventory-configurations.
AWS CLI

To retrieve a list of inventory configurations for a bucket

The following `list-bucket-inventory-configurations` example lists the inventory configurations for the specified bucket.

```
aws s3api list-bucket-inventory-configurations \
  --bucket my-bucket
```

Output:

```
{
  "InventoryConfigurationList": [
    {
      "IsEnabled": true,
      "Destination": {
        "S3BucketDestination": {
          "Format": "ORC",
          "Bucket": "arn:aws:s3:::my-bucket",
          "AccountId": "123456789012"
        }
      },
      "IncludedObjectVersions": "Current",
      "Id": "1",
      "Schedule": {
        "Frequency": "Weekly"
      }
    },
    {
      "IsEnabled": true,
      "Destination": {
        "S3BucketDestination": {
          "Format": "CSV",
          "Bucket": "arn:aws:s3:::my-bucket",
          "AccountId": "123456789012"
        }
      },
      "IncludedObjectVersions": "Current",
      "Id": "2",
      "Schedule": {
        "Frequency": "Daily"
      }
    }
  ]
}
```
For API details, see ListBucketInventoryConfigurations in AWS CLI Command Reference.

list-bucket-metrics-configurations

The following code example shows how to use list-bucket-metrics-configurations.

**AWS CLI**

To retrieve a list of metrics configurations for a bucket

The following list-bucket-metrics-configurations example retrieves a list of metrics configurations for the specified bucket.

```
aws s3api list-bucket-metrics-configurations \
   --bucket my-bucket
```

Output:

```
{
   "IsTruncated": false,
   "MetricsConfigurationList": [
   {
      "Filter": {
         "Prefix": "logs"
      },
      "Id": "123"
   },
   {
      "Filter": {
         "Prefix": "tmp"
      },
      "Id": "234"
   }
  ]
}
```

For API details, see ListBucketMetricsConfigurations in AWS CLI Command Reference.
**list-objects-v2**

The following code example shows how to use `list-objects-v2`.

**AWS CLI**

To get a list of objects in a bucket

The following `list-objects-v2` example lists the objects in the specified bucket.

```bash
aws s3api list-objects-v2 \
  --bucket my-bucket
```

Output:

```json
{
  "Contents": [
    {
      "LastModified": "2019-11-05T23:11:50.000Z",
      "ETag": "621503c373607d548b37c8f8778d992c",
      "StorageClass": "STANDARD",
      "Key": "doc1.rtf",
      "Size": 391
    },
    {
      "LastModified": "2019-11-05T23:11:50.000Z",
      "ETag": "a2cecc36ab7c7fe3a71a273b9d45b1b5",
      "StorageClass": "STANDARD",
      "Key": "doc2.rtf",
      "Size": 373
    },
    {
      "LastModified": "2019-11-05T23:11:50.000Z",
      "ETag": "08210852f65a2e9c8999972539a64d68",
      "StorageClass": "STANDARD",
      "Key": "doc3.rtf",
      "Size": 399
    },
    {
      "LastModified": "2019-11-05T23:11:50.000Z",
      "ETag": "d1852dd683f404306569471af106988e",
      "StorageClass": "STANDARD",
      "Key": "doc4.rtf",
```
list-parts

The following code example shows how to use list-parts.

AWS CLI

The following command lists all of the parts that have been uploaded for a multipart upload with key multipart/01 in the bucket my-bucket:

```
aws s3api list-parts --bucket my-bucket --key 'multipart/01' --upload-id dfRtDYU0WwCCcH43C3WFbkRONycyCpTJJvxu2is5GYkZljF.Yxwh6XG7WfS2vC4to6HiV6Yjlx.cph0gtNBIJ8P3URCS
```

Output:

```
{
  "Owner": {
    "DisplayName": "aws-account-name",
    "ID": "100719349fc3b6dcd7c820a124bf7aecd408092c3d7b51b38494939801fc248b"
  },
  "Initiator": {
    "DisplayName": "username",
    "ID": "arn:aws:iam::0123456789012:user/username"
  },
  "Parts": [
    {
      "LastModified": "2015-06-02T18:07:35.000Z",
      "PartNumber": 1,
      "ETag": "e868e0f4719e394144ef36531ee6824c",
      "Size": 5242880
    },
    {
      "LastModified": "2015-06-02T18:07:42.000Z",
      "PartNumber": 2,
      "ETag": "6bb2b12753d66fe86da4998aa33fffb0",
      "Size": 5242880
    }
  ]
}
```

- For API details, see [ListObjectsV2](https://docs.aws.amazon.com/cli/latest/reference/s3api/list-objects-v2.html) in *AWS CLI Command Reference*. 

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For API details, see [ListParts](#) in *AWS CLI Command Reference*.

**ls**

The following code example shows how to use `ls`.

**AWS CLI**

**Example 1: Listing all user owned buckets**

The following `ls` command lists all of the bucket owned by the user. In this example, the user owns the buckets `mybucket` and `mybucket2`. The timestamp is the date the bucket was created, shown in your machine's time zone. This date can change when making changes to your bucket, such as editing its bucket policy. Note if `s3://` is used for the path argument `<S3Uri>`, it will list all of the buckets as well.

```
aws s3 ls
```

**Output:**

```
2013-07-11 17:08:50 mybucket
```

**Example 2: Listing all prefixes and objects in a bucket**

The following `ls` command lists objects and common prefixes under a specified bucket and prefix. In this example, the user owns the bucket `mybucket` with the objects `test.txt` and `somePrefix/test.txt`. The `LastWriteTime` and `Length` are arbitrary. Note that since the `ls` command has no interaction with the local filesystem, the `s3://` URI scheme is not required to resolve ambiguity and may be omitted.
aws s3 ls s3://mybucket

Output:

PRE somePrefix/
2013-07-25 17:06:27 88 test.txt

Example 3: Listing all prefixes and objects in a specific bucket and prefix

The following ls command lists objects and common prefixes under a specified bucket and prefix. However, there are no objects nor common prefixes under the specified bucket and prefix.
/aws s3 ls s3://mybucket/noExistPrefix

Output:

None

Example 4: Recursively listing all prefixes and objects in a bucket

The following ls command will recursively list objects in a bucket. Rather than showing PRE dirname/ in the output, all the content in a bucket will be listed in order.

/aws s3 ls s3://mybucket \
--recursive

Output:

2013-09-02 21:37:53 10 a.txt
2013-09-02 21:37:53 2863288 foo.zip
2013-09-02 21:32:57 23 foo/bar/.baz/a
2013-09-02 21:32:58 41 foo/bar/.baz/b
2013-09-02 21:32:57 281 foo/bar/.baz/c
2013-09-02 21:32:57 73 foo/bar/.baz/d
2013-09-02 21:32:57 452 foo/bar/.baz/e
2013-09-02 21:32:57 896 foo/bar/.baz/hooks/bar
2013-09-02 21:32:57 189 foo/bar/.baz/hooks/foo
Example 5: Summarizing all prefixes and objects in a bucket

The following `ls` command demonstrates the same command using the `--human-readable` and `--summarize` options. `--human-readable` displays file size in Bytes/MiB/GiB/TiB/PiB/EiB. `--summarize` displays the total number of objects and total size at the end of the result listing:

```bash
aws s3 ls s3://mybucket \
   --recursive \
   --human-readable \
   --summarize
```

Output:

```
2013-09-02 21:37:53   10 Bytes a.txt
2013-09-02 21:37:53  2.9 MiB foo.zip
2013-09-02 21:32:57  23 Bytes foo/bar/.baz/a
2013-09-02 21:32:58  41 Bytes foo/bar/.baz/b
2013-09-02 21:32:57  281 Bytes foo/bar/.baz/c
2013-09-02 21:32:57  73 Bytes foo/bar/.baz/d
2013-09-02 21:32:57  452 Bytes foo/bar/.baz/e
2013-09-02 21:32:57  896 Bytes foo/bar/.baz/hooks/bar
2013-09-02 21:32:57  189 Bytes foo/bar/.baz/hooks/foo
2013-09-02 21:32:57  398 Bytes z.txt

Total Objects: 10
Total Size: 2.9 MiB
```

Example 6: Listing from an S3 access point

The following `ls` command list objects from access point (`myaccesspoint`):

```
aws s3 ls s3://arn:aws:s3:us-west-2:123456789012:accesspoint/myaccesspoint/
```

Output:

```
2013-07-25 17:06:27         88 test.txt
```

- For API details, see `Ls` in *AWS CLI Command Reference*. 
mb

The following code example shows how to use mb.

**AWS CLI**

**Example 1: Create a bucket**

The following `mb` command creates a bucket. In this example, the user makes the bucket `mybucket`. The bucket is created in the region specified in the user's configuration file:

```
aws s3 mb s3://mybucket
```

Output:

```
make_bucket: s3://mybucket
```

**Example 2: Create a bucket in the specified region**

The following `mb` command creates a bucket in a region specified by the `--region` parameter. In this example, the user makes the bucket `mybucket` in the region `us-west-1`:

```
aws s3 mb s3://mybucket \
    --region us-west-1
```

Output:

```
make_bucket: s3://mybucket
```

- For API details, see `Mb` in *AWS CLI Command Reference*.

mv

The following code example shows how to use mv.

**AWS CLI**

**Example 1: Move a local file to the specified bucket**

The following `mv` command moves a single file to a specified bucket and key.
aws s3 mv test.txt s3://mybucket/test2.txt

Output:

move: test.txt to s3://mybucket/test2.txt

**Example 2: Move an object to the specified bucket and key**

The following `mv` command moves a single s3 object to a specified bucket and key.

```bash
aws s3 mv s3://mybucket/test.txt s3://mybucket/test2.txt
```

Output:

```
move: s3://mybucket/test.txt to s3://mybucket/test2.txt
```

**Example 3: Move an S3 object to the local directory**

The following `mv` command moves a single object to a specified file locally.

```bash
aws s3 mv s3://mybucket/test.txt test2.txt
```

Output:

```
move: s3://mybucket/test.txt to test2.txt
```

**Example 4: Move an object with it's original name to the specified bucket**

The following `mv` command moves a single object to a specified bucket while retaining its original name:

```bash
aws s3 mv s3://mybucket/test.txt s3://mybucket2/
```

Output:

```
move: s3://mybucket/test.txt to s3://mybucket2/test.txt
```

**Example 5: Move all objects and prefixes in a bucket to the local directory**
When passed with the parameter `--recursive`, the following `mv` command recursively moves all objects under a specified prefix and bucket to a specified directory. In this example, the bucket `mybucket` has the objects `test1.txt` and `test2.txt`.

```bash
aws s3 mv s3://mybucket . \  
   --recursive
```

Output:

```
move: s3://mybucket/test1.txt to test1.txt
move: s3://mybucket/test2.txt to test2.txt
```

**Example 6: Move all objects and prefixes in a bucket to the local directory, except `.jpg` files**

When passed with the parameter `--recursive`, the following `mv` command recursively moves all files under a specified directory to a specified bucket and prefix while excluding some files by using an `--exclude` parameter. In this example, the directory `myDir` has the files `test1.txt` and `test2.jpg`.

```bash
aws s3 mv myDir s3://mybucket/ \  
   --recursive \  
   --exclude "*.jpg"
```

Output:

```
move: myDir/test1.txt to s3://mybucket2/test1.txt
```

**Example 7: Move all objects and prefixes in a bucket to the local directory, except specified prefix**

When passed with the parameter `--recursive`, the following `mv` command recursively moves all objects under a specified bucket to another bucket while excluding some objects by using an `--exclude` parameter. In this example, the bucket `mybucket` has the objects `test1.txt` and `another/test1.txt`.

```bash
aws s3 mv s3://mybucket/ s3://mybucket2/ \  
   --recursive \  
   --exclude "mybucket/another/*"
```
Output:

```
move: s3://mybucket/test1.txt to s3://mybucket2/test1.txt
```

**Example 8: Move an object to the specified bucket and set the ACL**

The following `mv` command moves a single object to a specified bucket and key while setting the ACL to `public-read-write`.

```
aws s3 mv s3://mybucket/test.txt s3://mybucket/test2.txt 
   --acl public-read-write
```

Output:

```
move: s3://mybucket/test.txt to s3://mybucket/test2.txt
```

**Example 9: Move a local file to the specified bucket and grant permissions**

The following `mv` command illustrates the use of the `--grants` option to grant read access to all users and full control to a specific user identified by their email address.

```
aws s3 mv file.txt s3://mybucket/ 
   --grants read=uri=http://acs.amazonaws.com/groups/global/AllUsers
   full=emailaddress=user@example.com
```

Output:

```
move: file.txt to s3://mybucket/file.txt
```

**Example 10: Move a file to an S3 access point**

The following `mv` command moves a single file named `mydoc.txt` to the access point named `myaccesspoint` at the key named `mykey`.

```
aws s3 mv mydoc.txt s3://arn:aws:s3:us-west-2:123456789012:accesspoint/
   myaccesspoint/mykey
```

Output:

- For API details, see Move in AWS CLI Command Reference.

**presign**

The following code example shows how to use `presign`.

**AWS CLI**

**Example 1: To create a pre-signed URL with the default one hour lifetime that links to an object in an S3 bucket**

The following `presign` command generates a pre-signed URL for a specified bucket and key that is valid for one hour.

```
aws s3 presign s3://DOC-EXAMPLE-BUCKET/test2.txt
```

Output:

```
```

**Example 2: To create a pre-signed URL with a custom lifetime that links to an object in an S3 bucket**

The following `presign` command generates a pre-signed URL for a specified bucket and key that is valid for one week.

```
aws s3 presign s3://DOC-EXAMPLE-BUCKET/test2.txt \
--expires-in 604800
```

Output:

```
```
For more information, see Share an Object with Others in the S3 Developer Guide guide.

- For API details, see Presign in AWS CLI Command Reference.

**put-bucket-accelerate-configuration**

The following code example shows how to use `put-bucket-accelerate-configuration`.

**AWS CLI**

**To set the accelerate configuration of a bucket**

The following `put-bucket-accelerate-configuration` example enables the accelerate configuration for the specified bucket.

```
aws s3api put-bucket-accelerate-configuration \
   --bucket my-bucket \
   --accelerate-configuration Status=Enabled
```

This command produces no output.

- For API details, see PutBucketAccelerateConfiguration in AWS CLI Command Reference.

**put-bucket-analytics-configuration**

The following code example shows how to use `put-bucket-analytics-configuration`.

**AWS CLI**

**To sets an analytics configuration for the bucket**

The following `put-bucket-analytics-configuration` example configures analytics for the specified bucket.

```
aws s3api put-bucket-analytics-configuration \
   --bucket my-bucket --id 1 \
   --analytics-configuration '{"Id": "1","StorageClassAnalysis": {}}'
```
This command produces no output.

- For API details, see `PutBucketAnalyticsConfiguration` in *AWS CLI Command Reference*.

### put-bucket-encryption

The following code example shows how to use `put-bucket-encryption`.

**AWS CLI**

To configure server-side encryption for a bucket

The following `put-bucket-encryption` example sets AES256 encryption as the default for the specified bucket.

```bash
aws s3api put-bucket-encryption \
  --bucket my-bucket \
  --server-side-encryption-configuration '{"Rules": ["ApplyServerSideEncryptionByDefault": {"SSEAlgorithm": "AES256"}]}'
```

This command produces no output.

- For API details, see `PutBucketEncryption` in *AWS CLI Command Reference*.

### put-bucket-intelligent-tiering-configuration

The following code example shows how to use `put-bucket-intelligent-tiering-configuration`.

**AWS CLI**

To update an S3 Intelligent-Tiering configuration on a bucket

The following `put-bucket-intelligent-tiering-configuration` example updates an S3 Intelligent-Tiering configuration, named ExampleConfig, on a bucket. The configuration will transition objects that have not been accessed under the prefix images to Archive Access after 90 days and Deep Archive Access after 180 days.

```bash
aws s3api put-bucket-intelligent-tiering-configuration \
  --bucket DOC-EXAMPLE-BUCKET \
  --id "ExampleConfig"
```
--intelligent-tiering-configuration file://intelligent-tiering-configuration.json

Contents of intelligent-tiering-configuration.json:

```
{
    "Id": "ExampleConfig",
    "Status": "Enabled",
    "Filter": {
        "Prefix": "images"
    },
    "Tierings": [
        {
            "Days": 90,
            "AccessTier": "ARCHIVE_ACCESS"
        },
        {
            "Days": 180,
            "AccessTier": "DEEP_ARCHIVE_ACCESS"
        }
    ]
}
```

This command produces no output.

For more information, see Setting Object Ownership on an existing bucket in the Amazon S3 User Guide.

- For API details, see PutBucketIntelligentTieringConfiguration in AWS CLI Command Reference.

put-bucket-inventory-configuration

The following code example shows how to use put-bucket-inventory-configuration.

AWS CLI

Example 1: To set an inventory configuration for a bucket

The following put-bucket-inventory-configuration example sets a weekly ORC-formatted inventory report for the bucket my-bucket.

```
aws s3api put-bucket-inventory-configuration
```
This command produces no output.

**Example 2: To set an inventory configuration for a bucket**

The following `put-bucket-inventory-configuration` example sets a daily CSV-formatted inventory report for the bucket `my-bucket`.

```bash
aws s3api put-bucket-inventory-configuration 
    --bucket my-bucket 
    --id 2 
    --inventory-configuration '{"Destination": { "S3BucketDestination": 
        { "AccountId": "123456789012", "Bucket": "arn:aws:s3:::my-bucket", "Format": 
            "CSV" }, 
        "IsEnabled": true, 
        "Id": "2", 
        "IncludedObjectVersions": "Current", 
        "Schedule": { "Frequency": "Daily" }}' 
```

This command produces no output.

- For API details, see [PutBucketInventoryConfiguration](https://docs.aws.amazon.com/cli/latest/reference/s3api/put-bucket-inventory-configuration.html) in *AWS CLI Command Reference*.

**put-bucket-lifecycle**

The following code example shows how to use `put-bucket-lifecycle`.

**AWS CLI**

The following command applies a lifecycle configuration to the bucket `my-bucket`:

```bash
aws s3api put-bucket-lifecycle --bucket my-bucket --lifecycle-configuration file://lifecycle.json
```

The file `lifecycle.json` is a JSON document in the current folder that specifies two rules:

```json
{
    "Rules": [ {
```
The first rule moves files to Amazon Glacier after sixty days. The second rule deletes files from Amazon S3 on the specified date. For information on acceptable timestamp formats, see Specifying Parameter Values in the AWS CLI User Guide.

Each rule in the above example specifies a policy (Transition or Expiration) and file prefix (folder name) to which it applies. You can also create a rule that applies to an entire bucket by specifying a blank prefix:

```json
{
  "Rules": [
    {
      "ID": "Move to Glacier after sixty days (all objects in bucket)",
      "Prefix": "",
      "Status": "Enabled",
      "Transition": {
        "Days": 60,
        "StorageClass": "GLACIER"
      }
    },
    {
      "Expiration": {
        "Date": "2016-01-01T00:00:00.000Z"
      },
      "ID": "Delete 2014 logs in 2016.",
      "Prefix": "logs/2014/",
      "Status": "Enabled"
    }
  ]
}
```

- For API details, see PutBucketLifecycle in AWS CLI Command Reference.
**put-bucket-logging**

The following code example shows how to use `put-bucket-logging`.

**AWS CLI**

**Example 1: To set bucket policy logging**

The following `put-bucket-logging` example sets the logging policy for `MyBucket`. First, grant the logging service principal permission in your bucket policy using the `put-bucket-policy` command.

```
aws s3api put-bucket-policy
--bucket MyBucket
--policy file://policy.json
```

Contents of `policy.json`:

```json
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Sid": "S3ServerAccessLogsPolicy",
      "Effect": "Allow",
      "Principal": {"Service": "logging.s3.amazonaws.com"},
      "Action": "s3:PutObject",
      "Resource": "arn:aws:s3:::MyBucket/Logs/**",
      "Condition": {
        "ArnLike": {"aws:SourceARN": "arn:aws:s3:::SOURCE-BUCKET-NAME"},
        "StringEquals": {"aws:SourceAccount": "SOURCE-AWS-ACCOUNT-ID"}
      }
    }
  ]
}
```

To apply the logging policy, use `put-bucket-logging`.

```
aws s3api put-bucket-logging
--bucket MyBucket
--bucket-logging-status file://logging.json
```

Contents of `logging.json`:

Actions and scenarios
The `put-bucket-policy` command is required to grant `s3:PutObject` permissions to the logging service principal.

For more information, see Amazon S3 Server Access Logging in the Amazon S3 User Guide.

### Example 2: To set a bucket policy for logging access to only a single user

The following `put-bucket-logging` example sets the logging policy for `MyBucket`. The AWS user `bob@example.com` will have full control over the log files, and no one else has any access. First, grant S3 permission with `put-bucket-acl`.

```bash
aws s3api put-bucket-acl \
    --bucket MyBucket \
    --grant-write URI=http://acs.amazonaws.com/groups/s3/LogDelivery \
    --grant-read-acp URI=http://acs.amazonaws.com/groups/s3/LogDelivery
```

Then apply the logging policy using `put-bucket-logging`.

```bash
aws s3api put-bucket-logging \
    --bucket MyBucket \
    --bucket-logging-status file://logging.json
```

**Contents of `logging.json`:**

```json
{
    "LoggingEnabled": {
        "TargetBucket": "MyBucket",
        "TargetPrefix": "Logs/"
    }
}
```
the put-bucket-acl command is required to grant S3's log delivery system the necessary permissions (write and read-acp permissions).

For more information, see Amazon S3 Server Access Logging in the Amazon S3 Developer Guide.

• For API details, see PutBucketLogging in AWS CLI Command Reference.

put-bucket-metrics-configuration

The following code example shows how to use put-bucket-metrics-configuration.

AWS CLI

To set a metrics configuration for a bucket

The following put-bucket-metrics-configuration example sets a metric configuration with ID 123 for the specified bucket.

```
aws s3api put-bucket-metrics-configuration \
    --bucket my-bucket \
    --id 123 \
    --metrics-configuration '{"Id": "123", "Filter": {"Prefix": "logs"}}'
```

This command produces no output.

• For API details, see PutBucketMetricsConfiguration in AWS CLI Command Reference.

put-bucket-notification-configuration

The following code example shows how to use put-bucket-notification-configuration.

AWS CLI

To enable the specified notifications to a bucket
The following put-bucket-notification-configuration example applies a notification configuration to a bucket named my-bucket. The file notification.json is a JSON document in the current folder that specifies an SNS topic and an event type to monitor.

```
aws s3api put-bucket-notification-configuration
  --bucket my-bucket
  --notification-configuration file://notification.json
```

Contents of notification.json:

```
{
   "TopicConfigurations": [
     {
       "Events": [
         "s3:ObjectCreated:*"
       ]
     }
   ]
}
```

The SNS topic must have an IAM policy attached to it that allows Amazon S3 to publish to it.

```
{
   "Version": "2008-10-17",
   "Id": "example-ID",
   "Statement": [
     {
       "Sid": "example-statement-ID",
       "Effect": "Allow",
       "Principal": {
         "Service": "s3.amazonaws.com"
       },
       "Action": ["SNS:Publish"],
       "Condition": {
         "ArnLike": {
           "aws:SourceArn": "arn:aws:s3:::*:my-bucket"
         }
       }
     }
   ]
}
```
put-bucket-ownership-controls

The following code example shows how to use put-bucket-ownership-controls.

AWS CLI

To update the bucket ownership settings of a bucket

The following put-bucket-ownership-controls example updates the bucket ownership settings of a bucket.

```bash
aws s3api put-bucket-ownership-controls \
  --bucket DOC-EXAMPLE-BUCKET \
  --ownership-controls="Rules=\{ObjectOwnership=BucketOwnerEnforced\}"
```

This command produces no output.

For more information, see Setting Object Ownership on an existing bucket in the Amazon S3 User Guide.

put-bucket-replication

The following code example shows how to use put-bucket-replication.

AWS CLI

To configure replication for an S3 bucket

The following put-bucket-replication example applies a replication configuration to the specified S3 bucket.

```bash
aws s3api put-bucket-replication \
  --bucket AWSDOC-EXAMPLE-BUCKET1 \
```
Contents of replication.json:

```json
{
    "Role": "arn:aws:iam::123456789012:role/s3-replication-role",
    "Rules": [
        {
            "Status": "Enabled",
            "Priority": 1,
            "DeleteMarkerReplication": { "Status": "Disabled" },
            "Filter": { "Prefix": "" },
            "Destination": {
                "Bucket": "arn:aws:s3:::AWSDOC-EXAMPLE-BUCKET2"
            }
        }
    ]
}
```

The destination bucket must have versioning enabled. The specified role must have permission to write to the destination bucket and have a trust relationship that allows Amazon S3 to assume the role.

Example role permission policy:

```json
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Effect": "Allow",
            "Action": [
                "s3:GetReplicationConfiguration",
                "s3:ListBucket"
            ],
            "Resource": [
                "arn:aws:s3:::AWSDOC-EXAMPLE-BUCKET1"
            ]
        },
        {
            "Effect": "Allow",
            "Action": [
                "s3:GetObjectVersion",
                "s3:GetObjectVersionAcl"
            ]
        }
    ]
}
```
Example trust relationship policy:

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Principal": {
        "Service": "s3.amazonaws.com"
      },
      "Action": "sts:AssumeRole"
    }
  ]
}
```

This command produces no output.

For more information, see [This is the topic title](#) in the Amazon Simple Storage Service Console User Guide.

- For API details, see [PutBucketReplication](#) in AWS CLI Command Reference.

**put-bucket-request-payment**

The following code example shows how to use put-bucket-request-payment.
AWS CLI

Example 1: To enable `requester pays` configuration for a bucket

The following `put-bucket-request-payment` example enables requester pays for the specified bucket.

```
aws s3api put-bucket-request-payment \
    --bucket my-bucket \
    --request-payment-configuration '{"Payer":"Requester"}''
```

This command produces no output.

Example 2: To disable `requester pays` configuration for a bucket

The following `put-bucket-request-payment` example disables requester pays for the specified bucket.

```
aws s3api put-bucket-request-payment \
    --bucket my-bucket \
    --request-payment-configuration '{"Payer":"BucketOwner"}''
```

This command produces no output.

- For API details, see [PutBucketRequestPayment](https://docs.aws.amazon.com/cli/latest/reference/s3api/put-bucket-request-payment.html) in *AWS CLI Command Reference*.

**put-bucket-tagging**

The following code example shows how to use `put-bucket-tagging`.

AWS CLI

The following command applies a tagging configuration to a bucket named `my-bucket`:

```
aws s3api put-bucket-tagging --bucket my-bucket --tagging file://tagging.json
```

The file `tagging.json` is a JSON document in the current folder that specifies tags:

```
{
    "TagSet": [
```
Or apply a tagging configuration to my-bucket directly from the command line:

```bash
aws s3api put-bucket-tagging --bucket my-bucket --tagging
'TagSet=[["Key=organization","Value=marketing"]]
```

- For API details, see [PutBucketTagging](https://docs.aws.amazon.com/cli/latest/reference/s3api/put-bucket-tagging.html) in *AWS CLI Command Reference*.

### put-bucket-versioning

The following code example shows how to use put-bucket-versioning.

**AWS CLI**

The following command enables versioning on a bucket named my-bucket:

```bash
aws s3api put-bucket-versioning --bucket my-bucket --versioning-configuration
Status=Enabled
```

The following command enables versioning, and uses an mfa code

```bash
aws s3api put-bucket-versioning --bucket my-bucket --versioning-configuration
Status=Enabled --mfa "SERIAL 123456"
```

- For API details, see [PutBucketVersioning](https://docs.aws.amazon.com/cli/latest/reference/s3api/put-bucket-versioning.html) in *AWS CLI Command Reference*.

### put-object-tagging

The following code example shows how to use put-object-tagging.

**AWS CLI**

To set a tag on an object
The following put-object-tagging example sets a tag with the key designation and the value confidential on the specified object.

```
aws s3api put-object-tagging \
    --bucket my-bucket \
    --key doc1.rtf \
    --tagging '{"TagSet": [{ "Key": "designation", "Value": "confidential" }]}'
```

This command produces no output.

The following put-object-tagging example sets multiple tags sets on the specified object.

```
aws s3api put-object-tagging \
    --bucket my-bucket-example \
    --key doc3.rtf \
    --tagging '{"TagSet": [{ "Key": "designation", "Value": "confidential" }, { "Key": "department", "Value": "finance" }, { "Key": "team", "Value": "payroll" } ]}'}
```

This command produces no output.

- For API details, see PutObjectTagging in AWS CLI Command Reference.

**put-public-access-block**

The following code example shows how to use put-public-access-block.

**AWS CLI**

**To set the block public access configuration for a bucket**

The following put-public-access-block example sets a restrictive block public access configuration for the specified bucket.

```
aws s3api put-public-access-block \
    --bucket my-bucket \
    --public-access-block-configuration
    "BlockPublicAcls=true,IgnorePublicAcls=true,BlockPublicPolicy=true,RestrictPublicBuckets=true"
```

This command produces no output.

- For API details, see PutPublicAccessBlock in AWS CLI Command Reference.
**rb**

The following code example shows how to use rb.

**AWS CLI**

**Example 1: Delete a bucket**

The following `rb` command removes a bucket. In this example, the user's bucket is `mybucket`. Note that the bucket must be empty in order to remove:

```
aws s3 rb s3://mybucket
```

Output:

```
remove_bucket: mybucket
```

**Example 2: Force delete a bucket**

The following `rb` command uses the `--force` parameter to first remove all of the objects in the bucket and then remove the bucket itself. In this example, the user's bucket is `mybucket` and the objects in `mybucket` are `test1.txt` and `test2.txt`:

```
aws s3 rb s3://mybucket \
   --force
```

Output:

```
delete: s3://mybucket/test1.txt
delete: s3://mybucket/test2.txt
remove_bucket: mybucket
```

- For API details, see [Rb](#) in *AWS CLI Command Reference*.

**rm**

The following code example shows how to use rm.

**AWS CLI**

**Example 1: Delete an S3 object**
The following `rm` command deletes a single s3 object:

```bash
aws s3 rm s3://mybucket/test2.txt
```

Output:

```
delete: s3://mybucket/test2.txt
```

**Example 2: Delete all contents in a bucket**

The following `rm` command recursively deletes all objects under a specified bucket and prefix when passed with the parameter `--recursive`. In this example, the bucket `mybucket` contains the objects `test1.txt` and `test2.txt`:

```bash
aws s3 rm s3://mybucket \
   --recursive
```

Output:

```
delete: s3://mybucket/test1.txt
delete: s3://mybucket/test2.txt
```

**Example 3: Delete all contents in a bucket, except `.jpg` files**

The following `rm` command recursively deletes all objects under a specified bucket and prefix when passed with the parameter `--recursive` while excluding some objects by using an `--exclude` parameter. In this example, the bucket `mybucket` has the objects `test1.txt` and `test2.jpg`:

```bash
aws s3 rm s3://mybucket/ \
   --recursive \
   --exclude "*.jpg"
```

Output:

```
delete: s3://mybucket/test1.txt
```

**Example 4: Delete all contents in a bucket, except objects under the specified prefix**
The following `rm` command recursively deletes all objects under a specified bucket and prefix when passed with the parameter `--recursive` while excluding all objects under a particular prefix by using an `--exclude` parameter. In this example, the bucket `mybucket` has the objects `test1.txt` and `another/test.txt`:

```bash
aws s3 rm s3://mybucket/ 
  --recursive 
  --exclude "another/**"
```

Output:

```
delete: s3://mybucket/test1.txt
```

**Example 5: Delete an object from an S3 access point**

The following `rm` command deletes a single object (`mykey`) from the access point (`myaccesspoint`).

```bash
```

Output:

```
```

- For API details, see `Rm` in *AWS CLI Command Reference*.

**sync**

The following code example shows how to use `sync`.

**AWS CLI**

**Example 1: Sync all local objects to the specified bucket**

The following `sync` command syncs objects from a local directory to the specified prefix and bucket by uploading the local files to S3. A local file will require uploading if the size of the local file is different than the size of the S3 object, the last modified time of the local file is newer than the last modified time of the S3 object, or the local file does not exist under the
specified bucket and prefix. In this example, the user syncs the bucket mybucket to the local current directory. The local current directory contains the files test.txt and test2.txt. The bucket mybucket contains no objects.

```
aws s3 sync . s3://mybucket
```

Output:

```
upload: test.txt to s3://mybucket/test.txt
upload: test2.txt to s3://mybucket/test2.txt
```

**Example 2: Sync all S3 objects from the specified S3 bucket to another bucket**

The following `sync` command syncs objects under a specified prefix and bucket to objects under another specified prefix and bucket by copying S3 objects. An S3 object will require copying if the sizes of the two S3 objects differ, the last modified time of the source is newer than the last modified time of the destination, or the S3 object does not exist under the specified bucket and prefix destination.

In this example, the user syncs the bucket mybucket to the bucket mybucket2. The bucket mybucket contains the objects test.txt and test2.txt. The bucket mybucket2 contains no objects:

```
aws s3 sync s3://mybucket s3://mybucket2
```

Output:

```
copy: s3://mybucket/test.txt to s3://mybucket2/test.txt
copy: s3://mybucket/test2.txt to s3://mybucket2/test2.txt
```

**Example 3: Sync all S3 objects from the specified S3 bucket to the local directory**

The following `sync` command syncs files from the specified S3 bucket to the local directory by downloading S3 objects. An S3 object will require downloading if the size of the S3 object differs from the size of the local file, the last modified time of the S3 object is newer than the last modified time of the local file, or the S3 object does not exist in the local directory. Take note that when objects are downloaded from S3, the last modified time of the local file is changed to the last modified time of the S3 object. In this example, the user syncs the bucket
mybucket to the current local directory. The bucket mybucket contains the objects test.txt and test2.txt. The current local directory has no files:

/aws s3 sync s3://mybucket .

Output:

download: s3://mybucket/test.txt to test.txt
download: s3://mybucket/test2.txt to test2.txt

Example 4: Sync all local objects to the specified bucket and delete all files that do not match

The following sync command syncs objects under a specified prefix and bucket to files in a local directory by uploading the local files to S3. Because of the --delete parameter, any files existing under the specified prefix and bucket but not existing in the local directory will be deleted. In this example, the user syncs the bucket mybucket to the local current directory. The local current directory contains the files test.txt and test2.txt. The bucket mybucket contains the object test3.txt:

/aws s3 sync . s3://mybucket 
--delete

Output:

upload: test.txt to s3://mybucket/test.txt
upload: test2.txt to s3://mybucket/test2.txt
delete: s3://mybucket/test3.txt

Example 5: Sync all local objects to the specified bucket except `.jpg` files

The following sync command syncs objects under a specified prefix and bucket to files in a local directory by uploading the local files to S3. Because of the --exclude parameter, all files matching the pattern existing both in S3 and locally will be excluded from the sync. In this example, the user syncs the bucket mybucket to the local current directory. The local current directory contains the files test.jpg and test2.txt. The bucket mybucket contains the object test.jpg of a different size than the local test.jpg:

/aws s3 sync . s3://mybucket \

Actions and scenarios
Example 6: Sync all local objects to the specified bucket except `.jpg` files

The following sync command syncs files under a local directory to objects under a specified prefix and bucket by downloading S3 objects. This example uses the `--exclude` parameter flag to exclude a specified directory and S3 prefix from the sync command. In this example, the user syncs the local current directory to the bucket mybucket. The local current directory contains the files `test.txt` and `another/test2.txt`. The bucket mybucket contains the objects `another/test5.txt` and `test1.txt`:

```
aws s3 sync s3://mybucket/ . \
    --exclude "*another/*"
```

Output:

```
download: s3://mybucket/test1.txt to test1.txt
```

Example 7: Sync all objects between buckets in different regions

The following sync command syncs files between two buckets in different regions:

```
aws s3 sync s3://my-us-west-2-bucket s3://my-us-east-1-bucket \
    --source-region us-west-2 \
    --region us-east-1
```

Output:

```
download: s3://my-us-west-2-bucket/test1.txt to s3://my-us-east-1-bucket/test1.txt
```

Example 8: Sync to an S3 access point

The following sync command syncs the current directory to the access point (myaccesspoint):

Output:


- For API details, see Sync in AWS CLI Command Reference.

upload-part-copy

The following code example shows how to use upload-part-copy.

AWS CLI

To upload part of an object by copying data from an existing object as the data source

The following upload-part-copy example uploads a part by copying data from an existing object as a data source.

aws s3api upload-part-copy \
  --bucket my-bucket \
  --key "Map_Data_June.mp4" \
  --copy-source "my-bucket/copy_of_Map_Data_June.mp4" \
  --part-number 1 \
  --upload-id "bq0tdE1CDpWQYRPLHuNG50xAT6pA5D.m_RiBy0ggOH6b13pVRY7QjvL1f75iFdJqp_2wztk5hvpUM2SesXgrzbehG5"

Output:

{
  "CopyPartResult": {
    "LastModified": "2019-12-13T23:16:03.000Z",
    "ETag": "\"711470fc377698c393d94aed6305e245\"
  }
}

- For API details, see UploadPartCopy in AWS CLI Command Reference.
website

The following code example shows how to use website.

AWS CLI

**Configure an S3 bucket as a static website**

The following command configures a bucket named my-bucket as a static website. The index document option specifies the file in my-bucket that visitors will be directed to when they navigate to the website URL. In this case, the bucket is in the us-west-2 region, so the site would appear at http://my-bucket.s3-website-us-west-2.amazonaws.com.

All files in the bucket that appear on the static site must be configured to allow visitors to open them. File permissions are configured separately from the bucket website configuration.

```bash
aws s3 website s3://my-bucket/ \ 
  --index-document index.html \ 
  --error-document error.html
```

For information on hosting a static website in Amazon S3, see [Hosting a Static Website](#) in the Amazon Simple Storage Service Developer Guide.

- For API details, see [Website](#) in AWS CLI Command Reference.

Amazon S3 Control examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon S3 Control.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics
• **Actions**

**Actions**

**create-access-point**

The following code example shows how to use `create-access-point`.

**AWS CLI**

**To create an access point**

The following `create-access-point` example creates an access point named `finance-ap` for the bucket `business-records` in account `123456789012`. Before running this example, replace the access point name, bucket name, and account number with appropriate values for your use case.

```bash
aws s3control create-access-point \
    --account-id 123456789012 \
    --bucket business-records \
    --name finance-ap
```

This command produces no output.

For more information, see [Creating Access Points](https://aws.amazon.com) in the *Amazon Simple Storage Service Developer Guide*.

- For API details, see [CreateAccessPoint](https://aws.amazon.com) in *AWS CLI Command Reference*.

**create-job**

The following code example shows how to use `create-job`.

**AWS CLI**

**To create an Amazon S3 batch operations job**

The following `create-job` example creates an Amazon S3 batch operations job to tag objects as confidential in the bucket `employee-records`.

```bash
aws s3control create-job \
```
```
--account-id 123456789012 \
--operation 's3PutObjectTagging': { "TagSet": [ { "Key": "confidential", "Value": "true" } ] }' \
--manifest '{ "Spec": { "Format": "S3BatchOperations_CSV_20180820", "Fields": [ "Bucket", "Key" ] }, "Location": { "ObjectArn": "arn:aws:s3:::employee-records-logs/inv-report/7a6a9be4-072c-407e-85a2-ec3e982f773e.csv", "ETag": "69f52a4e9f797e987155d9c8f5880897" } }' \
--priority 42 \
--role-arn arn:aws:iam::123456789012:role/S3BatchJobRole
```

Output:

```
{
   "JobId": "93735294-df46-44d5-8638-6356f335324e"
}
```

- For API details, see [CreateJob](https://docs.aws.amazon.com/cli/latest/reference/s3control/create-job.html) in [AWS CLI Command Reference](https://docs.aws.amazon.com/cli/latest/reference/s3control/create-job.html).

### delete-access-point

The following code example shows how to use `delete-access-point`.

**AWS CLI**

**To delete an access point**

The following `delete-access-point` example deletes an access point named finance-ap in account 123456789012. Before running this example, replace the access point name and account number with appropriate values for your use case.

```
aws s3control delete-access-point \
   --account-id 123456789012 \
   --name finance-ap
```

This command produces no output.

For more information, see [Managing Data Access with Amazon S3 Access Points](https://docs.aws.amazon.com/AmazonS3/latest/userguide/amazon-s3-access-points.html) in the [Amazon Simple Storage Service Developer Guide](https://docs.aws.amazon.com/AmazonS3/latest/userguide/).
• For API details, see [DeleteAccessPoint](#) in *AWS CLI Command Reference*.

**delete-access-point-policy**

The following code example shows how to use `delete-access-point-policy`.

**AWS CLI**

**To delete an access point policy**

The following `delete-access-point-policy` example deletes the access point policy from the access point named `finance-ap` in account `123456789012`. Before running this example, replace the access point name and account number with appropriate values for your use case.

```bash
aws s3control delete-access-point-policy \
   --account-id 123456789012 \
   --name finance-ap
```

This command produces no output.

For more information, see [Managing Data Access with Amazon S3 Access Points](#) in the [Amazon Simple Storage Service Developer Guide](#).

• For API details, see [DeleteAccessPointPolicy](#) in *AWS CLI Command Reference*.

**delete-public-access-block**

The following code example shows how to use `delete-public-access-block`.

**AWS CLI**

**To delete block public access settings for an account**

The following `delete-public-access-block` example deletes block public access settings for the specified account.

```bash
aws s3control delete-public-access-block \
   --account-id 123456789012
```

This command produces no output.
• For API details, see `DeletePublicAccessBlock` in *AWS CLI Command Reference*.

**describe-job**

The following code example shows how to use `describe-job`.

**AWS CLI**

**To describe an Amazon S3 batch operations job**

The following `describe-job` provides configuration parameters and status for the specified batch operations job.

```bash
aws s3control describe-job \
  --account-id 123456789012 \
  --job-id 93735294-df46-44d5-8638-6356f335324e
```

**Output:**

```json
{
   "Job": {
      "TerminationDate": "2019-10-03T21:49:53.944Z",
      "JobId": "93735294-df46-44d5-8638-6356f335324e",
      "FailureReasons": [],
      "Manifest": {
         "Spec": {
            "Fields": [
               "Bucket",
               "Key"
            ],
            "Format": "S3BatchOperations_CSV_20180820"
         },
         "Location": {
            "ETag": "69f52a4e9f797e987155d9c8f5880897",
            "ObjectArn": "arn:aws:s3:::employee-records-logs/inv-report/7a6a9be4-072c-407e-85a2-ec3e982f773e.csv"
         }
      },
      "Operation": {
         "S3PutObjectTagging": {
            "TagSet": [
            
```
For API details, see `DescribeJob` in *AWS CLI Command Reference*.

**get-access-point**

The following code example shows how to use `get-access-point`.

**AWS CLI**

**To retrieve access point configuration details**

The following `get-access-point` example retrieves the configuration details for the access point named `finance-ap` in account 123456789012. Before running this example, replace the access point name and account number with appropriate values for your use case.

```bash
aws s3control get-access-point \
   --account-id 123456789012 \
```
--name finance-ap

Output:

```
{
    "Name": "finance-ap",
    "Bucket": "business-records",
    "NetworkOrigin": "Internet",
    "PublicAccessBlockConfiguration": {
        "BlockPublicAcls": false,
        "IgnorePublicAcls": false,
        "BlockPublicPolicy": false,
        "RestrictPublicBuckets": false
    },
    "CreationDate": "2020-01-01T00:00:00Z"
}
```

For more information, see [Managing Data Access with Amazon S3 Access Points](https://docs.aws.amazon.com/AmazonS3/latest/API/ManagingDataAccess.html) in the *Amazon Simple Storage Service Developer Guide*.

- For API details, see [GetAccessPoint](https://docs.aws.amazon.com/cli/latest/reference/s3control/get-access-point-policy.html) in *AWS CLI Command Reference*.

**get-access-point-policy**

The following code example shows how to use `get-access-point-policy`.

**AWS CLI**

**To retrieve an access point policy**

The following `get-access-point-policy` example retrieves the access point policy from the access point named `finance-ap` in account 123456789012. Before running this example, replace the access point name and account number with appropriate values for your use case.

```
aws s3control get-access-point-policy \
    --account-id 123456789012 \
    --name finance-ap
```

Output:

```
{
```
For more information, see Managing Data Access with Amazon S3 Access Points in the Amazon Simple Storage Service Developer Guide.

- For API details, see GetAccessPointPolicy in AWS CLI Command Reference.

get-access-point-policy-status

The following code example shows how to use get-access-point-policy-status.

AWS CLI

To retrieve the access point policy status

The following get-access-point-policy-status example retrieves the access point policy status for the access point named finance-ap in account 123456789012. The access point policy status indicates whether the access point's policy allows public access. Before running this example, replace the access point name and account number with appropriate values for your use case.

```
aws s3control get-access-point-policy-status \
  --account-id 123456789012 \
  --name finance-ap
```

Output:

```
{
  "PolicyStatus": {
    "IsPublic": false
  }
}
```

For more information about when an access point policy is considered public, see The Meaning of "Public" in the Amazon Simple Storage Service Developer Guide.

- For API details, see GetAccessPointPolicyStatus in AWS CLI Command Reference.
get-multi-region-access-point-routes

The following code example shows how to use `get-multi-region-access-point-routes`.

AWS CLI

To query the current Multi-Region Access Point route configuration

The following `get-multi-region-access-point-routes` example returns the current routing configuration for the specified Multi-Region Access Point.

```
aws s3control get-multi-region-access-point-routes \
  --region Region \
  --account-id 111122223333 \
  --mrap MultiRegionAccessPoint_ARN
```

Output:

```
{
   "Mrap": "arn:aws:s3::111122223333:accesspoint/0000000000000.mrap",
   "Routes": [
     {
       "Bucket": "DOC-EXAMPLE-BUCKET-1",
       "Region": "ap-southeast-2",
       "TrafficDialPercentage": 100
     },
     {
       "Bucket": "DOC-EXAMPLE-BUCKET-2",
       "Region": "us-west-1",
       "TrafficDialPercentage": 0
     }
   ]
}
```

- For API details, see [GetMultiRegionAccessPointRoutes](#) in AWS CLI Command Reference.

get-public-access-block

The following code example shows how to use `get-public-access-block`.

AWS CLI

To list public block access settings for an account
The following `get-public-access-block` example displays the block public access settings for the specified account.

```
aws s3control get-public-access-block \
   --account-id 123456789012
```

Output:

```
{
    "PublicAccessBlockConfiguration": {
        "BlockPublicPolicy": true,
        "RestrictPublicBuckets": true,
        "IgnorePublicAcls": true,
        "BlockPublicAcls": true
    }
}
```


### list-access-points

The following code example shows how to use `list-access-points`.

**AWS CLI**

**Example 1: To retrieve a list of all access points for an account**

The following `list-access-points` example displays a list of all access points attached to buckets owned by account 123456789012.

```
aws s3control list-access-points \
   --account-id 123456789012
```

Output:

```
{
    "AccessPointList": [
        {
            "Name": "finance-ap",
            "NetworkOrigin": "Internet",
            "Bucket": "business-records"
        }
    ]
}
```
Example 2: To retrieve a list of all access points for a bucket

The following list-access-points example retrieves a list of all access points attached to the bucket external-docs owned by account 123456789012.

```bash
aws s3control list-access-points \
  --account-id 123456789012 \
  --bucket external-docs
```

Output:

```json
{
  "AccessPointList": [
    {
      "Name": "customer-ap",
      "NetworkOrigin": "Internet",
      "Bucket": "external-docs"
    }
  ]
}
```
For more information, see Managing Data Access with Amazon S3 Access Points in the Amazon Simple Storage Service Developer Guide.

- For API details, see ListAccessPoints in AWS CLI Command Reference.

list-jobs

The following code example shows how to use list-jobs.

AWS CLI

To list an accounts Amazon S3 batch operations jobs

The following list-jobs example lists all recent batch operations jobs for the specified account.

```
aws s3control list-jobs \
   --account-id 123456789012
```

Output:

```
{
   "Jobs": [
   {
      "Operation": "S3PutObjectTagging",
      "ProgressSummary": {
         "NumberOfTasksFailed": 0,
         "NumberOfTasksSucceeded": 8,
         "TotalNumberOfTasks": 8
      },
      "Status": "Complete",
      "JobId": "93735294-df46-44d5-8638-6356f335324e",
      "Priority": 42
   }
   ]
}
```
The following code example shows how to use `put-access-point-policy`.

**AWS CLI**

**To set an access point policy**

The following `put-access-point-policy` example places the specified access point policy for the access point `finance-ap` in account 123456789012. If the access point `finance-ap` already has a policy, this command replaces the existing policy with the one specified in this command. Before running this example, replace the account number, access point name, and policy statements with appropriate values for your use case.

```
aws s3control put-access-point-policy \
   --account-id 123456789012 \
   --name finance-ap \
   --policy file://ap-policy.json
```

**Contents of ap-policy.json:**

```json
{
   "Version": "2012-10-17",
   "Statement": [
```
This command produces no output.

For more information, see Managing Data Access with Amazon S3 Access Points in the Amazon Simple Storage Service Developer Guide.

- For API details, see PutAccessPointPolicy in AWS CLI Command Reference.

put-public-access-block

The following code example shows how to use put-public-access-block.

AWS CLI

To edit block public access settings for an account

The following put-public-access-block example toggles all block public access settings to true for the specified account.

```
aws s3control put-public-access-block \
   --account-id 123456789012 \
   --public-access-block-configuration '{"BlockPublicAcls": true, "IgnorePublicAcls": true, "BlockPublicPolicy": true, "RestrictPublicBuckets": true}'
```

This command produces no output.

- For API details, see PutPublicAccessBlock in AWS CLI Command Reference.

submit-multi-region-access-point-routes

The following code example shows how to use submit-multi-region-access-point-routes.

```json
{
    "Effect": "Allow",
    "Principal": {
        "AWS": "arn:aws:iam::123456789012:user/Alice"
    },
    "Action": "s3:GetObject",
}
```
AWS CLI

To update your Multi-Region Access Point routing configuration

The following submit-multi-region-access-point-routes example updates the routing statuses of DOC-EXAMPLE-BUCKET-1 and DOC-EXAMPLE-BUCKET-2 in the ap-southeast-2 Region for your Multi-Region Access Point.

```bash
aws s3control submit-multi-region-access-point-routes \
  --region ap-southeast-2 \
  --account-id 111122223333 \
  --mrap MultiRegionAccessPoint_ARN \
  --route-updates Bucket=DOC-EXAMPLE-BUCKET-1,TrafficDialPercentage=100
  Bucket=DOC-EXAMPLE-BUCKET-2,TrafficDialPercentage=0
```

This command produces no output.

- For API details, see `SubmitMultiRegionAccessPointRoutes` in AWS CLI Command Reference.

update-job-priority

The following code example shows how to use update-job-priority.

AWS CLI

To update the job priority of an Amazon S3 batch operations job

The following update-job-priority example updates the specified job to a new priority.

```bash
aws s3control update-job-priority \
  --account-id 123456789012 \
  --job-id 8d9a18fe-c303-4d39-8ccc-860d372da386 \
  --priority 52
```

Output:

```json
{
  "JobId": "8d9a18fe-c303-4d39-8ccc-860d372da386",
  "Priority": 52
}
```

- For API details, see `UpdateJobPriority` in AWS CLI Command Reference.
update-job-status

The following code example shows how to use update-job-status.

AWS CLI

To update the status of an Amazon S3 batch operations job

The following update-job-status example cancels the specified job which is awaiting approval.

aws s3control update-job-status \
   --account-id 123456789012 \
   --job-id 8d9a18fe-c303-4d39-8ccc-860d372da386 \
   --requested-job-status Cancelled

Output:

{
   "Status": "Cancelled",
   "JobId": "8d9a18fe-c303-4d39-8ccc-860d372da386"
}

The following update-job-status example confirms and runs the specified which is awaiting approval.

aws s3control update-job-status \
   --account-id 123456789012 \
   --job-id 5782949f-3301-4fb3-be34-8d5bab54dbca \
   --requested-job-status Ready

Output::

{
   "Status": "Ready",
   "JobId": "5782949f-3301-4fb3-be34-8d5bab54dbca"
}

The following update-job-status example cancels the specified job which is running.

aws s3control update-job-status \
   --account-id 123456789012 \

--job-id 5782949f-3301-4fb3-be34-8d5bab54dbca \
--requested-job-status Cancelled

Output::
{
    "Status": "Cancelling",
    "JobId": "5782949f-3301-4fb3-be34-8d5bab54dbca"
}

• For API details, see UpdateJobStatus in AWS CLI Command Reference.

S3 Glacier examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with S3 Glacier.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics
• Actions

Actions

Add tags

The following code example shows how to add tags to an Amazon S3 Glacier vault.

AWS CLI

The following command adds two tags to a vault named my-vault:

```bash
aws glacier add-tags-to-vault --account-id - --vault-name my-vault --tags
id=1234,date=july2015
```
Amazon Glacier requires an account ID argument when performing operations, but you can use a hyphen to specify the in-use account.

- For API details, see AddTagsToVault in AWS CLI Command Reference.

Create a multipart upload

The following code example shows how to create a multipart upload to an Amazon S3 Glacier vault.

AWS CLI

The following command uploads the first 1 MiB (1024 x 1024 bytes) part of an archive:

```bash
aws glacier upload-multipart-part --body part1 --range 'bytes 0-1048575/*' --account-id - --vault-name my-vault --upload-id 19gaRezEXAMPLES6Ry5YYdqthHQC_kGRCTO3L9yetr22UUmPtBYKKOss2tLqyFu7sY1_lR7vgFuJV6NtcV5zpsJ
```

Amazon Glacier requires an account ID argument when performing operations, but you can use a hyphen to specify the in-use account.

The body parameter takes a path to a part file on the local filesystem. The range parameter takes an HTTP content range indicating the bytes that the part occupies in the completed archive. The upload ID is returned by the aws glacier initiate-multipart-upload command and can also be obtained by using aws glacier list-multipart-uploads.

For more information on multipart uploads to Amazon Glacier using the AWS CLI, see Using Amazon Glacier in the AWS CLI User Guide.

- For API details, see UploadMultipartPart in AWS CLI Command Reference.

Create a vault

The following code example shows how to create an Amazon S3 Glacier vault.

AWS CLI

The following command creates a new vault named my-vault:

```bash
aws glacier create-vault --vault-name my-vault --account-id -
```
Amazon Glacier requires an account ID argument when performing operations, but you can use a hyphen to specify the in-use account.

- For API details, see CreateVault in AWS CLI Command Reference.

Delete a vault

The following code example shows how to delete an Amazon S3 Glacier vault.

AWS CLI

The following command deletes a vault named my-vault:

```
aws glacier delete-vault --vault-name my-vault --account-id -
```

This command does not produce any output. Amazon Glacier requires an account ID argument when performing operations, but you can use a hyphen to specify the in-use account.

- For API details, see DeleteVault in AWS CLI Command Reference.

Delete an archive

The following code example shows how to delete an Amazon S3 Glacier archive.

AWS CLI

To delete an archive from a vault

The following delete-archive example removes the specified archive from example_vault.

```
aws glacier delete-archive \
  --account-id 111122223333 \ 
  --vault-name example_vault \ 
  --archive-id Sc0u9ZP8yaWkmh-XGlIvAVpItLhaLCGnNwN15I5x9HqPIkX5mjc0DrId3Ln-Gi_k2HzmlIDZUz117KsdVMdMXLuFWi99PJUitxW073edQ43eT1MwkH0pd9zVSAuV__XZBVhKhyGhJ7w
```

This command produces no output.

- For API details, see DeleteArchive in AWS CLI Command Reference.

Delete vault notifications

The following code example shows how to delete Amazon S3 Glacier vault notifications.
AWS CLI

To remove the SNS notifications for a vault

The following delete-vault-notifications example removes notifications sent by Amazon Simple Notification Service (Amazon SNS) for the specified vault.

```
aws glacier delete-vault-notifications \
   --account-id 111122223333 \ 
   --vault-name example_vault
```

This command produces no output.

- For API details, see [DeleteVaultNotifications](#) in *AWS CLI Command Reference*.

Describe a job

The following code example shows how to describe an Amazon S3 Glacier job.

AWS CLI

The following command retrieves information about an inventory retrieval job on a vault named my-vault:

```
aws glacier describe-job --account-id - --vault-name my-vault --job-id zbxcm3Z_3z5UkoroF7SuZKrxgGoDc3RloGduS7Eg-R047Yc6FxsdGBgf_Q2DK5Ejh18CnTS5XW4_XqlNHS61ds04CnMW
```

Output:

```
{
    "InventoryRetrievalParameters": {
        "Format": "JSON"
    },
    "Completed": false,
    "JobId": "zbxcm3Z_3z5UkoroF7SuZKrxgGoDc3RloGduS7Eg-R047Yc6FxsdGBgf_Q2DK5Ejh18CnTS5XW4_XqlNHS61ds04CnMW",
    "Action": "InventoryRetrieval",
    "CreationDate": "2015-07-17T20:23:41.616Z",
    "StatusCode": "InProgress"
}
```
The job ID can be found in the output of `aws glacier initiate-job` and `aws glacier list-jobs`. Amazon Glacier requires an account ID argument when performing operations, but you can use a hyphen to specify the in-use account.

- For API details, see `DescribeJob` in *AWS CLI Command Reference*.

### Describe a vault

The following code example shows how to describe an Amazon S3 Glacier vault.

**AWS CLI**

The following command retrieves data about a vault named `my-vault`:

```bash
aws glacier describe-vault --vault-name my-vault --account-id -
```

Amazon Glacier requires an account ID argument when performing operations, but you can use a hyphen to specify the in-use account.

- For API details, see `DescribeVault` in *AWS CLI Command Reference*.

### Get job output

The following code example shows how to get Amazon S3 Glacier job output.

**AWS CLI**

The following command saves the output from a vault inventory job to a file in the current directory named `output.json`:

```bash
aws glacier get-job-output --account-id - --vault-name my-vault --job-id zbxcm3Z_3z5UKoroF7SuZKrXgGoDc3RloGduS7Eg-R047Yc6FxsdGBgf_Q2DK5Ejh18CnTS5XW4_XqlNHS61ds04CnMW output.json
```

The `job-id` is available in the output of `aws glacier list-jobs`. Note that the output file name is a positional argument that is not prefixed by an option name. Amazon Glacier requires an account ID argument when performing operations, but you can use a hyphen to specify the in-use account.

**Output:**
output.json:

```
{"VaultARN":"arn:aws:glacier:us-west-2:0123456789012:vaults/my-vault","InventoryDate":"2015-04-07T00:26:18Z","ArchiveList": [{"ArchiveId":"kKB7ymWJpPSwhGP6yc5OAekp9ZYe--zM_mw6gk76ZFGEIWQX-ybtRDvc2VkPSDtfKmQrij0IRQLy0GnDp-AJV1u2ccmDSyDUMZwkbwpAdGATGDiB3hHO00bjbGehXTcApVud_wyDw","ArchiveDescription":"multipart upload test","CreationDate":"2015-04-06T22:24:34Z","Size":3145728,"SHA256TreeHash":"9628195fcdbcbbe76cdde932d4646fa7de5f219fb39823836d81f0cc0e18aa67"}]
```

- For API details, see [GetJobOutput](#) in AWS CLI Command Reference.

### Get vault notification configuration

The following code example shows how to get Amazon S3 Glacier vault notification configuration.

**AWS CLI**

The following command gets a description of the notification configuration for a vault named `my-vault`:

```
aws glacier get-vault-notifications --account-id - --vault-name my-vault
```

**Output**:

```
{
  "vaultNotificationConfig": {
    "Events": [
      "InventoryRetrievalCompleted",
      "ArchiveRetrievalCompleted"
    ],
  }
}```
If no notifications have been configured for the vault, an error is returned. Amazon Glacier requires an account ID argument when performing operations, but you can use a hyphen to specify the in-use account.

- For API details, see `GetVaultNotifications` in *AWS CLI Command Reference*.

### List jobs

The following code example shows how to list Amazon S3 Glacier jobs.

**AWS CLI**

The following command lists in-progress and recently completed jobs for a vault named `my-vault`:

```bash
aws glacier list-jobs --account-id - --vault-name my-vault
```

**Output:**

```json
{
   "JobList": [
      {
         "RetrievalByteRange": "0-3145727",
         "Completed": false,
         "SHA256TreeHash": "9628195fcdbcbbe76cde932d4646fa7de5f219fb39823836d81f0cc0e18aa67",
         "JobId": "l7IL5-EkXyEY9Ws95fClzIbk205uLYaFdAY0i-azsX_Z8V6N44yERHzars8wTKYQMX6nBDI9cMNHzyZJ059-8N9aHw",
         "ArchiveId": "kKB7ymWJvPswhGP6ycSOAekp9ZYe--zM_mw6k76ZFGEIWQX- ybtRDvc2VkJLtfKmQ05IRQLSGsNuDp-AJVlu2cccDSyDUmZwKbwbpAdGATGD1B3hH00bjbGehXTcApVud_wyDw",
         "JobDescription": "Retrieve archive on 2015-07-17",
         "ArchiveSizeInBytes": 3145728,
         "Action": "ArchiveRetrieval",
         "ArchiveSHA256TreeHash": "9628195fcdbcbbe76cde932d4646fa7de5f219fb39823836d81f0cc0e18aa67",
         "CreationDate": "2015-07-17T21:16:13.840Z",
         "StatusCode": "InProgress"
      },
      
      
   ]
}
```
"InventoryRetrievalParameters": {
    "Format": "JSON"
},
"Completed": false,
"JobId": "zbxcm3Z_3z5UkoroF7SuZKrxgGoDc3RloGduS7Eg-R047Yc6FxsdGBgf_Q2DK5Ejh18CnT5XW4_XqlNH561ds04CnMW",
"Action": "InventoryRetrieval",
"CreationDate": "2015-07-17T20:23:41.616Z",
"StatusCode": "InProgress"
}
]
}

Amazon Glacier requires an account ID argument when performing operations, but you can use a hyphen to specify the in-use account.

- For API details, see ListJobs in AWS CLI Command Reference.

List tags

The following code example shows how to list tags for an Amazon S3 Glacier vault.

AWS CLI

The following command lists the tags applied to a vault named my-vault:

```
aws glacier list-tags-for-vault --account-id - --vault-name my-vault
```

Output:

```
{
    "Tags": {
        "date": "july2015",
        "id": "1234"
    }
}
```

Amazon Glacier requires an account ID argument when performing operations, but you can use a hyphen to specify the in-use account.

- For API details, see ListTagsForVault in AWS CLI Command Reference.
List vaults

The following code example shows how to list Amazon S3 Glacier vaults.

AWS CLI

The following command lists the vaults in the default account and region:

```bash
aws glacier list-vaults --account-id -
```

Output:

```json
{
  "VaultList": [
    {
      "SizeInBytes": 3178496,
      "LastInventoryDate": "2015-04-07T00:26:19.028Z",
      "VaultName": "my-vault",
      "NumberOfArchives": 1,
      "CreationDate": "2015-04-06T21:23:45.708Z"
    }
  ]
}
```

Amazon Glacier requires an account ID argument when performing operations, but you can use a hyphen to specify the in-use account.

- For API details, see ListVaults in AWS CLI Command Reference.

Set vault notifications

The following code example shows how to set Amazon S3 Glacier vault notifications.

AWS CLI

The following command configures SNS notifications for a vault named my-vault:

```bash
aws glacier set-vault-notifications --account-id - --vault-name my-vault --vault-notification-config file://notificationconfig.json
```
notificationconfig.json is a JSON file in the current folder that specifies an SNS topic and the events to publish:

```json
{
    "Events": ["ArchiveRetrievalCompleted", "InventoryRetrievalCompleted"]
}
```

Amazon Glacier requires an account ID argument when performing operations, but you can use a hyphen to specify the in-use account.

- For API details, see [SetVaultNotifications](https://docs.aws.amazon.com/cli/latest/reference/glacier/set-vault-notifications.html) in *AWS CLI Command Reference*.

### Upload an archive to a vault

The following code example shows how to upload an archive to an Amazon S3 Glacier vault.

**AWS CLI**

The following command uploads an archive in the current folder named `archive.zip` to a vault named `my-vault`:

```
aws glacier upload-archive --account-id - --vault-name my-vault --body archive.zip
```

**Output:**

```json
{
    "archiveId": "kKB7ymWJvPSwhGP6ycS0Aekp9Zye--zM_mw6k76ZFGEIQWX-ybtRDvc2VkdPStfKmQrj0PRLSgSbDp-AJVlu2ccmDSyDumZwKbwpAdGATGDiB3hH00b4jGehXTcApVud_wyDw",
    "checksum": "969fb39823836d81f0cc028195fcdbcbbe76cdde932d4646fa7de5f21e18aa67",
    "location": "/0123456789012/vaults/my-vault/archives/kKB7ymWJvPSwhGP6ycS0Aekp9Zye--zM_mw6k76ZFGEIQWX-ybtRDvc2VkdPStfKmQrj0PRLSgSbDp-AJVlu2ccmDSyDumZwKbwpAdGATGDiB3hH00b4jGehXTcApVud_wyDw"
}
```

Amazon Glacier requires an account ID argument when performing operations, but you can use a hyphen to specify the in-use account.

To retrieve an uploaded archive, initiate a retrieval job with the `aws glacier initiate-job` command.
• For API details, see UploadArchive in AWS CLI Command Reference.

abort-multipart-upload

The following code example shows how to use abort-multipart-upload.

AWS CLI

The following command deletes an in-progress multipart upload to a vault named my-vault:

```bash
aws glacier abort-multipart-upload --account-id - --vault-name my-vault
--upload-id 19gaRezEXAMPLES6Ry5YYdqthHOC_kGRCT03L9yetr220UmPtBYKk-
OssZtLqyFu7sY1_lR7vgFuJV6NtcV5zpsJ
```

This command does not produce any output. Amazon Glacier requires an account ID argument when performing operations, but you can use a hyphen to specify the in-use account. The upload ID is returned by the aws glacier initiate-multipart-upload command and can also be obtained by using aws glacier list-multipart-uploads.

For more information on multipart uploads to Amazon Glacier using the AWS CLI, see Using Amazon Glacier in the AWS CLI User Guide.

• For API details, see AbortMultipartUpload in AWS CLI Command Reference.

abort-vault-lock

The following code example shows how to use abort-vault-lock.

AWS CLI

To abort an in-progress vault lock process

The following abort-vault-lock example deletes a vault lock policy from the specified vault and resets the lock state of the vault lock to unlocked.

```bash
aws glacier abort-vault-lock \
   --account-id - \
   --vault-name MyVaultName
```

This command produces no output.
For more information, see Abort Vault Lock (DELETE lock-policy) in the Amazon Glacier API Developer Guide.

- For API details, see AbortVaultLock in AWS CLI Command Reference.

**complete-multipart-upload**

The following code example shows how to use complete-multipart-upload.

**AWS CLI**

The following command completes multipart upload for a 3 MiB archive:

```
aws glacier complete-multipart-upload --archive-size 3145728 --checksum 9628195fcdcbbe76cdde456d4646fa7de5f219fb39823836d81f0cc0e18aa67 --upload-id 19gaRezEXAMPLES6Ry5YYdqthHOCTKGRCT03L9yettr220UmPtBYKk-OssZtLqyFu7zY1_1R7vgFuJV6NtcV5zpsJ --account-id - --vault-name my-vault
```

Amazon Glacier requires an account ID argument when performing operations, but you can use a hyphen to specify the in-use account.

The upload ID is returned by the `aws glacier initiate-multipart-upload` command and can also be obtained by using `aws glacier list-multipart-uploads`. The checksum parameter takes a SHA-256 tree hash of the archive in hexadecimal.

For more information on multipart uploads to Amazon Glacier using the AWS CLI, including instructions on calculating a tree hash, see Using Amazon Glacier in the AWS CLI User Guide.

- For API details, see CompleteMultipartUpload in AWS CLI Command Reference.

**complete-vault-lock**

The following code example shows how to use complete-vault-lock.

**AWS CLI**

To complete an in-progress vault lock process

The following complete-vault-lock example completes the in-progress locking progress for the specified vault and sets the lock state of the vault lock to Locked. You get the value for the lock-id parameter when you run `initiate-lock-process`.

**Actions and scenarios**
aws glacier complete-vault-lock \
   --account-id - \
   --vault-name MyVaultName \
   --lock-id 9QZgEXAMPLEPhvL6xEXAMPLE

This command produces no output.

For more information, see Complete Vault Lock (POST lockId) in the Amazon Glacier API Developer Guide.

- For API details, see CompleteVaultLock in AWS CLI Command Reference.

delete-vault-access-policy

The following code example shows how to use delete-vault-access-policy.

AWS CLI

To remove the access policy of a vault

The following delete-vault-access-policy example removes the access policy for the specified vault.

aws glacier delete-vault-access-policy \
   --account-id 111122223333 \
   --vault-name example_vault

This command produces no output.

- For API details, see DeleteVaultAccessPolicy in AWS CLI Command Reference.

get-data-retrieval-policy

The following code example shows how to use get-data-retrieval-policy.

AWS CLI

The following command gets the data retrieval policy for the in-use account:

aws glacier get-data-retrieval-policy --account-id -

Output:
Amazon Glacier requires an account ID argument when performing operations, but you can use a hyphen to specify the in-use account.


### get-vault-access-policy

The following code example shows how to use `get-vault-access-policy`.

**AWS CLI**

**To retrieve the access policy of a vault**

The following `get-vault-access-policy` example retrieves the access policy for the specified vault.

```
aws glacier get-vault-access-policy \
  --account-id 111122223333 \
  --vault-name example_vault
```

**Output:**

```
{
  "policy": {
    "Policy": "{
      "Version": "2012-10-17",
      "Statement": [{"Effect": "Allow",
                    "Principal": {"AWS": "arn:aws:iam::444455556666:root"},
                    "Action": "glacier:ListJobs",
                    "Resource": "arn:aws:glacier:us-east-1:111122223333:vaults/example_vault"},
                   {
                    "Effect": "Allow",
                    "Principal": {"AWS": "arn:aws:iam::444455556666:root"},
                    "Action": "glacier:UploadArchive",
                    "Resource": "arn:aws:glacier:us-east-1:111122223333:vaults/example_vault"}]
    }
  }
}
```
For API details, see [GetVaultAccessPolicy](#) in *AWS CLI Command Reference*.

### get-vault-lock

The following code example shows how to use `get-vault-lock`.

**AWS CLI**

**To get the details of a vault lock**

The following `get-vault-lock` example retrieved the details about the lock for the specified vault.

```bash
aws glacier get-vault-lock 
  --account-id - 
  --vault-name MyVaultName
```

Output:

```json
{
  "State": "Locked",
  "CreationDate": "2019-07-29T22:25:28.640Z"
}
```

For more information, see [Get Vault Lock (GET lock-policy)](#) in the *Amazon Glacier API Developer Guide*.

- For API details, see [GetVaultLock](#) in *AWS CLI Command Reference*.

### initiate-job

The following code example shows how to use `initiate-job`.
AWS CLI

The following command initiates a job to get an inventory of the vault my-vault:

```bash
aws glacier initiate-job --account-id - --vault-name my-vault --job-parameters '{"Type": "inventory-retrieval"}'
```

Output:

```json
{
   "location": "/0123456789012/vaults/my-vault/jobs/zbxcm3Z_3z5UkoroF7SuZKrxgGoDc3RloGduS7 Eg-R047Yc6FxsdGBgf_Q2DK5Ejh18CnTS5XW4_XqlNHS61ds04CnMW",
   "jobId": "zbxcm3Z_3z5UkoroF7SuZKrxgGoDc3RloGduS7Eg-R047Yc6FxsdGBgf_Q2DK5Ejh18CnTS5XW4_XqlNHS61ds04CnMW"
}
```

Amazon Glacier requires an account ID argument when performing operations, but you can use a hyphen to specify the in-use account.

The following command initiates a job to retrieve an archive from the vault my-vault:

```bash
aws glacier initiate-job --account-id - --vault-name my-vault --job-parameters file:///job-archive-retrieval.json
```

`job-archive-retrieval.json` is a JSON file in the local folder that specifies the type of job, archive ID, and some optional parameters:

```json
{
   "Type": "archive-retrieval",
   "ArchiveId": "kKB7ymWJVpPSwhGP6ycS0Aekp9ZYe_--zM_mw6k76ZFGEIWQX-ybtRDvc2vKPSDtfKmQrj0IRQLSGsNuDp-AJVlu2ccmDSyDUMzWkbwpAdGATGDib3hH00bjbGehXTcApVud_wyDw",
   "Description": "Retrieve archive on 2015-07-17",
}
```

Archive IDs are available in the output of `aws glacier upload-archive` and `aws glacier get-job-output`.

Output:
initiate-multipart-upload

The following code example shows how to use initiate-multipart-upload.

AWS CLI

The following command initiates a multipart upload to a vault named my-vault with a part size of 1 MiB (1024 x 1024 bytes) per file:

```
aws glacier initiate-multipart-upload --account-id - --part-size 1048576 --vault-name my-vault --archive-description "multipart upload test"
```

The archive description parameter is optional. Amazon Glacier requires an account ID argument when performing operations, but you can use a hyphen to specify the in-use account.

This command outputs an upload ID when successful. Use the upload ID when uploading each part of your archive with `aws glacier upload-multipart-part`. For more information on multipart uploads to Amazon Glacier using the AWS CLI, see Using Amazon Glacier in the AWS CLI User Guide.

- For API details, see `InitiateMultipartUpload` in AWS CLI Command Reference.

initiate-vault-lock

The following code example shows how to use initiate-vault-lock.

AWS CLI

To initiate the vault locking process
The following `initiate-vault-lock` example installs a vault lock policy on the specified vault and sets the lock state of the vault lock to InProgress. You must complete the process by calling `complete-vault-lock` within 24 hours to set the state of the vault lock to Locked.

```
aws glacier initiate-vault-lock \
  --account-id - \
  --vault-name MyVaultName \
  --policy file://vault_lock_policy.json
```

Contents of `vault_lock_policy.json`:

```
```

The output is the vault lock ID that you can use to complete the vault lock process.

```
{
  "lockId": "9QZgEXAMPLEPhvL6xEXAMPLE"
}
```

For more information, see [Initiate Vault Lock (POST lock-policy)] in the [Amazon Glacier API Developer Guide].

- For API details, see [InitiateVaultLock] in [AWS CLI Command Reference].

### list-multipart-uploads

The following code example shows how to use `list-multipart-uploads`.

**AWS CLI**

The following command shows all of the in-progress multipart uploads for a vault named `my-vault`:

```
aws glacier list-multipart-uploads --account-id - --vault-name my-vault
```

Amazon Glacier requires an account ID argument when performing operations, but you can use a hyphen to specify the in-use account.
For more information on multipart uploads to Amazon Glacier using the AWS CLI, see Using Amazon Glacier in the "AWS CLI User Guide".

- For API details, see ListMultipartUploads in "AWS CLI Command Reference".

list-parts

The following code example shows how to use list-parts.

**AWS CLI**

The following command lists the uploaded parts for a multipart upload to a vault named my-vault:

```bash
aws glacier list-parts --account-id - --vault-name my-vault --upload-id "SYZi7qnL-YGqGwAm8Kn3BLP2ElNCvN8-5961R09CSaPmwkYGH0qeN_nX3-Vhnd2yF0KfB5Fkmnb0U9GubbdrcS8ut-D"
```

Output:

```json
{
  "MultipartUploadId": "SYZi7qnL-YGqGwAm8Kn3BLP2ElNCvN8-5961R09CSaPmwkYGH0qeN_nX3-Vhnd2yF0KfB5Fkmnb0U9GubbdrcS8ut-D",
  "Parts": [
    {
      "RangeInBytes": "0-1048575",
      "SHA256TreeHash": "e1f2a7cd6e047350f69b9f8cfa60fa606fe2f02802897a9a026360a7ecd1f553"
    },
    {
      "RangeInBytes": "1048576-2097151",
      "SHA256TreeHash": "43cf3061fb95796aed99a16aa3cd8f839eed15e655ab0a597126210636ae6"
    }
  ],
  "CreationDate": "2015-07-18T00:05:23.830Z",
  "PartSizeInBytes": 1048576
}
```

Amazon Glacier requires an account ID argument when performing operations, but you can use a hyphen to specify the in-use account.
For more information on multipart uploads to Amazon Glacier using the AWS CLI, see Using Amazon Glacier in the AWS CLI User Guide.

- For API details, see ListParts in AWS CLI Command Reference.

list-provisioned-capacity

The following code example shows how to use list-provisioned-capacity.

AWS CLI

To retrieve the provisioned capacity units

The following list-provisioned-capacity example retrieves details for any provisioned capacity units for the specified account.

```
aws glacier list-provisioned-capacity \
    --account-id 111122223333
```

Output:

```
{
    "ProvisionedCapacityList": [
        {
            "CapacityId": "HpASAuvfRFiVDbOjMfEIr8K",
            "ExpirationDate": "2020-03-18T19:59:24.000Z",
            "StartDate": "2020-02-18T19:59:24.912Z"
        }
    ]
}
```

- For API details, see ListProvisionedCapacity in AWS CLI Command Reference.

purchase-provisioned-capacity

The following code example shows how to use purchase-provisioned-capacity.

AWS CLI

To purchase a provisioned capacity unit
The following purchase-provisioned-capacity example purchases a provisioned capacity unit.

```bash
aws glacier purchase-provisioned-capacity \
   --account-id 111122223333
```

Output:

```json
{
   "capacityId": "HpASAuVF6iVDb0jMfEIr8K"
}
```

- For API details, see [PurchaseProvisionedCapacity](#) in *AWS CLI Command Reference*.

**remove-tags-from-vault**

The following code example shows how to use `remove-tags-from-vault`.

**AWS CLI**

The following command removes a tag with the key `date` from a vault named `my-vault`:

```bash
aws glacier remove-tags-from-vault --account-id - --vault-name my-vault --tag-keys date
```

Amazon Glacier requires an account ID argument when performing operations, but you can use a hyphen to specify the in-use account.

- For API details, see [RemoveTagsFromVault](#) in *AWS CLI Command Reference*.

**set-data-retrieval-policy**

The following code example shows how to use `set-data-retrieval-policy`.

**AWS CLI**

The following command configures a data retrieval policy for the in-use account:

```bash
```
data-retrieval-policy.json is a JSON file in the current folder that specifies a data retrieval policy:

```
{
  "Rules": [
    {
      "Strategy": "BytesPerHour",
      "BytesPerHour": 10737418240
    }
  ]
}
```

Amazon Glacier requires an account ID argument when performing operations, but you can use a hyphen to specify the in-use account.

The following command sets the data retrieval policy to FreeTier using inline JSON:

```
aws glacier set-data-retrieval-policy --account-id - --policy '{"Rules": [{"Strategy": "FreeTier"]}'
```

See Set Data Retrieval Policy in the Amazon Glacier API Reference for details on the policy format.

- For API details, see SetDataRetrievalPolicy in AWS CLI Command Reference.

**set-vault-access-policy**

The following code example shows how to use set-vault-access-policy.

**AWS CLI**

To set the access policy of a vault

The following set-vault-access-policy example attaches a permission policy to the specified vault.

```
aws glacier set-vault-access-policy \
  --account-id 111122223333 \
  --vault-name example_vault \
  --policy '{"Policy": "{\"Version\":\"2012-10-17\",\"Statement\": [\"Effect\":\"Allow\",\"Principal\":\"AWS\":\"arn:aws:iam::444455566666:root\"}}'
```
This command produces no output.

- For API details, see `SetVaultAccessPolicy` in *AWS CLI Command Reference.*

**Secrets Manager examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Secrets Manager.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- **Actions**

**Actions**

**Create a secret**

The following code example shows how to create a Secrets Manager secret.

**AWS CLI**

**Example 1: To create a secret**

The following `create-secret` example creates a secret with two key-value pairs.

```
aws secretsmanager create-secret
```
--name MyTestSecret \
--description "My test secret created with the CLI." \
--secret-string "{"user":"diegor","password":"EXAMPLE-PASSWORD"}"

Output:

```
{
    "ARN": "arn:aws:secretsmanager:us-west-2:123456789012:secret:MyTestSecret-a1b2c3",
    "Name": "MyTestSecret",
    "VersionId": "EXAMPLE1-90ab-cdef-fedc-ba987EXAMPLE"
}
```

For more information, see Create a secret in the Secrets Manager User Guide.

**Example 2: To create a secret from credentials in a JSON file**

The following create-secret example creates a secret from credentials in a file. For more information, see Loading AWS CLI parameters from a file in the AWS CLI User Guide.

```
aws secretsmanager create-secret \
    --name MyTestSecret \
    --secret-string file://mycreds.json
```

Contents of mycreds.json:

```
{
    "engine": "mysql",
    "username": "saanvis",
    "password": "EXAMPLE-PASSWORD",
    "host": "my-database-endpoint.us-west-2.rds.amazonaws.com",
    "dbname": "myDatabase",
    "port": "3306"
}
```

Output:

```
{
    "ARN": "arn:aws:secretsmanager:us-west-2:123456789012:secret:MyTestSecret-a1b2c3",
    "Name": "MyTestSecret",
    "VersionId": "a1b2c3d4-5678-90ab-cdef-fedc-ba987EXAMPLE"
}
```
Delete a secret

The following code example shows how to delete a Secrets Manager secret.

AWS CLI

Example 1: To delete a secret

The following `delete-secret` example deletes a secret. You can recover the secret with `restore-secret` until the date and time in the `DeletionDate` response field. To delete a secret that is replicated to other regions, first remove its replicas with `remove-regions-from-replication`, and then call `delete-secret`.

```bash
aws secretsmanager delete-secret \
   --secret-id MyTestSecret \
   --recovery-window-in-days 7
```

Output:

```json
{
   "ARN": "arn:aws:secretsmanager:us-west-2:123456789012:secret:MyTestSecret-a1b2c3",
   "Name": "MyTestSecret",
   "DeletionDate": 1524085349.095
}
```

For more information, see [Delete a secret](https://docs.aws.amazon.com/secretsmanager/latest/userguide/create-secret.html) in the *Secrets Manager User Guide*.

Example 2: To delete a secret immediately

The following `delete-secret` example deletes a secret immediately without a recovery window. You can't recover this secret.

```bash
aws secretsmanager delete-secret
```

For more information, see [Delete a secret](https://docs.aws.amazon.com/secretsmanager/latest/userguide/create-secret.html) in the *Secrets Manager User Guide*. 
Delete a secret

The following code example shows how to delete a Secrets Manager secret.

AWS CLI

```
aws secretsmanager delete-secret \
--secret-id MyTestSecret \
--force-delete-without-recovery
```

Output:

```
{
    "ARN": "arn:aws:secretsmanager:us-west-2:123456789012:secret:MyTestSecret-a1b2c3",
    "Name": "MyTestSecret",
    "DeletionDate": 1508750180.309
}
```

For more information, see [Delete a secret](#) in the Secrets Manager User Guide.

- For API details, see [DeleteSecret](#) in AWS CLI Command Reference.

Describe a secret

The following code example shows how to describe a Secrets Manager secret.

AWS CLI

```
aws secretsmanager describe-secret \
--secret-id MyTestSecret
```

Output:

```
{
    "Name": "MyTestSecret",
    "Description": "My test secret",
    "KmsKeyId": "arn:aws:kms:us-west-2:123456789012:key/EXAMPLE1-90ab-cdef-fedc-ba987EXAMPLE",
    "RotationEnabled": true,
```

Actions and scenarios
"RotationRules": {
    "AutomaticallyAfterDays": 2,
    "Duration": "2h",
    "ScheduleExpression": "cron(0 16 1,15 * ? *)"
},
"LastRotatedDate": 1525747253.72,
"LastChangedDate": 1523477145.729,
"LastAccessedDate": 1524572133.25,
"Tags": [
    {
      "Key": "SecondTag",
      "Value": "AnotherValue"
    },
    {
      "Key": "FirstTag",
      "Value": "SomeValue"
    }
],
"VersionIdsToStages": {
    "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111": [
      "AWSPREVIOUS"
    ],
    "a1b2c3d4-5678-90ab-cdef-EXAMPLE22222": [
      "AWSCURRENT"
    ],
    "a1b2c3d4-5678-90ab-cdef-EXAMPLE33333": [
      "AWSPENDING"
    ]
},
"CreatedDate": 1521534252.66,
"PrimaryRegion": "us-west-2",
"ReplicationStatus": [
    {
      "Region": "eu-west-3",
      "KmsKeyId": "alias/aws/secretsmanager",
      "Status": "InSync",
      "StatusMessage": "Replication succeeded"
    }
]
}

For more information, see Secret in the Secrets Manager User Guide.

- For API details, see DescribeSecret in AWS CLI Command Reference.
Get a batch of secret values

The following code example shows how to get a batch of Secrets Manager secret values.

AWS CLI

Example 1: To retrieve the secret value for a group of secrets listed by name

The following batch-get-secret-value example gets the secret value secrets for three secrets.

```bash
aws secretsmanager batch-get-secret-value \
   --secret-id-list MySecret1 MySecret2 MySecret3
```

Output:

```json
{
   "SecretValues": [
      {
         "ARN": "arn:aws:secretsmanager:us-west-2:123456789012:secret:MySecret1-a1b2c3",
         "Name": "MySecret1",
         "VersionId": "a1b2c3d4-5678-90ab-cdef-EXAMPLEaaaaa",
         "SecretString": "{"username":"diego_ramirez","password":"EXAMPLE-PASSWORD","engine":"mysql","host":"secretsmanagertutorial.cluster.us-west-2.rds.amazonaws.com","port":3306,"dbClusterIdentifier":"
               "secretsmanagertutorial"}",
         "VersionStages": ["AWSCURRENT"],
         "CreatedDate": "1523477145.729"
      },
      {
         "ARN": "arn:aws:secretsmanager:us-west-2:123456789012:secret:MySecret2-a1b2c3",
         "Name": "MySecret2",
         "VersionId": "a1b2c3d4-5678-90ab-cdef-EXAMPLEb1b1",
         "SecretString": "{"username":"akua_mansa","password":"EXAMPLE-PASSWORD"",
         "VersionStages": ["AWSCURRENT"],
         "CreatedDate": "1673477781.275"
      }
   ]
}
```
For more information, see Retrieve a group of secrets in a batch in the AWS Secrets Manager User Guide.

Example 2: To retrieve the secret value for a group of secrets selected by filter

The following batch-get-secret-value example gets the secret value secrets in your account that have MySecret in the name. Filtering by name is case sensitive.

```
aws secretsmanager batch-get-secret-value \
  --filters Key="name",Values="MySecret"
```

Output:

```
{
  "SecretValues": [
    {
      "ARN": "arn:aws:secretsmanager:us-west-2:123456789012:secret:MySecret1-a1b2c3",
      "Name": "MySecret1",
      "VersionId": "a1b2c3d4-5678-90ab-cdef-EXAMPLEaaaaa",
      "SecretString": "{\"username\":\"diego_ramirez\",\"password\":\"EXAMPLE-PASSWORD\",\"engine\":\"mysql\",\"host\":\"secretsmanagerutorial.cluster.us-west-2.rds.amazonaws.com\",\"port\":3306,\"dbClusterIdentifier\":\"secretsmanagerutorial\"}",
      "VersionStages": [\n        "AWSCURRENT"
      ],
      "CreatedDate": "1373477721.124"
    }
  ]
}
```
For more information, see [Retrieve a group of secrets in a batch](https://docs.aws.amazon.com/secretsmanager/latest/userguide/retrieve-a-group-of-secrets-in-a-batch.html) in the *AWS Secrets Manager User Guide*.

- For API details, see [BatchGetSecretValue](https://docs.aws.amazon.com/cli/latest/reference/secretsmanager/batch-get-secret-value.html) in *AWS CLI Command Reference*.

### Get a secret value

The following code example shows how to get a Secrets Manager secret value.

**AWS CLI**

**Example 1: To retrieve the encrypted secret value of a secret**
The following `get-secret-value` example gets the current secret value.

```
aws secretsmanager get-secret-value \
  --secret-id MyTestSecret
```

Output:

```
{
    "ARN": "arn:aws:secretsmanager:us-west-2:123456789012:secret:MyTestSecret-a1b2c3",
    "Name": "MyTestSecret",
    "VersionId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
    "SecretString": "{"user":"diegor","password":"EXAMPLE-PASSWORD"}",
    "VersionStages": [
        "AWSCURRENT"
    ],
    "CreatedDate": 1523477145.713
}
```

For more information, see [Retrieve a secret](#) in the Secrets Manager User Guide.

**Example 2: To retrieve the previous secret value**

The following `get-secret-value` example gets the previous secret value:

```
aws secretsmanager get-secret-value \
  --secret-id MyTestSecret \
  --version-stage AWSPREVIOUS
```

Output:

```
{
    "ARN": "arn:aws:secretsmanager:us-west-2:123456789012:secret:MyTestSecret-a1b2c3",
    "Name": "MyTestSecret",
    "VersionId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE22222",
    "SecretString": "{"user":"diegor","password":"PREVIOUS-EXAMPLE-PASSWORD"}",
    "VersionStages": [
        "AWSPREVIOUS"
    ],
    "CreatedDate": 1523477145.713
}
```
For more information, see Retrieve a secret in the Secrets Manager User Guide.

- For API details, see GetSecretValue in AWS CLI Command Reference.

List secrets

The following code example shows how to list Secrets Manager secrets.

AWS CLI

**Example 1: To list the secrets in your account**

The following list-secrets example gets a list of the secrets in your account.

```bash
aws secretsmanager list-secrets
```

Output:

```json
{
   "SecretList": [
   {
      "ARN": "arn:aws:secretsmanager:us-west-2:123456789012:secret:MyTestSecret-a1b2c3",
      "Name": "MyTestSecret",
      "LastChangedDate": 1523477145.729,
      "SecretVersionsToStages": {
         "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111": [ "AWSCURRENT"
      ]
   },
   {
      "Name": "AnotherSecret",
      "LastChangedDate": 1523482025.685,
      "SecretVersionsToStages": {
         "a1b2c3d4-5678-90ab-cdef-EXAMPLE22222": [ "AWSCURRENT"
      ]
   }
}
```
Example 2: To filter the list of secrets in your account

The following `list-secrets` example gets a list of the secrets in your account that have Test in the name. Filtering by name is case sensitive.

```
aws secretsmanager list-secrets \
  --filter Key="name",Values="Test"
```

Output:

```
{
   "SecretList": [
   {
      "ARN": "arn:aws:secretsmanager:us-west-2:123456789012:secret:MyTestSecret-a1b2c3",
      "Name": "MyTestSecret",
      "LastChangedDate": 1523477145.729,
      "SecretVersionsToStages": {
         "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111": [
            "AWSCURRENT"
         ]
      }
   }
   ]
}
```

Example 3: To list the secrets in your account managed by another service

The following `list-secrets` example returns the secrets in your account that are managed by Amazon RDS.

```
aws secretsmanager list-secrets \
  --filter Key="owning-service",Values="rds"
```
Output:

```json
{
    "SecretList": [
        {
            "Name": "rds!cluster-a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
            "Tags": [
                {
                    "Key": "aws:rds:primaryDBClusterArn"
                },
                {
                    "Value": "rds",
                    "Key": "aws:secretsmanager:owningService"
                }
            ],
            "RotationRules": {
                "AutomaticallyAfterDays": 1
            },
            "LastChangedDate": 1673477781.275,
            "LastRotatedDate": 1673477781.26,
            "SecretVersionsToStages": {
                "a1b2c3d4-5678-90ab-cdef-EXAMPLEaaaaa": [
                    "AWSPREVIOUS"
                ],
                "a1b2c3d4-5678-90ab-cdef-EXAMPLEbbbbb": [
                    "AWSCURRENT",
                    "AWS_PENDING"
                ]
            },
            "OwningService": "rds",
            "RotationEnabled": true,
            "CreatedDate": 1673467300.7,
            "LastAccessedDate": 1673395200.0,
            "ARN": "arn:aws:secretsmanager:us-west-2:123456789012:secret:rds!cluster-a1b2c3d4-5678-90ab-cdef-EXAMPLE11111-a1b2c3",
        }
    ]
}
```
Modifies the details of a secret

The following code example shows how to modify the secret.

**AWS CLI**

**Example 1: To update the description of a secret**

The following `update-secret` example updates the description of a secret.

```shell
aws secretsmanager update-secret
  --secret-id MyTestSecret
  --description "This is a new description for the secret."
```

Output:

```json
{
  "ARN": "arn:aws:secretsmanager:us-west-2:123456789012:secret:MyTestSecret-a1b2c3",
  "Name": "MyTestSecret"
}
```

For more information, see [Modify a secret](https://docs.aws.amazon.com/secretsmanager/latest/userguide/secrets-update.html) in the *Secrets Manager User Guide*.

**Example 2: To update the encryption key associated with a secret**

The following `update-secret` example updates the KMS key used to encrypt the secret value. The KMS key must be in the same region as the secret.

```shell
aws secretsmanager update-secret
  --secret-id MyTestSecret
  --kms-key-id arn:aws:kms:us-west-2:123456789012:key/EXAMPLE1-90ab-cdef-fedc-ba987EXAMPLE
```

Output:

```json
{
}
```
"ARN": "arn:aws:secretsmanager:us-west-2:123456789012:secret:MyTestSecret-a1b2c3",
   "Name": "MyTestSecret"
}

For more information, see Modify a secret in the Secrets Manager User Guide.

- For API details, see UpdateSecret in AWS CLI Command Reference.

Put a value in a secret

The following code example shows how to put a value in a Secrets Manager secret.

AWS CLI

Example 1: To store a new secret value in a secret

The following put-secret-value example creates a new version of a secret with two key-value pairs.

```bash
aws secretsmanager put-secret-value \
   --secret-id MyTestSecret \
   --secret-string "{"user":"diegor","password":"EXAMPLE-PASSWORD"}"
```

Output:

```json
{
   "Name": "MyTestSecret",
   "VersionId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
   "VersionStages": [ 
      "AWSCURRENT"
   ]
}
```

For more information, see Modify a secret in the Secrets Manager User Guide.

Example 2: To store a new secret value from credentials in a JSON file
The following put-secret-value example creates a new version of a secret from credentials in a file. For more information, see Loading AWS CLI parameters from a file in the AWS CLI User Guide.

```
aws secretsmanager put-secret-value
   --secret-id MyTestSecret
   --secret-string file://mycreds.json
```

Contents of mycreds.json:

```json
{
   "engine": "mysql",
   "username": "saanvis",
   "password": "EXAMPLE-PASSWORD",
   "host": "my-database-endpoint.us-west-2.rds.amazonaws.com",
   "dbname": "myDatabase",
   "port": "3306"
}
```

Output:

```json
{
   "ARN": "arn:aws:secretsmanager:us-west-2:123456789012:secret:MyTestSecret-a1b2c3",
   "Name": "MyTestSecret",
   "VersionId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
   "VersionStages": [
      "AWSCURRENT"
   ]
}
```

For more information, see Modify a secret in the Secrets Manager User Guide.

- For API details, see PutSecretValue in AWS CLI Command Reference.

**cancel-rotate-secret**

The following code example shows how to use cancel-rotate-secret.

**AWS CLI**

To turn off automatic rotation for a secret
The following `cancel-rotate-secret` example turns off automatic rotation for a secret. To resume rotation, call `rotate-secret`.

```bash
aws secretsmanager cancel-rotate-secret \
  --secret-id MyTestSecret
```

Output:

```
{
  "ARN": "arn:aws:secretsmanager:us-west-2:123456789012:secret:MyTestSecret-a1b2c3",
  "Name": "MyTestSecret"
}
```

For more information, see [Rotate a secret](https://docs.aws.amazon.com/secretsmanager/latest/userguide/rotate-secrets.html) in the *Secrets Manager User Guide*.

- For API details, see [CancelRotateSecret](https://docs.aws.amazon.com/cli/latest/reference/secretsmanager/cancel-rotate-secret.html) in *AWS CLI Command Reference*.

**delete-resource-policy**

The following code example shows how to use `delete-resource-policy`.

**AWS CLI**

**To delete the resource-based policy attached to a secret**

The following `delete-resource-policy` example deletes the resource-based policy attached to a secret.

```bash
aws secretsmanager delete-resource-policy \
  --secret-id MyTestSecret
```

Output:

```
{
  "ARN": "arn:aws:secretsmanager:us-west-2:123456789012:secret:MyTestSecret-a1b2c3",
  "Name": "MyTestSecret"
}
```

For more information, see [Authentication and access control](https://docs.aws.amazon.com/secretsmanager/latest/userguide/ARNs.html) in the *Secrets Manager User Guide*.

- For API details, see [DeleteResourcePolicy](https://docs.aws.amazon.com/cli/latest/reference/secretsmanager/delete-resource-policy.html) in *AWS CLI Command Reference*. 
get-random-password

The following code example shows how to use `get-random-password`.

### AWS CLI

**To generate a random password**

The following `get-random-password` example generates a random password 20 characters long that includes at least one uppercase letter, lowercase letter, number, and punctuation.

```
aws secretsmanager get-random-password \
  --require-each-included-type \
  --password-length 20
```

**Output:**

```
{
  "RandomPassword": "EXAMPLE-PASSWORD"
}
```

For more information, see [Create and manage secrets](#) in the [Secrets Manager User Guide](#).
- For API details, see [GetRandomPassword](#) in [AWS CLI Command Reference](#).

---

get-resource-policy

The following code example shows how to use `get-resource-policy`.

### AWS CLI

**To retrieve the resource-based policy attached to a secret**

The following `get-resource-policy` example retrieves the resource-based policy attached to a secret.

```
aws secretsmanager get-resource-policy \
  --secret-id MyTestSecret
```

**Output:**

```
{

}
```
"ARN": "arn:aws:secretsmanager:us-west-2:123456789012:secret:MyTestSecret-a1b2c3",
"Name": "MyTestSecret",
"ResourcePolicy": "{"Version":"2012-10-17","Statement":[{"Effect":"Allow"},
"Principal":{"AWS":"arn:aws:iam::123456789012:root"},
"Action":
"secretsmanager:GetSecretValue","Resource":"*"}]}

For more information, see Authentication and access control in the Secrets Manager User Guide.

- For API details, see GetResourcePolicy in AWS CLI Command Reference.

list-secret-version-ids

The following code example shows how to use list-secret-version-ids.

AWS CLI

To list all of the secret versions associated with a secret

The following list-secret-version-ids example gets a list of all of the versions of a secret.

aws secretsmanager list-secret-version-ids 
   --secret-id MyTestSecret

Output:

```json
{
   "Versions": [
     {
       "VersionId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
       "VersionStages": [
         "AWSPREVIOUS"
       ],
       "LastAccessedDate": 1523477145.713,
       "CreatedDate": 1523477145.713
     },
     {
       "VersionId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE22222",
       "VersionStages": [
         "AWSCURRENT"
       ]
     }
   ]
}
```
For more information, see [Version](#) in the *Secrets Manager User Guide*.

- For API details, see [ListSecretVersionIds](#) in *AWS CLI Command Reference*.

**put-resource-policy**

The following code example shows how to use `put-resource-policy`.

**AWS CLI**

**To add a resource-based policy to a secret**

The following `put-resource-policy` example adds a permissions policy to a secret, checking first that the policy does not provide broad access to the secret. The policy is read from a file. For more information, see [Loading AWS CLI parameters from a file](#) in the *AWS CLI User Guide*.

```
aws secretsmanager put-resource-policy \
  --secret-id MyTestSecret \
  --resource-policy file://mypolicy.json \
  --block-public-policy
```

**Contents of `mypolicy.json`:**

```json
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Principal": {
        "AWS": "*"
      }
    }
  ]
}
```
"Principal": {
    "AWS": "arn:aws:iam::123456789012:role/MyRole"
},
"Action": "secretsmanager:GetSecretValue",
"Resource": "*"
]}
}

Output:

{
    "ARN": "arn:aws:secretsmanager:us-west-2:123456789012:secret:MyTestSecret-a1b2c3",
    "Name": "MyTestSecret"
}

For more information, see Attach a permissions policy to a secret in the Secrets Manager User Guide.

- For API details, see PutResourcePolicy in AWS CLI Command Reference.

remove-regions-from-replication

The following code example shows how to use remove-regions-from-replication.

AWS CLI

**To delete a replica secret**

The following remove-regions-from-replication example deletes a replica secret in eu-west-3. To delete a primary secret that is replicated to other regions, first delete the replicas and then call delete-secret.

```bash
aws secretsmanager remove-regions-from-replication \
    --secret-id MyTestSecret \
    --remove- replica-regions eu-west-3
```

Output:

```json
{
}
```
For more information, see Delete a replica secret in the Secrets Manager User Guide.

- For API details, see RemoveRegionsFromReplication in AWS CLI Command Reference.

replicate-secret-to-regions

The following code example shows how to use replicate-secret-to-regions.

AWS CLI

To replicate a secret to another region

The following replicate-secret-to-regions example replicates a secret to eu-west-3. The replica is encrypted with the AWS managed key aws/secretsmanager.

```
aws secretsmanager replicate-secret-to-regions \
  --secret-id MyTestSecret \
  --add-replica-regions Region=eu-west-3
```

Output:

```
{
  "ReplicationStatus": [
    {
      "Region": "eu-west-3",
      "KmsKeyId": "alias/aws/secretsmanager",
      "Status": "InProgress"
    }
  ]
}
```

For more information, see Replicate a secret to another Region in the Secrets Manager User Guide.

- For API details, see ReplicateSecretToRegions in AWS CLI Command Reference.
**restore-secret**

The following code example shows how to use `restore-secret`.

**AWS CLI**

To restore a previously deleted secret

The following `restore-secret` example restores a secret that was previously scheduled for deletion.

```
aws secretsmanager restore-secret \
   --secret-id MyTestSecret
```

Output:

```
{
   "ARN": "arn:aws:secretsmanager:us-west-2:123456789012:secret:MyTestSecret-a1b2c3",
   "Name": "MyTestSecret"
}
```

For more information, see [Delete a secret](https://docs.aws.amazon.com/secretsmanager/latest/userguide/delete-secrets.html) in the *Secrets Manager User Guide*.  
- For API details, see [RestoreSecret](https://docs.aws.amazon.com/cli/latest/reference/secretsmanager/restore-secret.html) in *AWS CLI Command Reference*.

**rotate-secret**

The following code example shows how to use `rotate-secret`.

**AWS CLI**

**Example 1: To configure and start automatic rotation for a secret**

The following `rotate-secret` example configures and starts automatic rotation for a secret. Secrets Manager rotates the secret once immediately, and then every eight hours in a two hour window. The output shows the VersionId of the new secret version created by rotation.

```
aws secretsmanager rotate-secret \
   --secret-id MyTestDatabaseSecret \
   --rotation-lambda-arn arn:aws:lambda:us-west-2:1234566789012:function:SecretsManagerTestRotationLambda \
```

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Output:

```
{  
  "ARN": "aws:arn:secretsmanager:us-west-2:123456789012:secret:MyTestDatabaseSecret-a1b2c3",  
  "Name": "MyTestDatabaseSecret",  
  "VersionId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111"
}
```

For more information, see Rotate secrets in the Secrets Manager User Guide.

**Example 2: To configure and start automatic rotation on a rotation interval**

The following `rotate-secret` example configures and starts automatic rotation for a secret. Secrets Manager rotates the secret once immediately, and then every 10 days. The output shows the `VersionId` of the new secret version created by rotation.

```
aws secretsmanager rotate-secret  
  --secret-id MyTestDatabaseSecret  
  --rotation-lambda-arn arn:aws:lambda:us-west-2:123456789012:function:SecretsManagerTestRotationLambda  
  --rotation-rules "{"ScheduleExpression": "rate(10 days)"}"
```

Output:

```
{  
  "ARN": "aws:arn:secretsmanager:us-west-2:123456789012:secret:MyTestDatabaseSecret-a1b2c3",  
  "Name": "MyTestDatabaseSecret",  
  "VersionId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111"
}
```

For more information, see Rotate secrets in the Secrets Manager User Guide.

**Example 3: To rotate a secret immediately**

The following `rotate-secret` example starts an immediate rotation. The output shows the `VersionId` of the new secret version created by rotation. The secret must already have rotation configured.
aws secretsmanager rotate-secret \ 
  --secret-id MyTestDatabaseSecret

Output:

```
{
  "ARN": "aws:arn:secretsmanager:us-west-2:123456789012:secret:MyTestDatabaseSecret-a1b2c3",
  "Name": "MyTestDatabaseSecret",
  "VersionId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111"
}
```

For more information, see Rotate secrets in the Secrets Manager User Guide.

- For API details, see RotateSecret in AWS CLI Command Reference.

**stop-replication-to- replica**

The following code example shows how to use stop-replication-to- replica.

**AWS CLI**

**To promote a replica secret to a primary**

The following stop-replication-to- replica example removes the link between a replica secret to the primary. The replica secret is promoted to a primary secret in the replica region. You must call stop-replication-to-replica from within the replica region.

aws secretsmanager stop-replication-to-replica \ 
  --secret-id MyTestSecret

Output:

```
{
  "ARN": "arn:aws:secretsmanager:us-west-2:123456789012:secret:MyTestSecret-a1b2c3"
}
```

For more information, see Promote a replica secret in the Secrets Manager User Guide.

- For API details, see StopReplicationToReplica in AWS CLI Command Reference.
tag-resource

The following code example shows how to use tag-resource.

AWS CLI

**Example 1: To add a tag to a secret**

The following example shows how to attach a tag with shorthand syntax.

```
aws secretsmanager tag-resource \
--secret-id MyTestSecret \
--tags Key=FirstTag,Value=FirstValue
```

This command produces no output.

For more information, see [Tag your secrets](https://docs.aws.amazon.com/secretsmanager/latest/userguide/secret-tagging.html) in the Secrets Manager User Guide.

**Example 2: To add multiple tags to a secret**

The following tag-resource example attaches two key-value tags to a secret.

```
aws secretsmanager tag-resource \
--secret-id MyTestSecret \
--tags '[{"Key": "FirstTag", "Value": "FirstValue"}, {"Key": "SecondTag", "Value": "SecondValue"}]'
```

This command produces no output.

For more information, see [Tag secrets](https://docs.aws.amazon.com/secretsmanager/latest/userguide/secret-tagging.html) in the Secrets Manager User Guide.


untag-resource

The following code example shows how to use untag-resource.

AWS CLI

**To remove tags from a secret**

The following untag-resource example removes two tags from a secret. For each tag, both key and value are removed.
This command produces no output.

For more information, see Tag secrets in the Secrets Manager User Guide.

- For API details, see UntagResource in AWS CLI Command Reference.

**update-secret-version-stage**

The following code example shows how to use update-secret-version-stage.

**AWS CLI**

**Example 1: To revert a secret to the previous version**

The following update-secret-version-stage example moves the AWSCURRENT staging label to the previous version of a secret, which reverts the secret to the previous version. To find the ID for the previous version, use list-secret-version-ids. For this example, the version with the AWSCURRENT label is a1b2c3d4-5678-90ab-cdef-EXAMPLE11111 and the version with the AWSPREVIOUS label is a1b2c3d4-5678-90ab-cdef-EXAMPLE22222. In this example, you move the AWSCURRENT label from version 11111 to 22222. Because the AWSCURRENT label is removed from a version, update-secret-version-stage automatically moves the AWSPREVIOUS label to that version (11111). The effect is that the AWSCURRENT and AWSPREVIOUS versions are swapped.

```bash
aws secretsmanager update-secret-version-stage \
    --secret-id MyTestSecret \
    --version-stage AWSCURRENT \
    --move-to-version-id a1b2c3d4-5678-90ab-cdef-EXAMPLE22222 \
    --remove-from-version-id a1b2c3d4-5678-90ab-cdef-EXAMPLE11111
```

Output:

```json
{
    "ARN": "arn:aws:secretsmanager:us-west-2:123456789012:secret:MyTestSecret-a1b2c3",
    "Name": "MyTestSecret"
}
```
Example 2: To add a staging label attached to a version of a secret

The following update-secret-version-stage example adds a staging label to a version of a secret. You can review the results by running list-secret-version-ids and viewing the VersionStages response field for the affected version.

```bash
aws secretsmanager update-secret-version-stage \
  --secret-id MyTestSecret \
  --version-stage STAGINGLABEL1 \
  --move-to-version-id EXAMPLE1-90ab-cdef-fedc-ba987EXAMPLE
```

Output:

```
{
  "ARN": "arn:aws:secretsmanager:us-west-2:123456789012:secret:MyTestSecret-a1b2c3",
  "Name": "MyTestSecret"
}
```

Example 3: To delete a staging label attached to a version of a secret

The following update-secret-version-stage example deletes a staging label that is attached to a version of a secret. You can review the results by running list-secret-version-ids and viewing the VersionStages response field for the affected version.

```bash
aws secretsmanager update-secret-version-stage \
  --secret-id MyTestSecret \
  --version-stage STAGINGLABEL1 \
  --remove-from-version-id a1b2c3d4-5678-90ab-cdef-EXAMPLE11111
```

Output:

```
{
  "ARN": "arn:aws:secretsmanager:us-west-2:123456789012:secret:MyTestSecret-a1b2c3",
}
```
For more information, see [Version](#) in the [Secrets Manager User Guide](#).

- For API details, see [UpdateSecretVersionStage](#) in [AWS CLI Command Reference](#).

### validate-resource-policy

The following code example shows how to use validate-resource-policy.

#### AWS CLI

**To validate a resource policy**

The following `validate-resource-policy` example checks that a resource policy doesn't grant broad access to a secret. The policy is read from a file on disk. For more information, see [Loading AWS CLI parameters from a file](#) in the [AWS CLI User Guide](#).

```bash
aws secretsmanager validate-resource-policy \\
    --resource-policy file://mypolicy.json
```

**Contents of `mypolicy.json`:**

```json
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Effect": "Allow",
            "Principal": {
                "AWS": "arn:aws:iam::123456789012:role/MyRole"
            },
            "Action": "secretsmanager:GetSecretValue",
            "Resource": "*"
        }
    ]
}
```

**Output:**

```json
{
    "PolicyValidationPassed": true,
```
The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Security Hub.

**Actions** are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

**Scenarios** are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

### Topics
- [Actions](#)

### Actions

**accept-administrator-invitation**

The following code example shows how to use `accept-administrator-invitation`.

### AWS CLI

**To accept an invitation from an administrator account**

The following `accept-administrator-invitation` example accepts the specified invitation from the specified administrator account.

```
aws securityhub accept-invitation
  --administrator-id 123456789012
```
--invitation-id 7ab938c5d52d7904ad09f9e7c20cc4eb

This command produces no output.

For more information, see Managing administrator and member accounts in the AWS Security Hub User Guide.

- For API details, see AcceptAdministratorInvitation in AWS CLI Command Reference.

**accept-invitation**

The following code example shows how to use accept-invitation.

**AWS CLI**

**To accept an invitation from an administrator account**

The following accept-invitation example accepts the specified invitation from the specified administrator account.

```
aws securityhub accept-invitation \
  --master-id 123456789012 \
  --invitation-id 7ab938c5d52d7904ad09f9e7c20cc4eb
```

This command produces no output.

For more information, see Managing administrator and member accounts in the AWS Security Hub User Guide.

- For API details, see AcceptInvitation in AWS CLI Command Reference.

**batch-delete-automation-rules**

The following code example shows how to use batch-delete-automation-rules.

**AWS CLI**

**To delete automation rules**

The following batch-delete-automation-rules example deletes the specified automation rule. You can delete one or more rules with a single command. Only the Security Hub administrator account can run this command.
aws securityhub batch-delete-automation-rules \
   --automation-rules-arns "["arn:aws:securityhub:us-
   east-1:123456789012:automation-rule/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111"]"

Output:

```
{
   "ProcessedAutomationRules": [
      "arn:aws:securityhub:us-east-1:123456789012:automation-rule/
   a1b2c3d4-5678-90ab-cdef-EXAMPLE11111"
   ],
   "UnprocessedAutomationRules": []
}
```

For more information, see Deleting automation rules in the AWS Security Hub User Guide.

- For API details, see BatchDeleteAutomationRules in AWS CLI Command Reference.

**batch-disable-standards**

The following code example shows how to use `batch-disable-standards`.

**AWS CLI**

**To disable a standard**

The following `batch-disable-standards` example disables the standard associated with the specified subscription ARN.

```
aws securityhub batch-disable-standards \
   --standards-subscription-arns "arn:aws:securityhub:us-
   west-1:123456789012:subscription/pci-dss/v/3.2.1"
```

Output:

```
{
   "StandardsSubscriptions": [
      {
         "StandardsArn": "arn:aws:securityhub:eu-central-1::standards/pci-dss/
   v/3.2.1",
```
For more information, see [Disabling or enabling a security standard](https://docs.aws.amazon.com/securityhub/latest/userguide/disabling-or-enabling-a-security-standard.html) in the *AWS Security Hub User Guide*.

- For API details, see [BatchDisableStandards](https://docs.aws.amazon.com/cli/latest/reference/securityhub/batch-disable-standards.html) in *AWS CLI Command Reference*.

### batch-enable-standards

The following code example shows how to use `batch-enable-standards`.

**AWS CLI**

**To enable a standard**

The following `batch-enable-standards` example enables the PCI DSS standard for the requesting account.

```bash
aws securityhub batch-enable-standards \
  --standards-subscription-requests '{"StandardsArn":"arn:aws:securityhub:us-west-1::standards/pci-dss/v/3.2.1"}'
```

**Output:**

```json
{
  "StandardsSubscriptions": [
    {
      "StandardsArn": "arn:aws:securityhub:us-west-1::standards/pci-dss/v/3.2.1",
      "StandardsInput": { },
      "StandardsStatus": "PENDING",
      "StandardsSubscriptionArn": "arn:aws:securityhub:us-west-1:123456789012:subscription/pci-dss/v/3.2.1"
    }
  ]
}
```
For more information, see Disabling or enabling a security standard in the AWS Security Hub User Guide.

- For API details, see BatchEnableStandards in AWS CLI Command Reference.

**batch-get-automation-rules**

The following code example shows how to use batch-get-automation-rules.

**AWS CLI**

**To get details for automation rules**

The following batch-get-automation-rules example gets details for the specified automation rule. You can get details for one or more automation rules with a single command.

```
aws securityhub batch-get-automation-rules \
   --automation-rules-arns '"arn:aws:securityhub:us-east-1:123456789012:automation-rule/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111"'
```

**Output:**

```
{
   "Rules": [
   {
      "RuleArn": "arn:aws:securityhub:us-east-1:123456789012:automation-rule/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
      "RuleStatus": "ENABLED",
      "RuleOrder": 1,
      "RuleName": "Suppress informational findings",
      "Description": "Suppress GuardDuty findings with Informational severity",
      "IsTerminal": false,
      "Criteria": {
         "ProductName": [
            {
               "Value": "GuardDuty",
               "Comparison": "EQUALS"
            }
         ],
      "SeverityLabel": 
```
For more information, see [Viewing automation rules](#) in the [AWS Security Hub User Guide](#).

- For API details, see [BatchGetAutomationRules](#) in [AWS CLI Command Reference](#).
**batch-get-configuration-policy-associations**

The following code example shows how to use `batch-get-configuration-policy-associations`.

**AWS CLI**

**To get configuration association details for a batch of targets**

The following `batch-get-configuration-policy-associations` example retrieves association details for the specified targets. You can provide account IDs, organizational unit IDs, or the root ID for the target.

```bash
aws securityhub batch-get-configuration-policy-associations \\
  --target '{"OrganizationalUnitId": "ou-6hi7-8j91k12m"}'
```

**Output:**

```json
{
  "ConfigurationPolicyId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE33333",
  "TargetId": "ou-6hi7-8j91k12m",
  "TargetType": "ORGANIZATIONAL_UNIT",
  "AssociationType": "APPLIED",
  "UpdatedAt": "2023-09-26T21:13:01.816000+00:00",
  "AssociationStatus": "SUCCESS",
  "AssociationStatusMessage": "Association applied successfully on this target."
}
```


**batch-get-security-controls**

The following code example shows how to use `batch-get-security-controls`.

**AWS CLI**

**To get security control details**
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The following batch-get-security-controls example gets details for the security controls
ACM.1 and IAM.1 in the current AWS account and AWS Region.
aws securityhub batch-get-security-controls \
--security-control-ids '["ACM.1", "IAM.1"]'

Output:
{
"SecurityControls": [
{
"SecurityControlId": "ACM.1",
"Title": "Imported and ACM-issued certificates should be renewed after a
specified time period",
"Description": "This control checks whether an AWS Certificate Manager
(ACM) certificate is renewed within the specified time period. It checks both
imported certificates and certificates provided by ACM. The control fails if the
certificate isn't renewed within the specified time period. Unless you provide a
custom parameter value for the renewal period, Security Hub uses a default value of
30 days.",
"RemediationUrl": "https://docs.aws.amazon.com/console/securityhub/
ACM.1/remediation",
"SeverityRating": "MEDIUM",
"SecurityControlStatus": "ENABLED"
"UpdateStatus": "READY",
"Parameters": {
"daysToExpiration": {
"ValueType": CUSTOM,
"Value": {
"Integer": 15
}
}
},
"LastUpdateReason": "Updated control parameter"
},
{
"SecurityControlId": "IAM.1",
"Title": "IAM policies should not allow full \"*\" administrative
privileges",
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This AWS control checks whether the default version of AWS Identity and Access Management (IAM) policies (also known as customer managed policies) do not have administrator access with a statement that has "Effect": "Allow" with "Action": "*" over "Resource": "*". It only checks for the Customer Managed Policies that you created, but not inline and AWS Managed Policies.

For more information, see Viewing details for a control in the AWS Security Hub User Guide.

For API details, see BatchGetSecurityControls in AWS CLI Command Reference.

batch-get-standards-control-associations

The following code example shows how to use batch-get-standards-control-associations.

AWS CLI

To get the enablement status of a control

The following batch-get-standards-control-associations example identifies whether the specified controls are enabled in the specified standards.

```bash
aws securityhub batch-get-standards-control-associations
```

Output:

```json
{
   "StandardsControlAssociationDetails": [
   
   ]
}
```
"StandardsArn": "arn:aws:securityhub:::ruleset/cis-aws-foundations-benchmark/v/1.2.0",
"SecurityControlId": "Config.1",
"AssociationStatus": "ENABLED",
"RelatedRequirements": [
  "CIS AWS Foundations 2.5"
],
"UpdatedAt": "2022-10-27T16:07:12.960000+00:00",
"StandardsControlTitle": "Ensure AWS Config is enabled",
"StandardsControlDescription": "AWS Config is a web service that performs configuration management of supported AWS resources within your account and delivers log files to you. The recorded information includes the configuration item (AWS resource), relationships between configuration items (AWS resources), and any configuration changes between resources. It is recommended to enable AWS Config in all regions.",
"StandardsControlArns": [
  "arn:aws:securityhub:us-east-1:068873283051:control/cis-aws-foundations-benchmark/v/1.2.0/2.5"
  ]
},
{
  "StandardsArn": "arn:aws:securityhub:us-east-1::standards/aws-foundational-security-best-practices/v/1.0.0",
  "SecurityControlId": "IAM.6",
  "AssociationStatus": "DISABLED",
  "RelatedRequirements": [],
  "UpdatedAt": "2022-11-22T21:30:35.080000+00:00",
  "UpdatedReason": "test",
  "StandardsControlTitle": "Hardware MFA should be enabled for the root user",
  "StandardsControlDescription": "This AWS control checks whether your AWS account is enabled to use a hardware multi-factor authentication (MFA) device to sign in with root user credentials.",
  "StandardsControlArns": [
    "arn:aws:securityhub:us-east-1:068873283051:control/aws-foundational-security-best-practices/v/1.0.0/IAM.6"
  ]
}
For more information, see "Enabling and disabling controls in specific standards" in the AWS Security Hub User Guide.

- For API details, see BatchGetStandardsControlAssociations in AWS CLI Command Reference.

**batch-import-findings**

The following code example shows how to use batch-import-findings.

**AWS CLI**

**To update a finding**

The following batch-import-findings example updates a finding.

```bash
aws securityhub batch-import-findings
  --findings '[[
      "AwsAccountId": "123456789012",
      "CreatedAt": "2020-05-27T17:05:54.832Z",
      "Description": "Vulnerability in a CloudTrail trail",
      "FindingProviderFields": {
        "Severity": {
          "Label": "LOW",
          "Original": "10"
        },
        "Types": [
          "Software and Configuration Checks/Vulnerabilities/CVE"
        ]
      },
      "GeneratorId": "TestGeneratorId",
      "Id": "Id1",
      "Resources": [
        {
          "Id": "arn:aws:cloudtrail:us-west-1:123456789012:trail/TrailName",
          "Partition": "aws",
          "Region": "us-west-1",
          "Type": "AwsCloudTrailTrail"
        }
      ]
    ]
  ]
```
Output:

```
{
   "FailedCount": 0,
   "SuccessCount": 1,
   "FailedFindings": []
}
```

For more information, see [Using BatchImportFindings to create and update findings](https://docs.aws.amazon.com/awssecurityhub/latest/userguide/security-hub-batch-findings.html) in the *AWS Security Hub User Guide*.

- For API details, see [BatchImportFindings](https://docs.aws.amazon.com/cli/latest/reference/securityhub/batch-import-findings.html) in *AWS CLI Command Reference*.

**batch-update-automation-rules**

The following code example shows how to use `batch-update-automation-rules`.

### AWS CLI

**To update automation rules**

The following `batch-update-automation-rules` example updates the specified automation rule. You can update one or more rules with a single command. Only the Security Hub administrator account can run this command.

```
aws securityhub batch-update-automation-rules \
   --update-automation-rules-request-items '[
   {
      "Actions": [{
         "Type": "FINDING_FIELDS_UPDATE",
         "FindingFieldsUpdate": {
            "Note": {
               "Text": "Known issue that is a risk",
               "UpdatedBy": "sechub-automation"
            },
            "Workflow": {}
         }
      }
   ]
```

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Output:

```
{
   "ProcessedAutomationRules": [
      "arn:aws:securityhub:us-east-1:123456789012:automation-rule/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
      "RuleArn": "arn:aws:securityhub:us-east-1:123456789012:automation-rule/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
      "RuleOrder": 1,
      "RuleStatus": "DISABLED"
   ],
   "UnprocessedAutomationRules": []
}
```


**batch-update-findings**

The following code example shows how to use batch-update-findings.

**AWS CLI**

**Example 1: To update a finding**

The following batch-update-findings example updates two findings to add a note, change the severity label, and resolve it.

```
aws securityhub batch-update-findings \
```

--note '{{"Text": "Known issue that is not a risk.", "UpdatedBy": "user1"}'}

--severity '{{"Label": "LOW"}'}

--workflow '{{"Status": "RESOLVED"}'}

Output:

```json
{
  "ProcessedFindings": [
    {
      "Id": "arn:aws:securityhub:us-west-1:123456789012:subscription/pci-dss/v/3.2.1/PCI.Lambda.2/finding/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
      "ProductArn": "arn:aws:securityhub:us-west-1::product/aws/securityhub"
    },
    {
      "Id": "arn:aws:securityhub:us-west-1:123456789012:subscription/pci-dss/v/3.2.1/PCI.Lambda.2/finding/a1b2c3d4-5678-90ab-cdef-EXAMPLE22222",
      "ProductArn": "arn:aws:securityhub:us-west-1::product/aws/securityhub"
    }
  ],
  "UnprocessedFindings": []
}
```

For more information, see Using BatchUpdateFindings to update a finding in the AWS Security Hub User Guide.

**Example 2: To update a finding using shorthand syntax**

The following batch-update-findings example updates two findings to add a note, change the severity label, and resolve it using shorthand syntax.

```bash
aws securityhub batch-update-findings \
   --finding-identifiers Id="arn:aws:securityhub:us-west-1:123456789012:subscription/pci-dss/v/3.2.1/PCI.Lambda.2/finding/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",ProductArn="arn:aws:securityhub:us-west-1::product/aws/securityhub" Id="arn:aws:securityhub:us-west-1:123456789012:subscription/pci-dss/v/3.2.1/PCI.Lambda.2/finding/a1b2c3d4-5678-90ab-cdef-EXAMPLE22222" --note '{{"Text": "Known issue that is not a risk.", "UpdatedBy": "user1"}'} --severity '{{"Label": "LOW"}'} --workflow '{{"Status": "RESOLVED"}'}
```
The following code example shows how to use `batch-update-standards-control-associations`.

**AWS CLI**

**To update the enablement status of a control in enabled standards**

The following `batch-update-standards-control-associations` example disables CloudTrail.1 in the specified standards.

```bash
aws securityhub batch-update-standards-control-associations \
```
This command produces no output when successful.

For more information, see Enabling and disabling controls in specific standards and Enabling and disabling controls in all standards in the AWS Security Hub User Guide.

- For API details, see BatchUpdateStandardsControlAssociations in AWS CLI Command Reference.

**create-action-target**

The following code example shows how to use create-action-target.

**AWS CLI**

**To create a custom action**

The following create-action-target example creates a custom action. It provides the name, description, and identifier for the action.

```bash
aws securityhub create-action-target \
    --name "Send to remediation" \
    --description "Action to send the finding for remediation tracking" \
    --id "Remediation"
```

Output:

```json
{
   "ActionTargetArn": "arn:aws:securityhub:us-west-1:123456789012:action/custom/Remediation"
}
```

For more information, see Creating a custom action and associating it with a CloudWatch Events rule in the AWS Security Hub User Guide.

- For API details, see CreateActionTarget in AWS CLI Command Reference.
create-automation-rule

The following code example shows how to use create-automation-rule.

AWS CLI

To create an automation rule

The following create-automation-rule example creates an automation rule in the current AWS account and AWS Region. Security Hub filters your findings based on the specified criteria and applies the actions to matching findings. Only the Security Hub administrator account can run this command.

```
aws securityhub create-automation-rule \
  --actions '[{ \n    "Type": "FINDING_FIELDS_UPDATE", \n    "FindingFieldsUpdate": { \n      "Severity": { \n        "Label": "HIGH" \n      }, \n      "Note": { \n        "Text": "Known issue that is a risk. Updated by automation rules", \n        "UpdatedBy": "sechub-automation" \n      } \n    } \n  }]' \
  --criteria '{ \n    "SeverityLabel": [{ \n      "Value": "INFORMATIONAL", \n      "Comparison": "EQUALS" \n    }] \n  }' \
  --description "A sample rule" \
  --no-is-terminal \
  --rule-name "sample rule" \
  --rule-order 1 \
  --rule-status "ENABLED"
```

Output:

```
{
  "RuleArn": "arn:aws:securityhub:us-east-1:123456789012:automation-rule/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111"
}
```
For more information, see Creating automation rules in the AWS Security Hub User Guide.

- For API details, see CreateAutomationRule in AWS CLI Command Reference.

create-configuration-policy

The following code example shows how to use create-configuration-policy.

AWS CLI

To create a configuration policy

The following create-configuration-policy example creates a configuration policy with the specified settings.

```bash
aws securityhub create-configuration-policy \
  --name "SampleConfigurationPolicy" \
  --description "SampleDescription" \
  --tags '{"Environment": "Prod"}'
```

Output:

```
{
  "Arn": "arn:aws:securityhub:eu-central-1:123456789012:configuration-policy/a1b2c3d4-5678-90ab-cdef-EXAMPLE111111",
  "Id": "a1b2c3d4-5678-90ab-cdef-EXAMPLE111111",
  "Name": "SampleConfigurationPolicy",
  "Description": "SampleDescription",
  "UpdatedAt": "2023-11-28T20:28:04.494000+00:00",
  "CreatedAt": "2023-11-28T20:28:04.494000+00:00",
  "ConfigurationPolicy": {
    "SecurityHub": {
      "ServiceEnabled": true,
```
"EnabledStandardIdentifiers": [  "arn:aws:securityhub:eu-central-1::standards/aws-foundational-security-best-practices/v/1.0.0",  "arn:aws:securityhub:::ruleset/cis-aws-foundations-benchmark/v/1.2.0" ],  "SecurityControlsConfiguration": {  "DisabledSecurityControlIdentifiers": [  "CloudTrail.2"  ],  "SecurityControlCustomParameters": [   {    "SecurityControlId": "ACM.1",    "Parameters": {     "daysToExpiration": {      "ValueType": "CUSTOM",      "Value": {       "Integer": 15      }     }    }   }  ]  }  ]}

For more information, see Creating and associating Security Hub configuration policies in the AWS Security Hub User Guide.

- For API details, see CreateConfigurationPolicy in AWS CLI Command Reference.

create-finding-aggregator

The following code example shows how to use create-finding-aggregator.

AWS CLI

To enable finding aggregation

The following create-finding-aggregator example configures finding aggregation. It is run from US East (Virginia), which designates US East (Virginia) as the aggregation Region. It
indicates to only link specified Regions, and to not automatically link new Regions. It selects US West (N. California) and US West (Oregon) as the linked Regions.

```bash
aws securityhub create-finding-aggregator
   --region us-east-1
   --region-linking-mode SPECIFIED_REGIONS
   --regions us-west-1,us-west-2
```

Output:

```json
{
  "FindingAggregationRegion": "us-east-1",
  "RegionLinkingMode": "SPECIFIED_REGIONS",
  "Regions": "us-west-1,us-west-2"
}
```

For more information, see [Enabling finding aggregation](https://docs.aws.amazon.com/securityhub/latest/userguide/enabling-finding-aggregation.html) in the *AWS Security Hub User Guide*.

For API details, see [CreateFindingAggregator](https://docs.aws.amazon.com/cli/latest/reference/securityhub/create-finding-aggregator.html) in *AWS CLI Command Reference*.

### create-insight

The following code example shows how to use `create-insight`.

**AWS CLI**

**To create a custom insight**

The following `create-insight` example creates a custom insight named Critical role findings that returns critical findings that are related to AWS roles.

```bash
aws securityhub create-insight
   --filters '{"ResourceType": [{ "Comparison": "EQUALS", "Value": "AwsIamRole"}],
              "SeverityLabel": [{"Comparison": "EQUALS", "Value": "CRITICAL"}]}'
   --group-by-attribute "ResourceId"
   --name "Critical role findings"
```

Output:

```json
{

}
For more information, see Managing custom insights in the AWS Security Hub User Guide.

- For API details, see CreateInsight in AWS CLI Command Reference.

create-members

The following code example shows how to use create-members.

AWS CLI

To add accounts as member accounts

The following create-members example adds two accounts as member accounts to the requesting administrator account.

```
aws securityhub create-members \
   --account-details '[["AccountId": "123456789111"],{"AccountId": "123456789222"}]'
```

Output:

```
{
   "UnprocessedAccounts": []
}
```

For more information, see Managing administrator and member accounts in the AWS Security Hub User Guide.

- For API details, see CreateMembers in AWS CLI Command Reference.

decline-invitations

The following code example shows how to use decline-invitations.

AWS CLI

To decline an invitation to be a member account
The following `decline-invitations` example declines an invitation to be a member account of the specified administrator account. The member account is the requesting account.

```bash
aws securityhub decline-invitations \
   --account-ids "123456789012"
```

Output:

```json
{
   "UnprocessedAccounts": []
}
```

For more information, see [Managing administrator and member accounts](#) in the *AWS Security Hub User Guide*.

- For API details, see [DeclineInvitations](#) in *AWS CLI Command Reference*.

### delete-action-target

The following code example shows how to use `delete-action-target`.

**AWS CLI**

**To delete a custom action**

The following `delete-action-target` example deletes the custom action identified by the specified ARN.

```bash
aws securityhub delete-action-target \
```

Output:

```json
{
   "ActionTargetArn": "arn:aws:securityhub:us-west-1:123456789012:action/custom/Remediation"
}
```

For more information, see [Creating a custom action and associating it with a CloudWatch Events rule](#) in the *AWS Security Hub User Guide*.
delete-configuration-policy

The following code example shows how to use delete-configuration-policy.

AWS CLI

To delete a configuration policy

The following delete-configuration-policy example deletes the specified configuration policy.

```bash
aws securityhub delete-configuration-policy \
   --identifier "arn:aws:securityhub:eu-central-1:123456789012:configuration-policy/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111"
```

This command produces no output.

For more information, see Deleting and disassociating Security Hub configuration policies in the AWS Security Hub User Guide.

For API details, see DeleteConfigurationPolicy in AWS CLI Command Reference.

delete-finding-aggregator

The following code example shows how to use delete-finding-aggregator.

AWS CLI

To stop finding aggregation

The following delete-finding-aggregator example stops finding aggregation. It is run from US East (Virginia), which is the aggregation Region.

```bash
aws securityhub delete-finding-aggregator \
   --region us-east-1 \
   --finding-aggregator-arn arn:aws:securityhub:us-east-1:222222222222:finding-aggregator/123e4567-e89b-12d3-a456-426652340000
```

This command produces no output.
For more information, see [Stopping finding aggregation](#) in the *AWS Security Hub User Guide*.

- For API details, see [DeleteFindingAggregator](#) in *AWS CLI Command Reference*.

### delete-insight

The following code example shows how to use `delete-insight`.

**AWS CLI**

**To delete a custom insight**

The following `delete-insight` example deletes the custom insight with the specified ARN.

```bash
aws securityhub delete-insight
   --insight-arn "arn:aws:securityhub:us-west-1:123456789012:insight/123456789012/custom/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111"
```

**Output:**

```json
{
   "InsightArn": "arn:aws:securityhub:eu-central-1:123456789012:insight/123456789012/custom/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111"
}
```

For more information, see [Managing custom insights](#) in the *AWS Security Hub User Guide*.

- For API details, see [DeleteInsight](#) in *AWS CLI Command Reference*.

### delete-invitations

The following code example shows how to use `delete-invitations`.

**AWS CLI**

**To delete an invitation to be a member account**

The following `delete-invitations` example deletes an invitation to be a member account for the specified administrator account. The member account is the requesting account.

```bash
aws securityhub delete-invitations
```

For more information, see [Managing custom insights](#) in the *AWS Security Hub User Guide*.

- For API details, see [DeleteInvitation](#) in *AWS CLI Command Reference*. 
--account-ids "123456789012"

Output:

```
{
    "UnprocessedAccounts": []
}
```

For more information, see [Managing administrator and member accounts](#) in the *AWS Security Hub User Guide*.

- For API details, see [DeleteInvitations](#) in *AWS CLI Command Reference*.

**delete-members**

The following code example shows how to use delete-members.

### AWS CLI

**To delete member accounts**

The following `delete-members` example deletes the specified member accounts from the requesting administrator account.

```shell
aws securityhub delete-members \
--account-ids "123456789111" "123456789222"
```

Output:

```
{
    "UnprocessedAccounts": []
}
```

For more information, see [Managing administrator and member accounts](#) in the *AWS Security Hub User Guide*.

- For API details, see [DeleteMembers](#) in *AWS CLI Command Reference*.

**describe-action-targets**

The following code example shows how to use describe-action-targets.

---

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AWS CLI

To retrieve details about custom actions

The following describe-action-targets example retrieves information about the custom action identified by the specified ARN.

```bash
aws securityhub describe-action-targets \
```

Output:

```json
{
   "ActionTargets": [
      {
         "Description": "Action to send the finding for remediation tracking",
         "Name": "Send to remediation"
      }
   ]
}
```

For more information, see Creating a custom action and associating it with a CloudWatch Events rule in the AWS Security Hub User Guide.

- For API details, see `DescribeActionTargets` in AWS CLI Command Reference.

describe-hub

The following code example shows how to use describe-hub.

AWS CLI

To get information about a hub resource

The following describe-hub example returns the subscription date for the specified hub resource. The hub resource is identified by its ARN.

```bash
aws securityhub describe-hub \
   --hub-arn "arn:aws:securityhub:us-west-1:123456789012:hub/default"
```
describe-organization-configuration

The following code example shows how to use describe-organization-configuration.

AWS CLI

To view how Security Hub is configured for an organization

The following describe-organization-configuration example returns information about the way an organization is configured in Security Hub. In this example, the organization uses central configuration. Only the Security Hub administrator account can run this command.

aws securityhub describe-organization-configuration

Output:

```json
{
    "AutoEnable": false,
    "MemberAccountLimitReached": false,
    "AutoEnableStandards": "NONE",
    "OrganizationConfiguration": {
        "ConfigurationType": "LOCAL",
        "Status": "ENABLED",
        "StatusMessage": "Central configuration has been enabled successfully"
    }
}
```

For more information, see Managing accounts with AWS Organizations in the AWS Security Hub User Guide.
For API details, see DescribeOrganizationConfiguration in AWS CLI Command Reference.

describe-products

The following code example shows how to use describe-products.

AWS CLI

To return information about available product integrations

The following describe-products example returns the available product integrations one at a time.

```
aws securityhub describe-products \
   --max-results 1
```

Output:

```json
{
   "NextToken": "U2FsdGVkX18vvPlOqb7RDrWRWFBJI46MOIAb+nZmRJmR15NoRi2gm13sdQEn30/pq/78dGs+bKpgA+7HMPH0qX33/zoRI+uIG/F9yLNhcozOWzFUdy36JcXLQji3Rpnn/ cD1SVkGA98qI3zDOSDg=",
   "Products": [
      {
         "ProductName": "CrowdStrike Falcon",
         "CompanyName": "CrowdStrike",
         "Description": "CrowdStrike Falcon's single lightweight sensor unifies next-gen antivirus, endpoint detection and response, and 24/7 managed hunting, via the cloud."
      },
      {
         "Categories": [
            "Endpoint Detection and Response (EDR)",
            "AV Scanning and Sandboxing",
            "Threat Intelligence Feeds and Reports",
            "Endpoint Forensics",
            "Network Forensics"
         ],
         "IntegrationTypes": [
            "SEND_FINDINGS_TO_SECURITY_HUB"
         ],
         "MarketplaceUrl": "https://aws.amazon.com/marketplace/seller-profile?id=a1b2c3d4-5678-90ab-cdef-EXAMPLE11111"
      }
   ]
}
```
"ActivationUrl": "https://falcon.crowdstrike.com/support/documentation",
"ProductSubscriptionResourcePolicy": "{"Version":
"2012-10-17","Statement":[{"Effect":"Allow","Principal":{"AWS":
"123456789333"},"Action":[
"securityhub:BatchImportFindings"],"Resource":
crowdstrike-falcon"},"Condition":{"StringEquals":{"securityhub:TargetAccount":
"123456789012"}}}],{"Effect":"Allow","Principal":{"AWS":
"123456789012"},"Action":[
"securityhub:BatchImportFindings"],"Resource":
"arn:aws:securityhub:us-west-1:123456789333:product/crowdstrike/crowdstrike-
falcon"},"Condition":{"StringEquals":{"securityhub:TargetAccount":
"123456789012"}}]}
}

For more information, see Managing product integrations in the AWS Security Hub User Guide.

• For API details, see DescribeProducts in AWS CLI Command Reference.

describe-standards

The following code example shows how to use describe-standards.

AWS CLI

To return a list of available standards

The following describe-standards example returns the list of available standards.

aws securityhub describe-standards

Output:

{
    "Standards": [
        {
            "StandardsArn": "arn:aws:securityhub:us-west-1::standards/aws-
foundational-security-best-practices/v/1.0.0",
            "Name": "AWS Foundational Security Best Practices v1.0.0",
            "Description": "The AWS Foundational Security Best Practices standard
is a set of automated security checks that detect when AWS accounts and deployed
resources do not align to security best practices. The standard is defined by AWS"}]}
security experts. This curated set of controls helps improve your security posture in AWS, and cover AWS's most popular and foundational services.

```json
{
  "EnabledByDefault": true,
  {
    "StandardsArn": "arn:aws:securityhub:::ruleset/cis-aws-foundations-benchmark/v/1.2.0",
    "Name": "CIS AWS Foundations Benchmark v1.2.0",
    "Description": "The Center for Internet Security (CIS) AWS Foundations Benchmark v1.2.0 is a set of security configuration best practices for AWS. This Security Hub standard automatically checks for your compliance readiness against a subset of CIS requirements."
  },
  {
    "StandardsArn": "arn:aws:securityhub:us-west-1::standards/pci-dss/v/3.2.1",
    "Name": "PCI DSS v3.2.1",
    "Description": "The Payment Card Industry Data Security Standard (PCI DSS) v3.2.1 is an information security standard for entities that store, process, and/or transmit cardholder data. This Security Hub standard automatically checks for your compliance readiness against a subset of PCI DSS requirements."
  },
  "EnabledByDefault": false
}
}
```


- For API details, see [DescribeStandards](https://docs.aws.amazon.com/cli/latest/reference/securityhub/describe-standards.html) in *AWS CLI Command Reference*.

**describe-standards-controls**

The following code example shows how to use `describe-standards-controls`.

**AWS CLI**

**To request the list of controls in an enabled standard**

The following `describe-standards-controls` example requests the list of controls in the requestor account's subscription to the PCI DSS standard. The request returns two controls at a time.
```bash
aws securityhub describe-standards-controls
   --standards-subscription-arn "arn:aws:securityhub:us-west-1:123456789012:subscription/pci-dss/v/3.2.1"
   --max-results 2
```

Output:

```json
{
   "Controls": [
      {
         "ControlStatus": "ENABLED",
         "ControlStatusUpdatedAt": "2020-05-15T18:49:04.473000+00:00",
         "ControlId": "PCI.AutoScaling.1",
         "Title": "Auto scaling groups associated with a load balancer should use health checks",
         "Description": "This AWS control checks whether your Auto Scaling groups that are associated with a load balancer are using Elastic Load Balancing health checks.",
         "RemediationUrl": "https://docs.aws.amazon.com/console/securityhub/PCI.AutoScaling.1/remediation",
         "SeverityRating": "LOW",
         "RelatedRequirements": [
            "PCI DSS 2.2"
         ]
      },
      {
         "StandardsControlArn": "arn:aws:securityhub:us-west-1:123456789012:control/pci-dss/v/3.2.1/PCI.CW.1",
         "ControlStatus": "ENABLED",
         "ControlStatusUpdatedAt": "2020-05-15T18:49:04.498000+00:00",
         "ControlId": "PCI.CW.1",
         "Title": "A log metric filter and alarm should exist for usage of the \"root\" user",
         "Description": "This control checks for the CloudWatch metric filters using the following pattern \{ $.userIdentity.type = \"Root\" & & $.userIdentity.invokedBy NOT EXISTS & & $.eventType != \"AwsServiceEvent\" \} It checks that the log group name is configured for use with active multi-region CloudTrail, that there is at least one Event Selector for a Trail with IncludeManagementEvents set to true and ReadWriteType set to All, and that there is at least one active subscriber to an SNS topic associated with the alarm."
      }
   ]
}
```
"RemediationUrl": "https://docs.aws.amazon.com/console/securityhub/PCI.CW.1/remediation",
"SeverityRating": "MEDIUM",
"RelatedRequirements": [
  "PCI DSS 7.2.1"
]
},
"NextToken": "U2FsdGVkX1+eNkPoZHvl11ip5HUYQPWSWZGmftcmJiHL8JoKEsCDuaKayiPDyLK+LiTkShveoOdvfXCK0BaGhohIXhsIedN+L5jQV/17kFcfJcq4PziNC1N9xe9aq2pj1LVznTfSimrodT5bRNHe4fELCQq/z+5ka+5Lzmc11axcwTd51KgQyQqmUVoeriHZHyIiBwWk70NYdBYVG80EortVWvSk0UTt+B2ThcnC7143k10UNx1kZ6sc64AsW"
}

For more information, see [Viewing details for controls](https://docs.aws.amazon.com/securityhub/latest/userguide/) in the *AWS Security Hub User Guide*.

- For API details, see [DescribeStandardsControls](https://docs.aws.amazon.com/cli/latest/reference/securityhub/describe-standards-controls.html) in *AWS CLI Command Reference*.

### disable-import-findings-for-product

The following code example shows how to use `disable-import-findings-for-product`.

**AWS CLI**

**To stop receiving findings from a product integration**

The following `disable-import-findings-for-product` example disables the flow of findings for the specified subscription to a product integration.

```
aws securityhub disable-import-findings-for-product \
```

This command produces no output.

For more information, see [Managing product integrations](https://docs.aws.amazon.com/securityhub/latest/userguide/) in the *AWS Security Hub User Guide*.

- For API details, see [DisableImportFindingsForProduct](https://docs.aws.amazon.com/cli/latest/reference/securityhub/disable-import-findings-for-product.html) in *AWS CLI Command Reference*.

### disable-organization-admin-account

The following code example shows how to use `disable-organization-admin-account`.

**Actions and scenarios**
AWS CLI

To remove a Security Hub administrator account

The following disable-organization-admin-account example revokes the specified account's assignment as a Security Hub administrator account for AWS Organizations.

```
aws securityhub disable-organization-admin-account
--admin-account-id 777788889999
```

This command produces no output.


- For API details, see [DisableOrganizationAdminAccount](https://docs.aws.amazon.com/cli/2019-01-25/securityhub/index.html#create) in *AWS CLI Command Reference*.

disable-security-hub

The following code example shows how to use disable-security-hub.

AWS CLI

To disable AWS Security Hub

The following disable-security-hub example disables AWS Security Hub for the requesting account.

```
aws securityhub disable-security-hub
```

This command produces no output.


- For API details, see [DisableSecurityHub](https://docs.aws.amazon.com/cli/2019-01-25/securityhub/index.html#disable) in *AWS CLI Command Reference*.

disassociate-from-administrator-account

The following code example shows how to use disassociate-from-administrator-account.

AWS CLI

To disassociate from an administrator account
The following `disassociate-from-administrator-account` example disassociates the requesting account from its current administrator account.

```bash
aws securityhub disassociate-from-administrator-account
```

This command produces no output.

For more information, see Managing administrator and member accounts in the AWS Security Hub User Guide.

- For API details, see DisassociateFromAdministratorAccount in AWS CLI Command Reference.

`disassociate-from-master-account`

The following code example shows how to use `disassociate-from-master-account`.

**AWS CLI**

**To disassociate from an administrator account**

The following `disassociate-from-master-account` example disassociates the requesting account from its current administrator account.

```bash
aws securityhub disassociate-from-master-account
```

This command produces no output.

For more information, see Managing administrator and member accounts in the AWS Security Hub User Guide.

- For API details, see DisassociateFromMasterAccount in AWS CLI Command Reference.

`disassociate-members`

The following code example shows how to use `disassociate-members`.

**AWS CLI**

**To disassociate member accounts**

The following `disassociate-members` example disassociates the specified member accounts from the requesting administrator account.
This command produces no output.

For more information, see Managing administrator and member accounts in the AWS Security Hub User Guide.

- For API details, see DisassociateMembers in AWS CLI Command Reference.

**enable-import-findings-for-product**

The following code example shows how to use enable-import-findings-for-product.

**AWS CLI**

To start receiving findings from a product integration

The following enable-import-findings-for-product example enables the flow of findings from the specified product integration.

```
aws securityhub enable-import-findings-for-product \
  --product-arn "arn:aws:securityhub:us-east-1:123456789012:product/"crowdstrike/falcon"
```

Output:

```
{
  "ProductSubscriptionArn": "arn:aws:securityhub:us-east-1:123456789012:product/subscription/crowdstrike/falcon"
}
```

For more information, see Managing product integrations in the AWS Security Hub User Guide.
- For API details, see EnableImportFindingsForProduct in AWS CLI Command Reference.

**enable-organization-admin-account**

The following code example shows how to use enable-organization-admin-account.
AWS CLI

To designate an organization account as a Security Hub administrator account

The following enable-organization-admin-account example designates the specified account as a Security Hub administrator account.

```bash
aws securityhub enable-organization-admin-account \
  --admin-account-id 77788889999
```

This command produces no output.

For more information, see Designating a Security Hub administrator account in the AWS Security Hub User Guide.

- For API details, see EnableOrganizationAdminAccount in AWS CLI Command Reference.

enable-security-hub

The following code example shows how to use enable-security-hub.

AWS CLI

To enable AWS Security Hub

The following enable-security-hub example enables AWS Security Hub for the requesting account. It configures Security Hub to enable the default standards. For the hub resource, it assigns the value Security to the tag Department.

```bash
aws securityhub enable-security-hub \
  --enable-default-standards \
  --tags '{"Department": "Security"}''
```

This command produces no output.

For more information, see Enabling Security Hub in the AWS Security Hub User Guide.

- For API details, see EnableSecurityHub in AWS CLI Command Reference.

get-administrator-account

The following code example shows how to use get-administrator-account.
**AWS CLI**

**To retrieve information about an administrator account**

The following `get-administrator-account` example retrieves information about the administrator account for the requesting account.

```bash
aws securityhub get-administrator-account
```

Output:

```
{
  "Master": {
    "AccountId": "123456789012",
    "InvitationId": "7ab938c5d52d7904ad09f9e7c20cc4eb",
    "InvitedAt": 2020-06-01T20:21:18.042000+00:00,
    "MemberStatus": "ASSOCIATED"
  }
}
```

For more information, see [Managing administrator and member accounts](#) in the *AWS Security Hub User Guide*.

- For API details, see [GetAdministratorAccount](#) in *AWS CLI Command Reference*.

**get-configuration-policy**

The following code example shows how to use `get-configuration-policy`.

**AWS CLI**

**To view configuration policy details**

The following `get-configuration-policy` example retrieves details about the specified configuration policy.

```bash
aws securityhub get-configuration-policy \
    --identifier "arn:aws:securityhub:eu-central-1:123456789012:configuration-policy/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111"
```

Output:
For more information, see Viewing Security Hub configuration policies in the AWS Security Hub User Guide.

- For API details, see GetConfigurationPolicy in AWS CLI Command Reference.
get-configuration-policy-association

The following code example shows how to use get-configuration-policy-association.

AWS CLI

To get configuration association details for a target

The following get-configuration-policy-association example retrieves association details for the specified target. You can provide an account ID, organizational unit ID, or the root ID for the target.

```
aws securityhub get-configuration-policy-association \\
   --target '{"OrganizationalUnitId": "ou-6hi7-8j91kl2m"}';
```

Output:

```
{
   "ConfigurationPolicyId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE33333",
   "TargetId": "ou-6hi7-8j91kl2m",
   "TargetType": "ORGANIZATIONAL_UNIT",
   "AssociationType": "APPLIED",
   "UpdatedAt": "2023-09-26T21:13:01.816000+00:00",
   "AssociationStatus": "SUCCESS",
   "AssociationStatusMessage": "Association applied successfully on this target."
}
```

For more information, see View Security Hub configuration policies in the AWS Security Hub User Guide.

- For API details, see GetConfigurationPolicyAssociation in AWS CLI Command Reference.

get-enabled-standards

The following code example shows how to use get-enabled-standards.

AWS CLI

To retrieve information about an enabled standard

The following get-enabled-standards example retrieves information about the PCI DSS standard.
aws securityhub get-enabled-standards \
   --standards-subscription-arn "arn:aws:securityhub:us-west-1:123456789012:subscription/pci-dss/v/3.2.1"

Output:

```json
{

   "StandardsSubscriptions": [
   
   { 
   "StandardsArn": "arn:aws:securityhub:us-west-1::standards/pci-dss/v/3.2.1",
   "StandardsInput": {},
   "StandardsStatus": "READY",
   "StandardsSubscriptionArn": "arn:aws:securityhub:us-west-1:123456789012:subscription/pci-dss/v/3.2.1"
   }
   
   ]

}
```


**get-finding-aggregator**

The following code example shows how to use get-finding-aggregator.

**AWS CLI**

**To retrieve the current finding aggregation configuration**

The following get-finding-aggregator example retrieves the current finding aggregation configuration.

```
aws securityhub get-finding-aggregator \ 
   --finding-aggregator-arn arn:aws:securityhub:us-east-1:222222222222:finding-aggregator/123e4567-e89b-12d3-a456-426652340000
```

Output:

```json
{
```
"FindingAggregationRegion": "us-east-1",
"RegionLinkingMode": "SPECIFIED_REGIONS",
"Regions": "us-west-1,us-west-2"
}

For more information, see [Viewing the current finding aggregation configuration](https://aws.amazon.com/doc/aws-securityhub-get-finding-aggregator/) in the *AWS Security Hub User Guide*.

- For API details, see [GetFindingAggregator](https://docs.aws.amazon.com/cli/latest/reference/securityhub/get-finding-aggregator.html) in *AWS CLI Command Reference*.

### get-finding-history

The following code example shows how to use `get-finding-history`.

**AWS CLI**

**To get finding history**

The following `get-finding-history` example gets up to the last 90 days of history for the specified finding. In this example, the results are limited to two records of finding history.

```
aws securityhub get-finding-history \
```

**Output:**

```
{
  "Records": [
    {
      "FindingIdentifier": {
        "Id": "arn:aws:securityhub:us-east-1:123456789012:security-control/S3.17/finding/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
        "ProductArn": "arn:aws:securityhub:us-east-1::product/aws/securityhub"
      },
      "UpdateTime": "2023-06-02T03:15:25.685000+00:00",
      "FindingCreated": false,
      "UpdateSource": {
        "Type": "BATCH_IMPORT_FINDINGS",
        "Source": "example source"
      }
    }
  ]
}
```
"Identity": "arn:aws:securityhub:us-east-1::product/aws/securityhub"
],
"Updates": [
{
"UpdatedField": "Compliance.RelatedRequirements",
},
{
"UpdatedField": "LastObservedAt",
"OldValue": "2023-06-01T09:15:38.587Z",
"NewValue": "2023-06-02T03:15:22.946Z"
},
{
"UpdatedField": "UpdatedAt",
"OldValue": "2023-06-01T09:15:31.049Z",
"NewValue": "2023-06-02T03:15:14.861Z"
},
{
"UpdatedField": "ProcessedAt",
"OldValue": "2023-06-01T09:41:05.058Z",
"NewValue": "2023-06-02T03:15:25.685Z"
}
],

"FindingIdentifier": {
"Id": "arn:aws:securityhub:us-east-1:123456789012:security-control/S3.17/finding/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
"ProductArn": "arn:aws:securityhub:us-east-1::product/aws/securityhub"
},
"UpdateTime": "2023-05-23T02:06:51.518000+00:00",
"FindingCreated": "true",
"UpdateSource": {
"Type": "BATCH_IMPORT_FINDINGS",
"Identity": "arn:aws:securityhub:us-east-1::product/aws/securityhub"
}
The following code example shows how to use `get-findings`.

**AWS CLI**

**Example 1: To return findings generated for a specific standard**

The following `get-findings` example returns findings for the PCI DSS standard.

```bash
aws securityhub get-findings \
  --filters '{"GeneratorId": ["Value": "pci-dss", "Comparison": "PREFIX"]}' \
  --max-items 1
```

**Output:**

```json
{
  "Findings": [
    {
      "SchemaVersion": "2018-10-08",
      "Id": "arn:aws:securityhub:eu-central-1:123456789012:subscription/pci-dss/v/3.2.1/PCI.Lambda.2/finding/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
      "ProductArn": "arn:aws:securityhub:us-west-1::product/aws/securityhub",
      "GeneratorId": "pci-dss/v/3.2.1/PCI.Lambda.2",
      "AwsAccountId": "123456789012",
      "Types": [
        "Software and Configuration Checks/Industry and Regulatory Standards/PCI-DSS"
      ],
      "FindingProviderFields": {
        "Severity": {
          "Original": 0,
          "Label": "INFORMATIONAL"
        },
```
"Types": [  "Software and Configuration Checks/Industry and Regulatory Standards/PCI-DSS"
],
"FirstObservedAt": "2020-06-02T14:02:49.159Z",
"LastObservedAt": "2020-06-02T14:02:52.397Z",
"CreatedAt": "2020-06-02T14:02:49.159Z",
"UpdatedAt": "2020-06-02T14:02:52.397Z",
"Severity": {
  "Original": 0,
  "Label": "INFORMATIONAL",
  "Normalized": 0
},
"Title": "PCI.Lambda.2 Lambda functions should be in a VPC",
"Description": "This AWS control checks whether a Lambda function is in a VPC.",
"Remediation": {
  "Recommendation": {
    "Text": "For directions on how to fix this issue, please consult the AWS Security Hub PCI DSS documentation.",
    "Url": "https://docs.aws.amazon.com/console/securityhub/PCI.Lambda.2/remediation"
  }
},
"ProductFields": {
  "StandardsArn": "arn:aws:securityhub:::standards/pci-dss/v/3.2.1",
  "StandardsSubscriptionArn": "arn:aws:securityhub:us-west-1:123456789012:subscription/pci-dss/v/3.2.1",
  "ControlId": "PCI.Lambda.2",
  "RecommendationUrl": "https://docs.aws.amazon.com/console/securityhub/PCI.Lambda.2/remediation",
  "RelatedAWSResources:0/name": "securityhub-lambda-inside-vpc-0e904a3b",
  "RelatedAWSResources:0/type": "AWS::Config::ConfigRule",
  "StandardsControlArn": "arn:aws:securityhub:us-west-1:123456789012:control/pci-dss/v/3.2.1/PCI.Lambda.2",
  "aws/securityhub/SeverityLabel": "INFORMATIONAL",
  "aws/securityhub/ProductName": "Security Hub",
  "aws/securityhub/Company_name": "AWS",
  "aws/securityhub/FindingId": "arn:aws:securityhub:eu-central-1::product/aws/securityhub/arn:aws:securityhub:eu-central-1:123456789012:subscription/pci-dss/v/3.2.1/PCI.Lambda.2=finding/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111"
Example 2: To return critical-severity findings that have a workflow status of NOTIFIED

The following `get-findings` example returns findings that have a severity label value of CRITICAL and a workflow status of NOTIFIED. The results are sorted in descending order by the value of Confidence.

```bash
aws securityhub get-findings \
   --filters '{"SeverityLabel": [{"Value": "CRITICAL","Comparison": "EQUALS"}], "WorkflowStatus": [{"Value": "NOTIFIED","Comparison": "EQUALS"}]}' \
   --sort-criteria '{ "Field": "Confidence", "SortOrder": "desc"}' \
   --max-items 1
```

Output:
Findings: [{
  "SchemaVersion": "2018-10-08",
  "Id": "arn:aws:securityhub:us-west-1:123456789012:subscription/cis-aws-foundations-benchmark/v/1.2.0/1.13/finding/a1b2c3d4-5678-90ab-cdef-EXAMPLE111111",
  "ProductArn": "arn:aws:securityhub:us-west-2::product/aws/securityhub",
  "GeneratorId": "arn:aws:securityhub:::ruleset/cis-aws-foundations-benchmark/v/1.2.0/rule/1.13",
  "AwsAccountId": "123456789012",
  "Types": ["Software and Configuration Checks/Industry and Regulatory Standards/CIS AWS Foundations Benchmark"],
  "FindingProviderFields": {
    "Severity": {
      "Original": 90,
      "Label": "CRITICAL"
    },
    "Types": ["Software and Configuration Checks/Industry and Regulatory Standards/CIS AWS Foundations Benchmark"
    ]
  },
  "FirstObservedAt": "2020-05-21T20:16:34.752Z",
  "LastObservedAt": "2020-06-09T08:16:37.171Z",
  "CreatedAt": "2020-05-21T20:16:34.752Z",
  "UpdatedAt": "2020-06-09T08:16:36.430Z",
  "Severity": {
    "Original": 90,
    "Label": "CRITICAL",
    "Normalized": 90
  },
  "Title": "1.13 Ensure MFA is enabled for the \"root\" account",
  "Description": "The root account is the most privileged user in an AWS account. MFA adds an extra layer of protection on top of a user name and password. With MFA enabled, when a user signs in to an AWS website, they will be prompted for their user name and password as well as for an authentication code from their AWS MFA device."
  "Remediation": {
    "Recommendation": {
      "Text": "For directions on how to fix this issue, please consult the AWS Security Hub CIS documentation."
    }
  }
}
"Url": "https://docs.aws.amazon.com/console/securityhub/standards-cis-1.13/remediation",
}
},
"ProductFields": {
"StandardsGuideArn": "arn:aws:securityhub:::ruleset/cis-aws-foundations-benchmark/v/1.2.0",
"RuleId": "1.13",
"RecommendationUrl": "https://docs.aws.amazon.com/console/securityhub/standards-cis-1.13/remediation",
"RelatedAWSResources:0/name": "securityhub-root-account-mfa-enabled-5pftha",
"RelatedAWSResources:0/type": "AWS::Config::ConfigRule",
"StandardsControlArn": "arn:aws:securityhub:us-west-1:123456789012:control/cis-aws-foundations-benchmark/v/1.2.0/1.13",
"aws/securityhub/SeverityLabel": "CRITICAL",
"aws/securityhub/ProductName": "Security Hub",
"aws/securityhub/CompanyName": "AWS",
"aws/securityhub/FindingId": "arn:aws:securityhub:us-west-1::product/aws/securityhub/arn:aws:securityhub:us-west-1:123456789012:subscription/cis-aws-foundations-benchmark/v/1.2.0/1.13/finding/a1b2c3d4-5678-90ab-cdef-EXAMPLE111111"
},
"Resources": [
{
"Type": "AwsAccount",
"Id": "AWS::::Account:123456789012",
"Partition": "aws",
"Region": "us-west-1"
}
],
"Compliance": {
"Status": "FAILED"
},
"WorkflowState": "NEW",
"Workflow": {
"Status": "NOTIFIED"
},
"RecordState": "ACTIVE"}
get-insight-results

The following code example shows how to use get-insight-results.

AWS CLI

To retrieve the results for an insight

The following get-insight-results example returns the list of insight results for the insight with the specified ARN.

```bash
aws securityhub get-insight-results \
  --insight-arn "arn:aws:securityhub:us-west-1:123456789012:insight/123456789012/custom/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111"
```

Output:

```json
{
   "InsightResults": {
       "GroupByAttribute": "ResourceId",
       "InsightArn": "arn:aws:securityhub:us-west-1:123456789012:insight/123456789012/custom/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
       "ResultValues": [
           {
               "Count": 10,
               "GroupByAttributeValue": "AWS::::Account:123456789111"
           },
           {
               "Count": 3,
               "GroupByAttributeValue": "AWS::::Account:123456789222"
           }
       ]
   }
}
```
For more information, see Viewing and taking action on insight results and findings in the AWS Security Hub User Guide.

- For API details, see GetInsightResults in AWS CLI Command Reference.

get-insights

The following code example shows how to use get-insights.

AWS CLI

To retrieve details about an insight

The following get-insights example retrieves the configuration details for the insight with the specified ARN.

```bash
aws securityhub get-insights \
--insight-arns "arn:aws:securityhub:us-west-1:123456789012:insight/123456789012/custom/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111"
```

Output:

```
{
   "Insights": [ 
   {
      "Filters": { 
      "ResourceType": [ 
      { 
         "Comparison": "EQUALS", 
         "Value": "AwsIamRole"
      } 
      ], 
      "SeverityLabel": [ 
      { 
         "Comparison": "EQUALS", 
         "Value": "CRITICAL"
      } 
      ], 
      "GroupByAttribute": "ResourceId", 
      "InsightArn": "arn:aws:securityhub:us-west-1:123456789012:insight/123456789012/custom/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111" 
   }
   ]
}
```
For more information, see Insights in AWS Security Hub in the AWS Security Hub User Guide.

- For API details, see GetInsights in AWS CLI Command Reference.

### get-invitations-count

The following code example shows how to use get-invitations-count.

**AWS CLI**

**To retrieve the number of invitations that were not accepted**

The following get-invitations-count example retrieves the number of invitations that the requesting account declined or did not respond to.

```bash
aws securityhub get-invitations-count
```

Output:

```
{
   "InvitationsCount": 3
}
```

For more information, see Managing administrator and member accounts in the AWS Security Hub User Guide.

- For API details, see GetInvitationsCount in AWS CLI Command Reference.

### get-master-account

The following code example shows how to use get-master-account.

**AWS CLI**

**To retrieve information about an administrator account**
The following `get-master-account` example retrieves information about the administrator account for the requesting account.

```
aws securityhub get-master-account
```

Output:

```
{
   "Master": {
      "AccountId": "123456789012",
      "InvitationId": "7ab938c5d52d7904ad09f9e7c20cc4eb",
      "InvitedAt": "2020-06-01T20:21:18.042000+00:00",
      "MemberStatus": "ASSOCIATED"
   }
}
```

For more information, see Managing administrator and member accounts in the AWS Security Hub User Guide.

- For API details, see `GetMasterAccount` in AWS CLI Command Reference.

`get-members`

The following code example shows how to use `get-members`.

**AWS CLI**

To retrieve information about selected member accounts

The following `get-members` example retrieves information about the specified member accounts.

```
aws securityhub get-members  
   --account-ids "444455556666" "777788889999"
```

Output:

```
{
   "Members": [
      {
```
The following code example shows how to use `get-security-control-definition`.

**AWS CLI**

To get security control definition details

The following `get-security-control-definition` example retrieves definition details for a Security Hub security control. Details include the control title, description, Region availability, parameters, and other information.

```bash
aws securityhub get-security-control-definition \
    --security-control-id ACM.1
```

Output:

```
{
   
```

For more information, see [Managing administrator and member accounts](#) in the [AWS Security Hub User Guide](#).

- For API details, see [GetMembers](#) in [AWS CLI Command Reference](#).
"SecurityControlDefinition": {
    "SecurityControlId": "ACM.1",
    "Title": "Imported and ACM-issued certificates should be renewed after a specified time period",
    "Description": "This control checks whether an AWS Certificate Manager (ACM) certificate is renewed within the specified time period. It checks both imported certificates and certificates provided by ACM. The control fails if the certificate isn't renewed within the specified time period. Unless you provide a custom parameter value for the renewal period, Security Hub uses a default value of 30 days.",
    "RemediationUrl": "https://docs.aws.amazon.com/console/securityhub/ACM.1/remediation",
    "SeverityRating": "MEDIUM",
    "CurrentRegionAvailability": "AVAILABLE",
    "ParameterDefinitions": {
        "daysToExpiration": {
            "Description": "Number of days within which the ACM certificate must be renewed",
            "ConfigurationOptions": {
                "Integer": {
                    "DefaultValue": 30,
                    "Min": 14,
                    "Max": 365
                }
            }
        }
    }
}

For more information, see Custom control parameters in the AWS Security Hub User Guide.

- For API details, see GetSecurityControlDefinition in AWS CLI Command Reference.

invite-members

The following code example shows how to use invite-members.

AWS CLI

To send invitations to member accounts

The following invite-members example sends invitations to the specified member accounts.
aws securityhub invite-members \
   --account-ids "123456789111" "123456789222"

Output:

```json
{
   "UnprocessedAccounts": []
}
```

For more information, see Managing administrator and member accounts in the AWS Security Hub User Guide.

- For API details, see InviteMembers in AWS CLI Command Reference.

**list-automation-rules**

The following code example shows how to use list-automation-rules.

**AWS CLI**

**To view a list of automation rules**

The following list-automation-rules example lists the automation rules for an AWS account. Only the Security Hub administrator account can run this command.

```
aws securityhub list-automation-rules \
   --max-results 3 \
   --next-token NULL
```

Output:

```json
{
   "AutomationRulesMetadata": [
      {
         "RuleArn": "arn:aws:securityhub:us-east-1:123456789012:automation-rule/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
         "RuleStatus": "ENABLED",
         "RuleOrder": 1,
         "RuleName": "Suppress informational findings",
         "Description": "Suppress GuardDuty findings with Informational severity",
```
list-configuration-policies

The following code example shows how to use list-configuration-policies.

AWS CLI

To list configuration policy summaries
The following list-configuration-policies example lists a summary of configuration policies for the organization.

```bash
aws securityhub list-configuration-policies \
   --max-items 3
```

Output:

```
{
   "ConfigurationPolicySummaries": [
       {
           "Arn": "arn:aws:securityhub:eu-central-1:123456789012:configuration-policy/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
           "Id": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
           "Name": "SampleConfigurationPolicy1",
           "Description": "SampleDescription1",
           "UpdatedAt": "2023-09-26T21:08:36.214000+00:00",
           "ServiceEnabled": true
       },
       {
           "Arn": "arn:aws:securityhub:eu-central-1:123456789012:configuration-policy/a1b2c3d4-5678-90ab-cdef-EXAMPLE22222",
           "Id": "a1b2c3d4-5678-90ab-cdef-EXAMPLE22222",
           "Name": "SampleConfigurationPolicy2",
           "Description": "SampleDescription2",
           "UpdatedAt": "2023-11-28T19:26:25.207000+00:00",
           "ServiceEnabled": true
       },
       {
           "Arn": "arn:aws:securityhub:eu-central-1:123456789012:configuration-policy/a1b2c3d4-5678-90ab-cdef-EXAMPLE33333",
           "Id": "a1b2c3d4-5678-90ab-cdef-EXAMPLE33333",
           "Name": "SampleConfigurationPolicy3",
           "Description": "SampleDescription3",
           "UpdatedAt": "2023-11-28T20:28:04.494000+00:00",
           "ServiceEnabled": true
       }
   ]
}
```

For more information, see Viewing Security Hub configuration policies in the AWS Security Hub User Guide.

- For API details, see ListConfigurationPolicies in AWS CLI Command Reference.
list-configuration-policy-associations

The following code example shows how to use `list-configuration-policy-associations`.

**AWS CLI**

**To list configuration associations**

The following `list-configuration-policy-associations` example lists a summary of configuration associations for the organization. The response include associations with configuration policies and self-managed behavior.

```bash
aws securityhub list-configuration-policy-associations \
   --association-type "APPLIED" \
   --max-items 4
```

**Output:**

```json
{
   "ConfigurationPolicyAssociationSummaries": [
      {
         "ConfigurationPolicyId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
         "TargetId": "r-1ab2",
         "TargetType": "ROOT",
         "AssociationType": "APPLIED",
         "UpdatedAt": "2023-11-28T19:26:49.417000+00:00",
         "AssociationStatus": "FAILED",
         "AssociationStatusMessage": "Policy association failed because 2 organizational units or accounts under this root failed."
      },
      {
         "ConfigurationPolicyId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE22222",
         "TargetId": "ou-1ab2-c3de4f5g",
         "TargetType": "ORGANIZATIONAL_UNIT",
         "AssociationType": "APPLIED",
         "UpdatedAt": "2023-09-26T19:26:49.417000+00:00",
         "AssociationStatus": "FAILED",
         "AssociationStatusMessage": "One or more children under this target failed association."
      },
      {
         "ConfigurationPolicyId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE33333",
```
For more information, see [Viewing Security Hub configuration policies](#) in the [AWS Security Hub User Guide](#).

- For API details, see [ListConfigurationPolicyAssociations](#) in [AWS CLI Command Reference](#).

### list-enabled-products-for-import

The following code example shows how to use `list-enabled-products-for-import`.

**AWS CLI**

**To return the list of enabled product integrations**

The following `list-enabled-products-for-import` example returns the list of subscription ARNS for the currently enabled product integrations.

```bash
aws securityhub list-enabled-products-for-import
```

**Output:**

```json
{
}
```
For more information, see Managing product integrations in the AWS Security Hub User Guide.

- For API details, see ListEnabledProductsForImport in AWS CLI Command Reference.

list-finding-aggregators

The following code example shows how to use list-finding-aggregators.

AWS CLI

To list the available widgets

The following list-finding-aggregators example returns the ARN of the finding aggregation configuration.

```bash
aws securityhub list-finding-aggregators
```

Output:

```json
{
    "FindingAggregatorArn": "arn:aws:securityhub:us-east-1:222222222222:finding-aggregator/123e4567-e89b-12d3-a456-426652340000"
}
```

For more information, see Viewing the current finding aggregation configuration in the AWS Security Hub User Guide.

- For API details, see ListFindingAggregators in AWS CLI Command Reference.

list-invitations

The following code example shows how to use list-invitations.

AWS CLI

To display a list of invitations

The following list-invitations example retrieves the list of invitations sent to the requesting account.
aws securityhub list-invitations

Output:

```json
{
   "Invitations": [
      {
         "AccountId": "123456789012",
         "InvitationId": "7ab938c5d52d7904ad09f9e7c20cc4eb",
         "InvitedAt": 2020-06-01T20:21:18.042000+00:00,
         "MemberStatus": "ASSOCIATED"
      }
   ]
}
```

For more information, see [Managing administrator and member accounts](#) in the AWS Security Hub User Guide.

- For API details, see [ListInvitations](#) in AWS CLI Command Reference.

**list-members**

The following code example shows how to use list-members.

**AWS CLI**

To retrieve a list of member accounts

The following list-members example returns the list of member accounts for the requesting administrator account.

aws securityhub list-members

Output:

```json
{
   "Members": [
      {
         "AccountId": "123456789111",
         "AdministratorId": "123456789012",
         "InvitedAt": 2020-06-01T20:15:15.289000+00:00,
         "MemberStatus": "ASSOCIATED"
      }
   ]
}
```
For more information, see Managing administrator and member accounts in the AWS Security Hub User Guide.

- For API details, see ListMembers in AWS CLI Command Reference.

### list-organization-admin-accounts

The following code example shows how to use list-organization-admin-accounts.

**AWS CLI**

**To list the designated Security Hub administrator accounts**

The following list-organization-admin-accounts example lists the Security Hub administrator accounts for an organization.

```bash
aws securityhub list-organization-admin-accounts
```

**Output:**

```json
{
  "AdminAccounts": [
    {
      "AccountId": "777788889999",
      "Status": "ENABLED"
    }
  ]
}
```
For more information, see Designating a Security Hub administrator account in the AWS Security Hub User Guide.

- For API details, see ListOrganizationAdminAccounts in AWS CLI Command Reference.

list-security-control-definitions

The following code example shows how to use list-security-control-definitions.

AWS CLI

Example 1: To list all available security controls

The following list-security-control-definitions example lists the available security controls across all Security Hub standards. This example limits the results to three controls.

```
aws securityhub list-security-control-definitions \
  --max-items 3
```

Output:

```
{
  "SecurityControlDefinitions": [
    {
      "SecurityControlId": "ACM.1",
      "Title": "Imported and ACM-issued certificates should be renewed after a specified time period",
      "Description": "This control checks whether an AWS Certificate Manager (ACM) certificate is renewed within the specified time period. It checks both imported certificates and certificates provided by ACM. The control fails if the certificate isn't renewed within the specified time period. Unless you provide a custom parameter value for the renewal period, Security Hub uses a default value of 30 days.",
      "RemediationUrl": "https://docs.aws.amazon.com/console/securityhub/ACM.1/remediation",
      "SeverityRating": "MEDIUM",
      "CurrentRegionAvailability": "AVAILABLE",
      "CustomizableProperties": [
        "Parameters"
      ]
    },
    {

```
For more information, see Viewing details for a standard in the AWS Security Hub User Guide.

Example 2: To list available security controls for a specific standard

The following list-security-control-definitions example lists the available security controls for the CIS AWS Foundations Benchmark v1.4.0. This example limits the results to three controls.
aws securityhub list-security-control-definitions  
  --standards-arn "arn:aws:securityhub:us-east-1::standards/cis-aws-foundations-benchmark/v/1.4.0"  
  --max-items 3

Output:

```json
{
  "SecurityControlDefinitions": [

  {
    "SecurityControlId": "CloudTrail.1",
    "Title": "CloudTrail should be enabled and configured with at least one multi-Region trail that includes read and write management events",
    "Description": "This AWS control checks that there is at least one multi-region AWS CloudTrail trail includes read and write management events.",
    "RemediationUrl": "https://docs.aws.amazon.com/console/securityhub/CloudTrail.1/remediation",
    "SeverityRating": "HIGH",
    "CurrentRegionAvailability": "AVAILABLE",
    "CustomizableProperties": []
  },

  {  
    "SecurityControlId": "CloudTrail.2",
    "Title": "CloudTrail should have encryption at-rest enabled",
    "Description": "This AWS control checks whether AWS CloudTrail is configured to use the server side encryption (SSE) AWS Key Management Service (AWS KMS) customer master key (CMK) encryption. The check will pass if the KmsKeyId is defined.",
    "RemediationUrl": "https://docs.aws.amazon.com/console/securityhub/CloudTrail.2/remediation",
    "SeverityRating": "MEDIUM",
    "CurrentRegionAvailability": "AVAILABLE",
    "CustomizableProperties": []
  },

  {  
    "SecurityControlId": "CloudTrail.4",
    "Title": "CloudTrail log file validation should be enabled",
    "Description": "This AWS control checks whether CloudTrail log file validation is enabled.",
    "RemediationUrl": "https://docs.aws.amazon.com/console/securityhub/CloudTrail.4/remediation",
    "SeverityRating": "MEDIUM",
    "CurrentRegionAvailability": "AVAILABLE",
    "CustomizableProperties": []
  }

```
For more information, see Viewing details for a standard in the AWS Security Hub User Guide.

- For API details, see ListSecurityControlDefinitions in AWS CLI Command Reference.

**list-standards-control-associations**

The following code example shows how to use list-standards-control-associations.

**AWS CLI**

**To get the enablement status of a control in each enabled standard**

The following list-standards-control-associations example lists the enablement status of CloudTrail.1 in each enabled standard.

```
aws securityhub list-standards-control-associations \
   --security-control-id CloudTrail.1
```

Output:

```
{
   "StandardsControlAssociationSummaries": [
      {
         "StandardsArn": "arn:aws:securityhub:us-east-2::standards/nist-800-53/v/5.0.0",
         "SecurityControlId": "CloudTrail.1",
         "AssociationStatus": "ENABLED",
         "RelatedRequirements": [
            "NIST.800-53.r5 AC-2(4)",
            "NIST.800-53.r5 AC-4(26)",
            "NIST.800-53.r5 AC-6(9)",
            "NIST.800-53.r5 AU-10",
            "NIST.800-53.r5 AU-12",
            "NIST.800-53.r5 AU-2",
            "NIST.800-53.r5 AU-3",
            ...
         ]
      }
   ]
}
```
CloudTrail should be enabled and configured with at least one multi-Region trail that includes read and write management events.

This AWS control checks that there is at least one multi-region AWS CloudTrail trail includes read and write management events.

Ensure CloudTrail is enabled in all regions. AWS CloudTrail is a web service that records AWS API calls for your account and delivers log files to you. The recorded information includes the identity of the API caller, the time of the API call, the source IP address of the API caller, the request parameters, and the response elements returned by the AWS service.
For more information, see Enabling and disabling controls in specific standards in the AWS Security Hub User Guide.

- For API details, see ListStandardsControlAssociations in AWS CLI Command Reference.

list-tags-for-resource

The following code example shows how to use list-tags-for-resource.
To retrieve the tags assigned to a resource

The following `list-tags-for-resource` example returns the tags assigned to the specified hub resource.

```
aws securityhub list-tags-for-resource \
```

Output:

```
{
   "Tags": {
      "Department": "Operations",
      "Area": "USMidwest"
   }
}
```

For more information, see [AWS::SecurityHub::Hub](https://aws.amazon.com/documentation/cloudFormation/) in the *AWS CloudFormation User Guide*.

- For API details, see [ListTagsForResource](https://aws.amazon.com/documentation/CLI/) in *AWS CLI Command Reference*.

**start-configuration-policy-association**

The following code example shows how to use `start-configuration-policy-association`.

**AWS CLI**

**Example 1: To associate a configuration policy**

The following `start-configuration-policy-association` example associates the specified configuration policy with the specified organizational unit. A configuration may be associated with a target account, organizational unit, or the root.

```
aws securityhub start-configuration-policy-association \
   --configuration-policy-identifier "arn:aws:securityhub:eu-central-1:123456789012:configuration-policy/a1b2c3d4-5678-90ab-cdef-EXAMPLE33333" \
   --target '{"OrganizationalUnitId": "ou-6hi7-8j91k12m"}'
```

Output:
For more information, see Creating and associating Security Hub configuration policies in the AWS Security Hub User Guide.

Example 2: To associate a self-managed configuration

The following start-configuration-policy-association example associates a self-managed configuration with the specified account.

```bash
code example
aws securityhub start-configuration-policy-association \
   --configuration-policy-identifier "SELF_MANAGED_SECURITY_HUB" \
   --target '{"OrganizationalUnitId": "123456789012"}'
```

Output:

```json

```
```

For more information, see Creating and associating Security Hub configuration policies in the AWS Security Hub User Guide.

- For API details, see StartConfigurationPolicyAssociation in AWS CLI Command Reference.

start-configuration-policy-disassociation

The following code example shows how to use start-configuration-policy-disassociation.
Example 1: To disassociate a configuration policy

The following start-configuration-policy-disassociation example disassociates a configuration policy from the specified organizational unit. A configuration may be disassociated from a target account, organizational unit, or the root.

```bash
aws securityhub start-configuration-policy-disassociation \
   --configuration-policy-identifier "arn:aws:securityhub:eu-central-1:123456789012:configuration-policy/a1b2c3d4-5678-90ab-cdef-EXAMPLE33333" \
   --target '{"OrganizationalUnitId": "ou-6hi7-8j91kl2m"}"
```

This command produces no output.

For more information, see Disassociating a configuration from accounts and OUs in the AWS Security Hub User Guide.

Example 2: To disassociate a self-managed configuration

The following start-configuration-policy-disassociation example disassociates a self-managed configuration from the specified account.

```bash
aws securityhub start-configuration-policy-disassociation \
   --configuration-policy-identifier "SELF_MANAGED_SECURITY_HUB" \
   --target '{"AccountId": "123456789012"}"
```

This command produces no output.

For more information, see Disassociating a configuration from accounts and OUs in the AWS Security Hub User Guide.

- For API details, see StartConfigurationPolicyDisassociation in AWS CLI Command Reference.

**tag-resource**

The following code example shows how to use tag-resource.

**AWS CLI**

To assign a tag to a resource
The following tag-resource example assigns values for the Department and Area tags to the specified hub resource.

```
aws securityhub tag-resource \
   --resource-arn "arn:aws:securityhub:us-west-1:123456789012:hub/default" \
   --tags '{"Department":"Operations", "Area":"USMidwest"}"
```

This command produces no output.

For more information, see [AWS::SecurityHub::Hub](https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/aws-resource-architecture-amazoncloudfront-hub.html) in the *AWS CloudFormation User Guide*.

- For API details, see [TagResource](https://docs.aws.amazon.com/AWSCLI/latest/userguide/aws-cli-ec2-tag-resource.html) in *AWS CLI Command Reference*.

**untag-resource**

The following code example shows how to use untag-resource.

**AWS CLI**

**To remove a tag value from a resource**

The following untag-resource example removes the Department tag from the specified hub resource.

```
aws securityhub untag-resource \
   --resource-arn "arn:aws:securityhub:us-west-1:123456789012:hub/default" \
   --tag-keys "Department"
```

This command produces no output.

For more information, see [AWS::SecurityHub::Hub](https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/aws-resource-architecture-amazoncloudfront-hub.html) in the *AWS CloudFormation User Guide*.

- For API details, see [UntagResource](https://docs.aws.amazon.com/AWSCLI/latest/userguide/aws-cli-ec2-untag-resource.html) in *AWS CLI Command Reference*.

**update-action-target**

The following code example shows how to use update-action-target.

**AWS CLI**

**To update a custom action**
The following update-action-target example updates the name of the custom action identified by the specified ARN.

```bash
aws securityhub update-action-target \
   --action-target-arn "arn:aws:securityhub:us-west-1:123456789012:action/custom/Remediation" \
   --name "Send to remediation"
```

This command produces no output.

For more information, see Creating a custom action and associating it with a CloudWatch Events rule in the AWS Security Hub User Guide.

- For API details, see **UpdateActionTarget** in AWS CLI Command Reference.

update-configuration-policy

The following code example shows how to use update-configuration-policy.

AWS CLI

To update a configuration policy

The following update-configuration-policy example updates an existing configuration policy to use the specified settings.

```bash
aws securityhub update-configuration-policy \
   --identifier "arn:aws:securityhub:eu-central-1:508236694226:configuration-policy/09f37766-57d8-4ede-9d33-5d8b0fecf70e" \
   --name "SampleConfigurationPolicyUpdated" \
   --description "SampleDescriptionUpdated" \
   --configuration-policy '{"SecurityHub": {"ServiceEnabled":true, "EnabledStandardIdentifiers": ["arn:aws:securityhub:eu-central-1::standards/aws-foundational-security-best-practices/v/1.0.0","arn:aws:securityhub::ruleset/cis-aws-foundations-benchmark/v/1.2.0"],"SecurityControlsConfiguration":{"DisabledSecurityControlIdentifiers": ["CloudWatch.1"], "SecurityControlCustomParameters": [{"SecurityControlId": "ACM.1", "Parameters": {"daysToExpiration": {"ValueType": "CUSTOM", "Value": {"Integer": 21}}}}]}}, "updated-reason": "Disabling CloudWatch.1 and changing parameter value"
```

Output:

- For API details, see [UpdateConfigurationPolicy](https://docs.aws.amazon.com/cli/latest/reference/securityhub/update-configuration-policy.html) in *AWS CLI Command Reference*. 
update-finding-aggregator

The following code example shows how to use update-finding-aggregator.

AWS CLI

To update the current finding aggregation configuration

The following update-finding-aggregator example changes the finding aggregation configuration to link from selected Regions. It is run from US East (Virginia), which is the aggregation Region. It selects US West (N. California) and US West (Oregon) as the linked Regions.

```
aws securityhub update-finding-aggregator \
  --region us-east-1 \
  --finding-aggregator-arn arn:aws:securityhub:us-east-1:222222222222:finding-aggregator/123e4567-e89b-12d3-a456-426652340000 \
  --region-linking-mode SPECIFIED_REGIONS \
  --regions us-west-1,us-west-2
```

This command produces no output.

For more information, see [Updating the finding aggregation configuration](https://docs.aws.amazon.com/securityhub/latest/userguide/securityhub-update-finding-aggregator.html) in the [AWS Security Hub User Guide](https://docs.aws.amazon.com/securityhub/latest/userguide/).


update-insight

The following code example shows how to use update-insight.

AWS CLI

Example 1: To change the filter for a custom insight

The following update-insight example changes the filters for a custom insight. The updated insight looks for findings with a high severity that are related to AWS roles.

```
aws securityhub update-insight \
  --insight-arn "arn:aws:securityhub:us-west-1:123456789012:insight/123456789012/custom/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111" \
```

Actions and scenarios
--filters '{"ResourceType": [{ "Comparison": "EQUALS", "Value": "AwsIamRole"}], "SeverityLabel": [{"Comparison": "EQUALS", "Value": "HIGH"}]}' \\
--name "High severity role findings"

Example 2: To change the grouping attribute for a custom insight

The following update-insight example changes the grouping attribute for the custom insight with the specified ARN. The new grouping attribute is the resource ID.

aws securityhub update-insight \\
--insight-arn "arn:aws:securityhub:us-west-1:123456789012:insight/123456789012/custom/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111" \\
--group-by-attribute "ResourceId" \\
--name "Critical role findings"

Output:

```json
{
   "Insights": [
      {
         "InsightArn": "arn:aws:securityhub:us-west-1:123456789012:insight/123456789012/custom/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
         "Name": "Critical role findings",
         "Filters": {
            "SeverityLabel": [ ],
            "ResourceType": [
               { "Value": "AwsIamRole", "Comparison": "EQUALS" }
            ]
         },
         "GroupByAttribute": "ResourceId"
      }
   ]
}```
For more information, see Managing custom insights in the AWS Security Hub User Guide.

- For API details, see UpdateInsight in AWS CLI Command Reference.

**update-organization-configuration**

The following code example shows how to use update-organization-configuration.

**AWS CLI**

**To update how Security Hub is configured for an organization**

The following update-organization-configuration example specifies that Security Hub should use central configuration to configure an organization. After running this command, the delegated Security Hub administrator can create and manage configuration policies to configure the organization. The delegated administrator can also use this command to switch from central to local configuration. If local configuration is the configuration type, the delegated administrator can choose whether to automatically enable Security Hub and default security standards in new organization accounts.

```bash
aws securityhub update-organization-configuration \
    --no-auto-enable \
    --organization-configuration '{"ConfigurationType": "CENTRAL"}'
```

This command produces no output.

For more information, see Managing accounts with AWS Organizations in the AWS Security Hub User Guide.

- For API details, see UpdateOrganizationConfiguration in AWS CLI Command Reference.

**update-security-control**

The following code example shows how to use update-security-control.

**AWS CLI**

**To update security control properties**

The following update-security-control example specifies custom values for a Security Hub security control parameter.
The following code example shows how to use `update-security-control`.

**AWS CLI**

```bash
aws securityhub update-security-control \
  --security-control-id ACM.1 \
  --parameters '{"daysToExpiration": {"ValueType": "CUSTOM", "Value": {"Integer": 15}}}' \
  --last-update-reason "Internal compliance requirement"
```

This command produces no output.

For more information, see [Custom control parameters](#) in the AWS Security Hub User Guide.
- For API details, see [UpdateSecurityControl](#) in AWS CLI Command Reference.

### update-security-hub-configuration

The following code example shows how to use `update-security-hub-configuration`.

**AWS CLI**

**To update Security Hub configuration**

The following `update-security-hub-configuration` example configures Security Hub to automatically enable new controls for enabled standards.

```bash
aws securityhub update-security-hub-configuration \ 
  --auto-enable-controls
```

This command produces no output.

For more information, see [Enabling new controls automatically](#) in the AWS Security Hub User Guide.
- For API details, see [UpdateSecurityHubConfiguration](#) in AWS CLI Command Reference.

### update-standards-control

The following code example shows how to use `update-standards-control`.

**AWS CLI**

**Example 1: To disable a control**

The following `update-standards-control` example disables the PCI.AutoScaling.1 control.
aws securityhub update-standards-control \
    --standards-control-arn "arn:aws:securityhub:us-west-1:123456789012:control/pci-dss/v/3.2.1/PCI.AutoScaling.1" \
    --control-status "DISABLED" \
    --disabled-reason "Not applicable for my service"

This command produces no output.

**Example 2: To enable a control**

The following `update-standards-control` example enables the PCI.AutoScaling.1 control.

aws securityhub update-standards-control \
    --standards-control-arn "arn:aws:securityhub:us-west-1:123456789012:control/pci-dss/v/3.2.1/PCI.AutoScaling.1" \
    --control-status "ENABLED"

This command produces no output.

For more information, see [Disabling and enabling individual controls](#) in the *AWS Security Hub User Guide*.

- For API details, see [UpdateStandardsControl](#) in *AWS CLI Command Reference*.

**AWS Serverless Application Repository examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS Serverless Application Repository.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**
• **Actions**

**Actions**

**put-application-policy**

The following code example shows how to use `put-application-policy`.

**AWS CLI**

**Example 1: To share an application publicly**

The following `put-application-policy` shares an application publicly, so anyone can find and deploy your application in the AWS Serverless Application Repository.

```bash
aws serverlessrepo put-application-policy \
   --application-id arn:aws:serverlessrepo:us-east-1:123456789012:applications/my-test-application \
   --statements Principals='*',Actions=Deploy
```

Output:

```json
{
   "Statements": [
      {
         "Actions": [
            "Deploy"
         ],
         "Principals": [
            ""
         ],
         "StatementId": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE"
      }
   ]
}
```

**Example 2: To share an application privately**

The following `put-application-policy` shares an application privately, so only specific AWS accounts can find and deploy your application in the AWS Serverless Application Repository.

```bash
aws serverlessrepo put-application-policy \
```

**Actions and scenarios**
--application-id arn:aws:serverlessrepo:us-east-1:123456789012:applications/my-test-application \
--statements Principals=111111111111,222222222222,Actions=Deploy

Output:

```json
{
  "Statements": [
    {
      "Actions": [
        "Deploy"
      ],
      "Principals": [
        "111111111111",
        "222222222222"
      ],
      "StatementId": "a1b2c3d4-5678-90ab-cdef-11111EXAMPLE"
    }
  ]
}
```

For more information, see [Sharing an Application Through the Console](https://docs.aws.amazon.com/serverless/2019-06-25/serverless-apis.html#sharing-an-application-through-the-console) in the *AWS Serverless Application Repository Developer Guide*

- For API details, see [PutApplicationPolicy](https://docs.aws.amazon.com/cli/latest/reference/servicecatalog/put-application-policy.html) in *AWS CLI Command Reference*.

### Service Catalog examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Service Catalog.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

### Topics

---

*Actions and scenarios*
Actions

accept-portfolio-share

The following code example shows how to use accept-portfolio-share.

AWS CLI

To accept a portfolio share

The following accept-portfolio-share example accepts an offer, made by another user, to share the specified portfolio.

```
aws servicecatalog accept-portfolio-share \
   --portfolio-id port-2s6wuabcdefghijk
```

This command produces no output.

- For API details, see AcceptPortfolioShare in AWS CLI Command Reference.

associate-principal-with-portfolio

The following code example shows how to use associate-principal-with-portfolio.

AWS CLI

To associate a principal with a portfolio

The following associate-principal-with-portfolio example associates a user with the specified portfolio.

```
aws servicecatalog associate-principal-with-portfolio \
   --portfolio-id port-2s6abcdefwh4 \
   --principal-arn arn:aws:iam::123456789012:user/usertest \
   --principal-type IAM
```

This command produces no output.

- For API details, see AssociatePrincipalWithPortfolio in AWS CLI Command Reference.
associate-product-with-portfolio

The following code example shows how to use `associate-product-with-portfolio`.

**AWS CLI**

To associate a product with a portfolio

The following `associate-product-with-portfolio` example associates the given product with the specified portfolio.

```bash
aws servicecatalog associate-product-with-portfolio
   --product-id prod-3p5abcdef3oyk
   --portfolio-id port-2s6abcdef5wdh4
```

This command produces no output.

- For API details, see [AssociateProductWithPortfolio](#) in `AWS CLI Command Reference`.

associate-tag-option-with-resource

The following code example shows how to use `associate-tag-option-with-resource`.

**AWS CLI**

To associate a TagOption with a resource

The following `associate-tag-option-with-resource` example associates the specified TagOption with the specified resource.

```bash
aws servicecatalog associate-tag-option-with-resource \
   --resource-id port-2s6abcdq5wdh4 \ 
   --tag-option-id tag-p3abc2pkpz5qc
```

This command produces no output.

- For API details, see [AssociateTagOptionWithResource](#) in `AWS CLI Command Reference`.

copy-product

The following code example shows how to use `copy-product`. 
**AWS CLI**

**To copy a product**

The following copy-product example makes a copy of the specified product, using a JSON file to pass parameters.

```bash
```

Contents of `copy-product-input.json`:

```json
{
   "TargetProductName": "copy-of-myproduct",
   "CopyOptions": [
       "CopyTags"
   ]
}
```

Output:

```json
{
   "CopyProductToken": "copyproduct-abc5defgjkdi"
}
```

- For API details, see [CopyProduct](http://awscli.amazonaws.com/AWSCLI/latest/AWSCLIReference/CopyProduct.html) in *AWS CLI Command Reference*.

**create-portfolio**

The following code example shows how to use create-portfolio.

**AWS CLI**

**To create a portfolio**

The following create-portfolio example creates a portfolio.

```bash
aws servicecatalog create-portfolio \
   --provider-name my-provider \
   --display-name my-portfolio
```
Output:

```json
{
    "PortfolioDetail": {
        "ProviderName": "my-provider",
        "DisplayName": "my-portfolio",
        "CreatedTime": 1571337221.555,
        "Id": "port-2s6xmplq5wdh4"
    }
}
```

- For API details, see [CreatePortfolio](https://awscli.amazonaws.com/v2/documentation/api/latest/reference/servicecatalog/create-portfolio-share.html) in *AWS CLI Command Reference*.

**create-portfolio-share**

The following code example shows how to use `create-portfolio-share`.

**AWS CLI**

**To share a portfolio with an account**

The following `create-portfolio-share` example shares the specified portfolio with the specified account.

```bash
aws servicecatalog create-portfolio-share \
    --portfolio-id port-2s6abcdef5wdh4 \
    --account-id 794123456789
```

This command produces no output.

- For API details, see [CreatePortfolioShare](https://awscli.amazonaws.com/v2/documentation/api/latest/reference/servicecatalog/create-portfolio-share.html) in *AWS CLI Command Reference*.

**create-product**

The following code example shows how to use `create-product`.

**AWS CLI**

**To create a product**
The following `create-product` example creates a product, using a JSON file to pass parameters.

```
aws servicecatalog create-product \
   --cli-input-json file://create-product-input.json
```

Contents of `create-product-input.json`:

```
{
   "AcceptLanguage": "en",
   "Name": "test-product",
   "Owner": "test-owner",
   "Description": "test-description",
   "Distributor": "test-distributor",
   "SupportDescription": "test-support",
   "SupportEmail": "test@amazon.com",
   "SupportUrl": "https://aws.amazon.com",
   "ProductType": "CLOUD_FORMATION_TEMPLATE",
   "Tags": [
      {
         "Key": "region",
         "Value": "us-east-1"
      }
   ],
   "ProvisioningArtifactParameters": {
      "Name": "test-version-name",
      "Description": "test-version-description",
      "Info": {
         "LoadTemplateFromURL": "https://s3-us-west-1.amazonaws.com/cloudformation-templates-us-west-1/my-cfn-template.template"
      },
      "Type": "CLOUD_FORMATION_TEMPLATE"
   }
}
```

Output:

```
{
   "Tags": [
      {
         "Key": "region",
         "Value": "us-east-1"
      }
   ]
}
```
For API details, see [CreateProduct](https://docs.aws.amazon.com/cli/latest/reference/copy.html) in AWS CLI Command Reference.

### create-provisioning-artifact

The following code example shows how to use `create-provisioning-artifact`.

**AWS CLI**

To create a provisioning artifact

The following `create-provisioning-artifact` example creates a provisioning artifact, using a JSON file to pass parameters.
aws servicecatalog create-provisioning-artifact \
   --cli-input-json file://create-provisioning-artifact-input.json

Contents of create-provisioning-artifact-input.json:

```
{
    "ProductId": "prod-nfi2abcdeghi",
    "Parameters": {
        "Name": "test-provisioning-artifact",
        "Description": "test description",
        "Info": {
            "LoadTemplateFromURL": "https://s3-us-west-1.amazonaws.com/cloudformation-templates-us-west-1/my-cfn-template.template"
        },
        "Type": "CLOUDFORMATION_TEMPLATE"
    }
}
```

Output:

```
{
    "Info": {
        "TemplateUrl": "https://s3-us-west-1.amazonaws.com/cloudformation-templates-us-west-1/my-cfn-template.template"
    },
    "Status": "CREATING",
    "ProvisioningArtifactDetail": {
        "Id": "pa-bb4abcdefwnaio",
        "Name": "test-provisioning-artifact",
        "Description": "test description",
        "Active": true,
        "Type": "CLOUDFORMATION_TEMPLATE",
        "CreatedTime": 1576022545.0
    }
}
```

- For API details, see CreateProvisioningArtifact in AWS CLI Command Reference.

create-tag-option

The following code example shows how to use create-tag-option.
AWS CLI

To create a TagOption

The following create-tag-option example creates a TagOption.

```
aws servicecatalog create-tag-option
   --key 1234
   --value name
```

Output:

```
{
   "TagOptionDetail": {
      "Id": "tag-iabcdn4fzjjms",
      "Value": "name",
      "Active": true,
      "Key": "1234"
   }
}
```

- For API details, see CreateTagOption in AWS CLI Command Reference.

delete-portfolio

The following code example shows how to use delete-portfolio.

AWS CLI

To delete a portfolio

The following delete-portfolio example deletes the specified portfolio.

```
aws servicecatalog delete-portfolio \
   --id port-abcdlx4gox4do
```

This command produces no output.

- For API details, see DeletePortfolio in AWS CLI Command Reference.
delete-portfolio-share

The following code example shows how to use delete-portfolio-share.

AWS CLI

To stop sharing a portfolio with an account

The following delete-portfolio-share example stops sharing the portfolio with the specified account.

```bash
aws servicecatalog delete-portfolio-share \
   --portfolio-id port-2s6abcdq5wdh4 \
   --account-id 123456789012
```

This command produces no output.

- For API details, see DeletePortfolioShare in AWS CLI Command Reference.

delete-product

The following code example shows how to use delete-product.

AWS CLI

To delete a product

The following delete-product example deletes the specified product.

```bash
aws servicecatalog delete-product \
   --id prod-abcdcek6yhbxi
```

This command produces no output.

- For API details, see DeleteProduct in AWS CLI Command Reference.

delete-provisioning-artifact

The following code example shows how to use delete-provisioning-artifact.

AWS CLI

To delete a provisioning artifact
The following delete-provisioning-artifact example deletes the specified provisioning artifact.

```
aws servicecatalog delete-provisioning-artifact \
  --product-id prod-abc2uebuplcpw \
  --provisioning-artifact-id pa-pqabcdii7ouc
```

This command produces no output.

- For API details, see DeleteProvisioningArtifact in AWS CLI Command Reference.

**delete-tag-option**

The following code example shows how to use delete-tag-option.

**AWS CLI**

To delete a TagOption

The following delete-tag-option example deletes the specified TagOption.

```
aws servicecatalog delete-tag-option \
  --id tag-iabcdn4fzzjms
```

This command produces no output.

- For API details, see DeleteTagOption in AWS CLI Command Reference.

**describe-copy-product-status**

The following code example shows how to use describe-copy-product-status.

**AWS CLI**

To describe the status of the copy product operation

The following describe-copy-product-status example displays the current status of the specified asynchronous copy product operation.

```
aws servicecatalog describe-copy-product-status \
```
--copy-product-token copyproduct-znn5tf5abcd3w

Output:

```
{
    "CopyProductStatus": "SUCCEEDED",
    "TargetProductId": "prod-os6hog7abcdt2"
}
```

- For API details, see [DescribeCopyProductStatus](https://docs.aws.amazon.com/cli/latest/reference/servicecatalog/describe-copy-product-status.html) in *AWS CLI Command Reference*.

### describe-portfolio

The following code example shows how to use `describe-portfolio`.

**AWS CLI**

**To describe a portfolio**

The following `describe-portfolio` example displays details for the specified portfolio.

```
aws servicecatalog describe-portfolio \
    --id port-2s6abcq5wdh4
```

Output:

```
{
    "TagOptions": [],
    "PortfolioDetail": {
        "Id": "port-2s6wuzq5wdh4",
        "CreatedTime": 1571337221.555,
        "DisplayName": "my-portfolio",
        "ProviderName": "my-provider"
    },
    "Tags": []
}
```

- For API details, see [DescribePortfolio](https://docs.aws.amazon.com/cli/latest/reference/servicecatalog/describe-portfolio.html) in *AWS CLI Command Reference*. 
describe-product-as-admin

The following code example shows how to use describe-product-as-admin.

AWS CLI

To describe a product as an administrator

The following describe-product-as-admin example displays details for the specified product using administrator privileges.

```
aws servicecatalog describe-product-as-admin \
  --id prod-abcdcek6yhbxi
```

Output:

```json
{
  "TagOptions": [],
  "ProductViewDetail": {
    "ProductViewSummary": {
      "SupportEmail": "test@amazon.com",
      "Type": "CLOUDFORMATIONTEMPLATE",
      "Distributor": "test-distributor",
      "ShortDescription": "test-description",
      "Owner": "test-owner",
      "Id": "prodview-wi3l2j4abc6vc",
      "SupportDescription": "test-support",
      "ProductId": "prod-abcdcek6yhbxi",
      "HasDefaultPath": false,
      "Name": "test-product3",
      "SupportUrl": "https://aws.amazon.com"
    },
    "CreatedTime": 1577136715.0,
    "Status": "CREATED"
  },
  "ProvisioningArtifactSummaries": [
  {
    "CreatedTime": 1577136715.0,
    "Description": "test-version-description",
    "ProvisioningArtifactMetadata": {
      "SourceProvisioningArtifactId": "pa-abcdxxkiv5fcm"
    }
  }
  ]
}
```
For API details, see DescribeProductAsAdmin in AWS CLI Command Reference.

describe-provisioned-product

The following code example shows how to use describe-provisioned-product.

AWS CLI

To describe a provisioned product

The following describe-provisioned-product example displays details for the specified provisioned product.

```
aws servicecatalog describe-provisioned-product \
   --id pp-dpom27bm4abcd
```

Output:

```
{
   "ProvisionedProductDetail": {
      "Status": "ERROR",
      "CreatedTime": 1577222793.358,
      "Id": "pp-dpom27bm4abcd",
      "StatusMessage": "AmazonCloudFormationException  Parameters: [KeyName] must have values (Service: AmazonCloudFormation; Status Code: 400; Error Code: ValidationError; Request ID: 5528602a-a9ef-427c-825c-f82c31b814f5)",
      "IdempotencyToken": "527c5358-2a1a-4b9e-b1b9-7293b0ddf42",
   }
}
```
For API details, see `DescribeProvisionedProduct` in *AWS CLI Command Reference*.

**describe-provisioning-artifact**

The following code example shows how to use `describe-provisioning-artifact`.

**AWS CLI**

**To describe a provisioning artifact**

The following `describe-provisioning-artifact` example displays details for the specified provisioning artifact.

```
aws servicecatalog describe-provisioning-artifact \
  --provisioning-artifact-id pa-pcz347abcdcfm \
  --product-id prod-abcdfz3syn2rg
```

**Output:**

```
{
    "Info": {
        "TemplateUrl": "https://awsdocs.s3.amazonaws.com/servicecatalog/myexampledevelopment-environment.template"
    },
    "ProvisioningArtifactDetail": {
        "Id": "pa-pcz347abcdcfm",
        "Active": true,
        "Type": "CLOUD_FORMATION_TEMPLATE",
        "Description": "updated description",
        "CreatedTime": 1562097906.0,
        "Name": "updated name"
    },
    "Status": "AVAILABLE"
}
```
describe-tag-option

The following code example shows how to use describe-tag-option.

AWS CLI

To describe a TagOption

The following describe-tag-option example displays details for the specified TagOption.

```bash
aws servicecatalog describe-tag-option \
   --id tag-p3tej2abcd5qc
```

Output:

```
{
   "TagOptionDetail": {
      "Active": true,
      "Id": "tag-p3tej2abcd5qc",
      "Value": "value-3",
      "Key": "1234"
   }
}
```

disassociate-principal-from-portfolio

The following code example shows how to use disassociate-principal-from-portfolio.

AWS CLI

To disassociate a principal from a portfolio

The following disassociate-principal-from-portfolio example disassociates the specified principal from the portfolio.

```bash
aws servicecatalog disassociate-principal-from-portfolio \
   --portfolio-id port-2s6abcdq5wdh4 \
```
This command produces no output.

- For API details, see DisassociatePrincipalFromPortfolio in AWS CLI Command Reference.

**disassociate-product-from-portfolio**

The following code example shows how to use disassociate-product-from-portfolio.

**AWS CLI**

**To disassociate a product from a portfolio**

The following disassociate-product-from-portfolio example disassociates the specified product from the portfolio.

```
aws servicecatalog disassociate-product-from-portfolio \
  --product-id prod-3p5abcdmu3oyk \
  --portfolio-id port-2s6abcdq5wdh4
```

This command produces no output.

- For API details, see DisassociateProductFromPortfolio in AWS CLI Command Reference.

**disassociate-tag-option-from-resource**

The following code example shows how to use disassociate-tag-option-from-resource.

**AWS CLI**

**To disassociate a TagOption from a resource**

The following disassociate-tag-option-from-resource example disassociates the specified TagOption from the resource.

```
aws servicecatalog disassociate-tag-option-from-resource \
  --resource-id port-2s6abcdq5wdh4 \
  --tag-option-id tag-p3abc2pkpz5qc
```

This command produces no output.

- For API details, see DisassociateTagOptionFromResource in AWS CLI Command Reference.
list-accepted-portfolio-shares

The following code example shows how to use list-accepted-portfolio-shares.

AWS CLI

To list accepted portfolio shares

The following list-accepted-portfolio-shares example lists all portfolios for which sharing was accepted by this account, including only the default Service Catalog portfolios.

```
aws servicecatalog list-accepted-portfolio-shares \
   --portfolio-share-type "AWS_SERVICECATALOG"
```

Output:

```
{
   "PortfolioDetails": [
   {
      "Description": "AWS Service Catalog Reference blueprints for often-used AWS services such as EC2, S3, RDS, VPC and EMR.",
      "CreatedTime": 1574456190.687,
      "ProviderName": "AWS Service Catalog",
      "DisplayName": "Reference Architectures",
      "Id": "port-d2abcd5dpkuma"
   },
   {
      "Description": "AWS well-architected blueprints for high reliability applications.",
      "CreatedTime": 1574461496.092,
      "ProviderName": "AWS Service Catalog",
      "DisplayName": "High Reliability Architectures",
      "Id": "port-abcdefaua7zpu"
   }
   ]
}
```

• For API details, see ListAcceptedPortfolioShares in AWS CLI Command Reference.
list-portfolio-access

The following code example shows how to use list-portfolio-access.

**AWS CLI**

**To list accounts with access to a portfolio**

The following list-portfolio-access example lists the AWS accounts that have access to the specified portfolio.

```bash
aws servicecatalog list-portfolio-access \
   --portfolio-id port-2s6abcdq5wdh4
```

Output:

```json
{
   "AccountIds": [
      "123456789012"
   ]
}
```

- For API details, see [ListPortfolioAccess](https://docs.aws.amazon.com/cli/latest/reference/servicecatalog/list-portfolio-access.html) in AWS CLI Command Reference.

list-portfolios

The following code example shows how to use list-portfolios.

**AWS CLI**

**To list portfolios**

The following list-portfolios example lists the Service Catalog portfolios in the current Region.

```bash
aws servicecatalog list-portfolios
```

Output:

```json
{

```
For API details, see ListPortfolios in AWS CLI Command Reference.

list-portfolios-for-product

The following code example shows how to use list-portfolios-for-product.

AWS CLI

To list portfolios associated with a product

The following list-portfolios-for-product example lists the portfolios associated with the specified product.

```
aws servicecatalog list-portfolios-for-product \ --product-id prod-abcdfz3syn2rg
```

Output:

```
{
   "PortfolioDetails": [
      {
         "CreatedTime": 1571337221.555,
         "Id": "port-2s6abcdq5wddh4",
         "DisplayName": "my-portfolio",
         "ProviderName": "my-provider"
      },
      {
         "CreatedTime": 1559665256.348,
         "Id": "port-5pzcxmplst4ei",
         "DisplayName": "my-portfolio",
         "ProviderName": "my-user"
      }
   ]
}
```
• For API details, see ListPortfoliosForProduct in AWS CLI Command Reference.

list-principals-for-portfolio

The following code example shows how to use list-principals-for-portfolio.

AWS CLI

To list all principals for a portfolio

The following list-principals-for-portfolio example lists all principals for the specified portfolio.

aws servicecatalog list-principals-for-portfolio \
    --portfolio-id port-2s6abcdq5wdh4

Output:

{
    "Principals": [
    {
        "PrincipalARN": "arn:aws:iam::123456789012:user/usertest",
        "PrincipalType": "IAM"
    }
  ]
}

• For API details, see ListPrincipalsForPortfolio in AWS CLI Command Reference.

list-provisioning-artifacts

The following code example shows how to use list-provisioning-artifacts.
AWS CLI

To list all provisioning artifacts for a product

The following `list-provisioning-artifacts` example lists all provisioning artifacts for the specified product.

```bash
aws servicecatalog list-provisioning-artifacts \
  --product-id prod-nfi2abcdefgcpw
```

Output:

```json
{
  "ProvisioningArtifactDetails": [
    {
      "Id": "pa-abcdef54ipm6z",
      "Description": "test-version-description",
      "Type": "CLOUD_FORMATION_TEMPLATE",
      "CreatedTime": 1576021147.0,
      "Active": true,
      "Name": "test-version-name"
    },
    {
      "Id": "pa-bb4zyxwwnaio",
      "Description": "test description",
      "Type": "CLOUD_FORMATION_TEMPLATE",
      "CreatedTime": 1576022545.0,
      "Active": true,
      "Name": "test-provisioning-artifact-2"
    }
  ]
}
```

• For API details, see [ListProvisioningArtifacts](#) in *AWS CLI Command Reference*.

list-resources-for-tag-option

The following code example shows how to use `list-resources-for-tag-option`.

AWS CLI

To list resources associated to a TagOption
The following `list-resources-for-tag-option` example lists the resources associated with the specified TagOption.

```
aws servicecatalog list-resources-for-tag-option \
--tag-option-id tag-p3tej2abcd5qc
```

Output:
```
{
    "ResourceDetails": [ 
        {
            "Name": "my product",
            "Description": "description",
            "CreatedTime": 1562097906.0,
            "Id": "prod-abcdfz3syn2rg"
        }
    ]
}
```

• For API details, see [ListResourcesForTagOption](#) in *AWS CLI Command Reference*.

**list-tag-options**

The following code example shows how to use `list-tag-options`.

**AWS CLI**

The following `list-tag-options` example lists all values for TagOptions.

```
aws servicecatalog list-tag-options
```

Output:
```
{
    "TagOptionDetails": [ 
        {
            "Value": "newvalue",
            "Active": true,
```
provision-product

The following code example shows how to use provision-product.

AWS CLI

To provision a product

The following provision-product example provisions the specified product using the specified provisioning artifact.

```bash
aws servicecatalog provision-product \
   --product-id prod-abcdfz3syn2rg \
   --provisioning-artifact-id pa-abc347pcsccfm \
   --provisioned-product-name "mytestppname3"
```

Output:

```json
{
   "RecordDetail": {
      "RecordId": "rec-tfuawdabcdege",
      "CreatedTime": 1577222793.362,
      "ProvisionedProductId": "pp-abcd27bm4mldq",
      "PathId": "lpv2-abcdg3jp6t5k6",
      "RecordErrors": [],
      "ProductId": "prod-abcdfz3syn2rg",
      "UpdatedTime": 1577222793.362,
      "RecordType": "PROVISION_PRODUCT",
   }
}
```

For API details, see ListTagOptions in AWS CLI Command Reference.
• For API details, see ProvisionProduct in AWS CLI Command Reference.

reject-portfolio-share

The following code example shows how to use reject-portfolio-share.

AWS CLI

To reject a portfolio share

The following reject-portfolio-share example rejects the portfolio share for the given portfolio.

```bash
aws servicecatalog reject-portfolio-share \
--portfolio-id port-2s6wuabcdefghijk
```

This command produces no output.

• For API details, see RejectPortfolioShare in AWS CLI Command Reference.

scan-provisioned-products

The following code example shows how to use scan-provisioned-products.

AWS CLI

To list all available provisioned products

The following scan-provisioned-products example lists available provisioned products.

```bash
aws servicecatalog scan-provisioned-products
```

Output:
• For API details, see **ScanProvisionedProducts** in *AWS CLI Command Reference*.

**search-products-as-admin**

The following code example shows how to use `search-products-as-admin`.

**AWS CLI**

To search products with administrator privileges

The following `search-products-as-admin` example searches for products with admin privileges, using a portfolio ID as a filter.

```
aws servicecatalog search-products-as-admin \
   --portfolio-id port-5abcd3e5st4ei
```

Output:

```json
{
   "ProductViewDetails": [
      {
         "ProductId": "pp-abcd27bm4mldq",
         "Type": "CFN_STACK",
         "IdempotencyToken": "527c5358-2a1a-4b9e-b1b9-7293b0ddff42",
         "CreatedTime": 1577222793.358,
         "Name": "mytestppname3",
         "LastRecordId": "rec-tfuawdabcdxge"
      }
   ]
}
```
For API details, see `SearchProductsAsAdmin` in *AWS CLI Command Reference*.

**search-provisioned-products**

The following code example shows how to use `search-provisioned-products`.

**AWS CLI**

**To search provisioned products**

The following `search-provisioned-products` example searches for provisioned products matching the specified product ID, using a JSON file to pass parameters.

```
aws servicecatalog search-provisioned-products \
    --cli-input-json file://search-provisioned-products-input.json
```

Contents of `search-provisioned-products-input.json`:

```
{
    "Filters": {
        "SearchQuery": [
            "prod-tcjvfz3syn2rg"
        ]
    }
}
```
Output:

```json
{
    "ProvisionedProducts": [
        {
            "ProvisioningArtifactId": "pa-pcz347abcdcfm",
            "Name": "mytestppname3",
            "CreatedTime": 1577222793.358,
            "Id": "pp-abcd27bm4mldq",
            "Status": "ERROR",
            "UserArn": "arn:aws:iam::123456789012:user/cliuser",
            "StatusMessage": "AmazonCloudFormationException  Parameters: [KeyName] must have values (Service: AmazonCloudFormation; Status Code: 400; Error Code: ValidationError; Request ID: 5528602a-a9ef-427c-825c-f82c31b814f5)",
            "Tags": [
                {
                    "Key": "aws:servicecatalog:productArn"
                },
                {
                    "Value": "arn:aws:iam::123456789012:user/cliuser",
                    "Key": "aws:servicecatalog:provisioningPrincipalArn"
                },
                {
                    "Value": "value-3",
                    "Key": "1234"
                },
                {
                    "Value": "pa-pcz347abcdcfm",
                    "Key": "aws:servicecatalog:provisioningArtifactIdentifier"
                },
                {
                    "Key": "aws:servicecatalog:portfolioArn"
                },
                {
                    "Key": "aws:servicecatalog:provisionedProductArn"
                }
            ]
        }
    ]
}
```
• For API details, see SearchProvisionedProducts in AWS CLI Command Reference.

update-portfolio

The following code example shows how to use update-portfolio.

AWS CLI

To update a portfolio

The following update-portfolio example updates the name of the specified portfolio.

```
aws servicecatalog update-portfolio \
    --id port-5abcd3e5st4ei \
    --display-name "New portfolio name"
```

Output:

```
{
    "PortfolioDetail": {  
        "DisplayName": "New portfolio name",
        "ProviderName": "provider",
        "Id": "port-5abcd3e5st4ei",
        "CreatedTime": "2020-01-01T00:00:00Z"
    },
    "Tags": []
}
```

• For API details, see UpdatePortfolio in AWS CLI Command Reference.
update-product

The following code example shows how to use update-product.

AWS CLI

To update a product

The following update-product example updates the name and owner of the specified product.

```
aws servicecatalog update-product \
  --id prod-os6abc7dqlt2 \
  --name "New product name" \
  --owner "Updated product owner"
```

Output:

```
{
  "Tags": [
    {
      "Value": "iad",
      "Key": "region"
    }
  ],
  "ProductViewDetail": {
    "ProductViewSummary": {
      "Owner": "Updated product owner",
      "ProductId": "prod-os6abc7dqlt2",
      "Distributor": "test-distributor",
      "SupportUrl": "https://aws.amazon.com",
      "Name": "New product name",
      "ShortDescription": "test-description",
      "HasDefaultPath": false,
      "Id": "prodview-6abcdgrfhyvidy",
      "SupportDescription": "test-support",
      "SupportEmail": "test@amazon.com",
      "Type": "CLOUDFORMATION_TEMPLATE"
    },
    "Status": "CREATED",
    "CreatedTime": 1577136255.0
  }
}
```
update-provisioning-artifact

The following code example shows how to use update-provisioning-artifact.

AWS CLI

To update a provisioning artifact

The following update-provisioning-artifact example updates the name and description of the specified provisioning artifact, using a JSON file to pass parameters.

```
aws servicecatalog update-provisioning-artifact \
    --cli-input-json file://update-provisioning-artifact-input.json
```

Contents of `update-provisioning-artifact-input.json`:

```
{
    "ProductId": "prod-abcdzf3syn2rg",
    "ProvisioningArtifactId": "pa-pcz347abcdfcm",
    "Name": "updated name",
    "Description": "updated description"
}
```

Output:

```
{
    "Info": {
        "TemplateUrl": "https://awsdocs.s3.amazonaws.com/servicecatalog/myexampledevelopment-environment.template"
    },
    "Status": "AVAILABLE",
    "ProvisioningArtifactDetail": {
        "Active": true,
        "Description": "updated description",
        "Id": "pa-pcz347abcdfcm",
    }
}
```
For API details, see `UpdateProvisioningArtifact` in AWS CLI Command Reference.

**update-tag-option**

The following code example shows how to use `update-tag-option`.

**AWS CLI**

**To update a TagOption**

The following `update-tag-option` example updates the value of a TagOption, using the specified JSON file.

```bash
aws servicecatalog update-tag-option --cli-input-json file://update-tag-option-input.json
```

**Contents of `update-tag-option-input.json`:**

```json
{
    "Id": "tag-iabcdn4fzjjms",
    "Value": "newvalue",
    "Active": true
}
```

**Output:**

```json
{
    "TagOptionDetail": {
        "Value": "newvalue",
        "Key": "1234",
        "Active": true,
        "Id": "tag-iabcdn4fzjjms"
    }
}
```
Service Quotas examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Service Quotas.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics
• Actions

Actions

get-aws-default-service-quota

The following code example shows how to use get-aws-default-service-quota.

AWS CLI

To describe a default service quota

The following get-aws-default-service-quota example displays details for the specified quota.

```
aws service-quotas get-aws-default-service-quota \
  --service-code ec2 \
  --quota-code L-1216C47A
```

Output:

```
{
```
"Quota": {
  "ServiceCode": "ec2",
  "ServiceName": "Amazon Elastic Compute Cloud (Amazon EC2)",
  "QuotaArn": "arn:aws:servicequotas:us-east-2::ec2/L-1216C47A",
  "QuotaCode": "L-1216C47A",
  "QuotaName": "Running On-Demand Standard (A, C, D, H, I, M, R, T, Z) instances",
  "Value": 5.0,
  "Unit": "None",
  "Adjustable": true,
  "GlobalQuota": false,
  "UsageMetric": {
    "MetricNamespace": "AWS/Usage",
    "MetricName": "ResourceCount",
    "MetricDimensions": {
      "Class": "Standard/OnDemand",
      "Resource": "vCPU",
      "Service": "EC2",
      "Type": "Resource"
    },
    "MetricStatisticRecommendation": "Maximum"
  }
}


get-requested-service-quota-change

The following code example shows how to use get-requested-service-quota-change.

**AWS CLI**

To describe a service quota increase request

The following get-requested-service-quota-change example describes the specified quota increase request.

```
aws service-quotas get-requested-service-quota-change \
  --request-id d187537d15254312a9609aa51bbf7624u7W49tP0
```

Output:
For API details, see [GetRequestedServiceQuotaChange](#) in [AWS CLI Command Reference](#).

**get-service-quota**

The following code example shows how to use `get-service-quota`.

**AWS CLI**

**To describe a service quota**

The following `get-service-quota` example displays details about the specified quota.

```bash
aws service-quotas get-service-quota \\
    --service-code ec2 \\
    --quota-code L-1216C47A
```

Output:

```json
{
    "Quota": {
        "ServiceCode": "ec2",
```
"ServiceName": "Amazon Elastic Compute Cloud (Amazon EC2)",
"QuotaCode": "L-1216C47A",
"QuotaName": "Running On-Demand Standard (A, C, D, H, I, M, R, T, Z) instances",
"Value": 1920.0,
"Unit": "None",
"Adjustable": true,
"GlobalQuota": false,
"UsageMetric": {
   "MetricNamespace": "AWS/Usage",
   "MetricName": "ResourceCount",
   "MetricDimensions": {
      "Class": "Standard/OnDemand",
      "Resource": "vCPU",
      "Service": "EC2",
      "Type": "Resource"
   },
   "MetricStatisticRecommendation": "Maximum"
}
}


**list-aws-default-service-quotas**

The following code example shows how to use `list-aws-default-service-quotas`.

**AWS CLI**

*To list the default quotas for a service*

The following list-aws-default-service-quotas example lists the default values for the quotas for the specified service.

```bash
aws service-quotas list-aws-default-service-quotas \
   --service-code xray
```

Output:

```json
{
  
}
```
"Quotas": [
{
  "ServiceCode": "xray",
  "ServiceName": "AWS X-Ray",
  "QuotaArn": "arn:aws:servicequotas:us-west-2::xray/L-C6B6F05D",
  "QuotaCode": "L-C6B6F05D",
  "QuotaName": "Indexed annotations per trace",
  "Value": 50.0,
  "Unit": "None",
  "Adjustable": false,
  "GlobalQuota": false
},
{
  "ServiceCode": "xray",
  "ServiceName": "AWS X-Ray",
  "QuotaArn": "arn:aws:servicequotas:us-west-2::xray/L-D781C0FD",
  "QuotaCode": "L-D781C0FD",
  "QuotaName": "Segment document size",
  "Value": 64.0,
  "Unit": "Kilobytes",
  "Adjustable": false,
  "GlobalQuota": false
},
{
  "ServiceCode": "xray",
  "ServiceName": "AWS X-Ray",
  "QuotaArn": "arn:aws:servicequotas:us-west-2::xray/L-998BFF16",
  "QuotaCode": "L-998BFF16",
  "QuotaName": "Trace and service graph retention in days",
  "Value": 30.0,
  "Unit": "None",
  "Adjustable": false,
  "GlobalQuota": false
}
]

- For API details, see [ListAwsDefaultServiceQuotas](https://docs.aws.amazon.com/cli/latest/reference/service-quotas/list-aws-default-service-quotas.html) in *AWS CLI Command Reference*.

**list-requested-service-quota-change-history**

The following code example shows how to use list-requested-service-quota-change-history.
AWS CLI

To list your quota increase requests

The following list-requested-service-quota-change-history example lists the quota increase requests for the specified service.

```
aws service-quotas list-requested-service-quota-change-history \
   --service-code ec2
```

Output:

```
{
   "RequestedQuotas": [
   {
      "Id": "d187537d15254312a9609aa51bbf7624u7W49tP0",
      "CaseId": "6780195351",
      "ServiceCode": "ec2",
      "ServiceName": "Amazon Elastic Compute Cloud (Amazon EC2)",
      "QuotaCode": "L-20F13EBD",
      "QuotaName": "Running Dedicated c5n Hosts",
      "DesiredValue": 2.0,
      "Status": "CASE_OPENED",
      "Created": 1580446904.067,
      "LastUpdated": 1580446953.265,
      "Requester": "{"accountId":"123456789012","callerArn":"arn:aws:iam::123456789012:root"},",
      "QuotaArn": "arn:aws:servicequotas:us-east-2:123456789012:ec2/L-20F13EBD",
      "GlobalQuota": false,
      "Unit": "None"
   }
   ]
}
```

- For API details, see ListRequestedServiceQuotaChangeHistory in AWS CLI Command Reference.

list-requested-service-quota-change-history-by-quota

The following code example shows how to use list-requested-service-quota-change-history-by-quota.
AWS CLI

To list your quota increase requests

The following list-requested-service-quota-change-history-by-quota example lists the quota increase requests for the specified quota.

```bash
aws service-quotas list-requested-service-quota-change-history-by-quota \
   --service-code ec2 \
   --quota-code L-20F13EBD
```

Output:

```json
{
   "RequestedQuotas": [
      {
         "Id": "d187537d15254312a9609aa51bbf7624u7W49tPO",
         "CaseId": "6780195351",
         "ServiceCode": "ec2",
         "ServiceName": "Amazon Elastic Compute Cloud (Amazon EC2)",
         "QuotaCode": "L-20F13EBD",
         "QuotaName": "Running Dedicated c5n Hosts",
         "DesiredValue": 2.0,
         "Status": "CASE_OPENED",
         "Created": 1580446904.067,
         "LastUpdated": 1580446953.265,
         "Requester": "/accountId": "123456789012",
         "callerArn": "/arn:aws:iam::123456789012:root",
         "QuotaArn": "arn:aws:servicequotas:us-east-2:123456789012:ec2/L-20F13EBD",
         "GlobalQuota": false,
         "Unit": "None"
      }
   ]
}
```

- For API details, see [ListRequestedServiceQuotaChangeHistoryByQuota](https://docs.aws.amazon.com/cli/latest/reference/service-quotas/list-requested-service-quota-change-history-by-quota.html) in *AWS CLI Command Reference*.

**list-service-quotas**

The following code example shows how to use list-service-quotas.
AWS CLI

To list the quotas for a service

The following list-service-quotas example displays details about the quotas for AWS CloudFormation.

aws service-quotas list-service-quotas
   --service-code cloudformation

Output:

```json
{
   "Quotas": [
   {
      "ServiceCode": "cloudformation",
      "ServiceName": "AWS CloudFormation",
      "QuotaArn": "arn:aws:servicequotas:us-east-2:123456789012:cloudformation/L-87D14FB7",
      "QuotaCode": "L-87D14FB7",
      "QuotaName": "Output count in CloudFormation template",
      "Value": 60.0,
      "Unit": "None",
      "Adjustable": false,
      "GlobalQuota": false
   },
   {
      "ServiceCode": "cloudformation",
      "ServiceName": "AWS CloudFormation",
      "QuotaArn": "arn:aws:servicequotas:us-east-2:123456789012:cloudformation/L-0485CB21",
      "QuotaCode": "L-0485CB21",
      "QuotaName": "Stack count",
      "Value": 200.0,
      "Unit": "None",
      "Adjustable": true,
      "GlobalQuota": false
   }
   ]
}
```

- For API details, see [ListServiceQuotas](https://docs.aws.amazon.com/cli/latest/reference/service-quotas/list-service-quotas.html) in AWS CLI Command Reference.
list-services

The following code example shows how to use list-services.

AWS CLI

To list the available services

The following command lists the services that are available in Service Quotas.

```bash
aws service-quotas list-services
```

Output:

```json
{
  "Services": [
    {
      "ServiceCode": "AWSCloudMap",
      "ServiceName": "AWS Cloud Map"
    },
    {
      "ServiceCode": "access-analyzer",
      "ServiceName": "Access Analyzer"
    },
    {
      "ServiceCode": "acm",
      "ServiceName": "AWS Certificate Manager (ACM)"
    },
    ...
   ...
  ]
}
```

You can add the `--query` parameter to filter the display to the information that you are interested in. The following example displays only the service codes.

```bash
aws service-quotas list-services
```
For API details, see [ListServices](#) in *AWS CLI Command Reference*.

### request-service-quota-increase

The following code example shows how to use `request-service-quota-increase`.

**AWS CLI**

**To request a service quota increase**

The following `request-service-quota-increase` example requests an increase in the specified service quota.

```
aws service-quotas request-service-quota-increase \
  --service-code ec2 \
  --quota-code L-20F13EBD \
  --desired-value 2
```

**Output:**

```
{
  "RequestedQuota": {
    "Id": "d187537d15254312a9609aa51bbf7624u7W49tPO",
    "ServiceCode": "ec2",
    "ServiceName": "Amazon Elastic Compute Cloud (Amazon EC2)",
    "QuotaCode": "L-20F13EBD",
  }
}
```
For API details, see RequestServiceQuotaIncrease in AWS CLI Command Reference.

Amazon SES examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon SES.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Actions

Delete an identity

The following code example shows how to delete an Amazon SES identity.

AWS CLI

To delete an identity
The following example uses the `delete-identity` command to delete an identity from the list of identities verified with Amazon SES:

```
aws ses delete-identity --identity user@example.com
```

For more information about verified identities, see Verifying Email Addresses and Domains in Amazon SES in the *Amazon Simple Email Service Developer Guide*.

- For API details, see [DeleteIdentity](https://docs.aws.amazon.com/cli/latest/reference/ses/delete-identity.html) in *AWS CLI Command Reference*.

### Get sending limits

The following code example shows how to get Amazon SES sending limits.

**AWS CLI**

**To get your Amazon SES sending limits**

The following example uses the `get-send-quota` command to return your Amazon SES sending limits:

```
aws ses get-send-quota
```

**Output:**

```
{
  "Max24HourSend": 200.0,
  "SentLast24Hours": 1.0,
  "MaxSendRate": 1.0
}
```

Max24HourSend is your sending quota, which is the maximum number of emails that you can send in a 24-hour period. The sending quota reflects a rolling time period. Every time you try to send an email, Amazon SES checks how many emails you sent in the previous 24 hours. As long as the total number of emails that you have sent is less than your quota, your send request will be accepted and your email will be sent.

SentLast24Hours is the number of emails that you have sent in the previous 24 hours.

MaxSendRate is the maximum number of emails that you can send per second.
Note that sending limits are based on recipients rather than on messages. For example, an email that has 10 recipients counts as 10 against your sending quota.

For more information, see Managing Your Amazon SES Sending Limits in the *Amazon Simple Email Service Developer Guide*.

- For API details, see [GetSendQuota](#) in *AWS CLI Command Reference*.

---

**Get the status of an identity**

The following code example shows how to get the status of an Amazon SES identity.

**AWS CLI**

**To get the Amazon SES verification status for a list of identities**

The following example uses the `get-identity-verification-attributes` command to retrieve the Amazon SES verification status for a list of identities:

```bash
aws ses get-identity-verification-attributes --identities "user1@example.com" "user2@example.com"
```

**Output:**

```json
{
   "VerificationAttributes": {
      "user1@example.com": {
         "VerificationStatus": "Success"
      },
      "user2@example.com": {
         "VerificationStatus": "Pending"
      }
   }
}
```

If you call this command with an identity that you have never submitted for verification, that identity won't appear in the output.

For more information about verified identities, see Verifying Email Addresses and Domains in Amazon SES in the *Amazon Simple Email Service Developer Guide*.

- For API details, see [GetIdentityVerificationAttributes](#) in *AWS CLI Command Reference*. 

---
List identities

The following code example shows how to list Amazon SES identities.

AWS CLI

To list all identities (email addresses and domains) for a specific AWS account

The following example uses the `list-identities` command to list all identities that have been submitted for verification with Amazon SES:

```bash
aws ses list-identities
```

Output:

```
{
    "Identities": [
        "user@example.com",
        "example.com"
    ]
}
```

The list that is returned contains all identities regardless of verification status (verified, pending verification, failure, etc.).

In this example, email addresses and domains are returned because we did not specify the `identity-type` parameter.

For more information about verification, see Verifying Email Addresses and Domains in Amazon SES in the Amazon Simple Email Service Developer Guide.

- For API details, see `ListIdentities` in AWS CLI Command Reference.

Send email

The following code example shows how to send email with Amazon SES.

AWS CLI

To send a formatted email using Amazon SES
The following example uses the send-email command to send a formatted email:

```bash
aws ses send-email --from sender@example.com --destination file://destination.json --message file://message.json
```

Output:

```json
{
   "MessageId": "EXAMPLEf3a5efcd1-51adec81-d2a4-4e3f-9fe2-5d85c1b23783-000000"
}
```

The destination and the message are JSON data structures saved in .json files in the current directory. These files are as follows:

destination.json:

```json
{
   "ToAddresses": ["recipient1@example.com", "recipient2@example.com"],
   "CcAddresses": ["recipient3@example.com"],
   "BccAddresses": []
}
```

message.json:

```json
{
   "Subject": {
      "Data": "Test email sent using the AWS CLI",
      "Charset": "UTF-8"
   },
   "Body": {
      "Text": {
         "Data": "This is the message body in text format.",
         "Charset": "UTF-8"
      },
      "Html": {
         "Data": "This message body contains HTML formatting. It can, for example, contain links like this one: <a class="ulink" href="http://docs.aws.amazon.com/ses/latest/DeveloperGuide" target="_blank">Amazon SES Developer Guide</a>.",
         "Charset": "UTF-8"
      }
   }
}
```
Replace the sender and recipient email addresses with the ones you want to use. Note that the sender's email address must be verified with Amazon SES. Until you are granted production access to Amazon SES, you must also verify the email address of each recipient unless the recipient is the Amazon SES mailbox simulator. For more information on verification, see Verifying Email Addresses and Domains in Amazon SES in the Amazon Simple Email Service Developer Guide.

The Message ID in the output indicates that the call to send-email was successful.

If you don't receive the email, check your Junk box.

For more information on sending formatted email, see Sending Formatted Email Using the Amazon SES API in the Amazon Simple Email Service Developer Guide.

- For API details, see SendEmail in AWS CLI Command Reference.

**Send raw email**

The following code example shows how to send a raw email with Amazon SES.

### AWS CLI

**To send a raw email using Amazon SES**

The following example uses the send-raw-email command to send an email with a TXT attachment:

```bash
aws ses send-raw-email --raw-message file://message.json
```

Output:

```json
{
   "MessageId": "EXAMPLEf3f73d99b-c63fb06f-d263-41f8-a0fb-d0dc67d56c07-000000"
}
```

The raw message is a JSON data structure saved in a file named `message.json` in the current directory. It contains the following:
As you can see, "Data" is one long string that contains the entire raw email content in MIME format, including an attachment called attachment.txt.

Replace sender@example.com and recipient@example.com with the addresses you want to use. Note that the sender's email address must be verified with Amazon SES. Until you are granted production access to Amazon SES, you must also verify the email address of the recipient unless the recipient is the Amazon SES mailbox simulator. For more information on verification, see Verifying Email Addresses and Domains in Amazon SES in the Amazon Simple Email Service Developer Guide.

The Message ID in the output indicates that the call to send-raw-email was successful.

If you don't receive the email, check your Junk box.

For more information on sending raw email, see Sending Raw Email Using the Amazon SES API in the Amazon Simple Email Service Developer Guide.

- For API details, see SendRawEmail in AWS CLI Command Reference.

Verify a domain identity

The following code example shows how to verify a domain identity with Amazon SES.

AWS CLI

To verify a domain with Amazon SES

The following example uses the verify-domain-identity command to verify a domain:

```
aws ses verify-domain-identity --domain example.com
```

Output:
To complete domain verification, you must add a TXT record with the returned verification token to your domain's DNS settings. For more information, see Verifying Domains in Amazon SES in the Amazon Simple Email Service Developer Guide.

- For API details, see VerifyDomainIdentity in AWS CLI Command Reference.

Verify an email identity

The following code example shows how to verify an email identity with Amazon SES.

**AWS CLI**

To verify an email address with Amazon SES

The following example uses the verify-email-identity command to verify an email address:

```
aws ses verify-email-identity --email-address user@example.com
```

Before you can send an email using Amazon SES, you must verify the address or domain that you are sending the email from to prove that you own it. If you do not have production access yet, you also need to verify any email addresses that you send emails to except for email addresses provided by the Amazon SES mailbox simulator.

After verify-email-identity is called, the email address will receive a verification email. The user must click on the link in the email to complete the verification process.

For more information, see Verifying Email Addresses in Amazon SES in the Amazon Simple Email Service Developer Guide.

- For API details, see VerifyEmailIdentity in AWS CLI Command Reference.

**get-identity-dkim-attributes**

The following code example shows how to use get-identity-dkim-attributes.
To get the Amazon SES Easy DKIM attributes for a list of identities

The following example uses the get-identity-dkim-attributes command to retrieve the Amazon SES Easy DKIM attributes for a list of identities:

```
aws ses get-identity-dkim-attributes --identities "example.com" "user@example.com"
```

Output:

```
{
   "DkimAttributes": {
      "example.com": {
         "DkimTokens": [
            "EXAMPLEjcs5xoyqytjsotsijas7236gr",
            "EXAMPLEjr76cvoc6mysspnioorxsn6ep",
            "EXAMPLEkbmkqkh1m2lyz77ppkulerz4k"
         ],
         "DkimEnabled": true,
         "DkimVerificationStatus": "Success"
      },
      "user@example.com": {
         "DkimEnabled": false,
         "DkimVerificationStatus": "NotStarted"
      }
   }
}
```

If you call this command with an identity that you have never submitted for verification, that identity won't appear in the output.

For more information about Easy DKIM, see Easy DKIM in Amazon SES in the *Amazon Simple Email Service Developer Guide*.


### get-identity-notification-attributes

The following code example shows how to use get-identity-notification-attributes.

```python
```
To get the Amazon SES notification attributes for a list of identities

The following example uses the `get-identity-notification-attributes` command to retrieve the Amazon SES notification attributes for a list of identities:

```bash
aws ses get-identity-notification-attributes --identities "user1@example.com" "user2@example.com"
```

Output:

```json
{
   "NotificationAttributes": {
      "user1@example.com": {
         "ForwardingEnabled": false,
         "DeliveryTopic": "arn:aws:sns:us-east-1:EXAMPLE65304:MyTopic"
      },
      "user2@example.com": {
         "ForwardingEnabled": true
      }
   }
}
```

This command returns the status of email feedback forwarding and, if applicable, the Amazon Resource Names (ARNs) of the Amazon SNS topics that bounce, complaint, and delivery notifications are sent to.

If you call this command with an identity that you have never submitted for verification, that identity won't appear in the output.

For more information about notifications, see Using Notifications With Amazon SES in the Amazon Simple Email Service Developer Guide.

- For API details, see `GetIdentityNotificationAttributes` in AWS CLI Command Reference.

get-send-statistics

The following code example shows how to use `get-send-statistics`.

AWS CLI

To get your Amazon SES sending statistics

The following example uses the `get-send-statistics` command to return your Amazon SES sending statistics

```bash
aws ses get-send-statistics
```

Output:

```json
{
   "SendDataPoints": [
       {
           "Complaints": 0,
           "Timestamp": "2013-06-12T19:32:00Z",
           "DeliveryAttempts": 2,
           "Bounces": 0,
           "Rejects": 0
       },
       {
           "Complaints": 0,
           "Timestamp": "2013-06-12T00:47:00Z",
           "DeliveryAttempts": 1,
           "Bounces": 0,
           "Rejects": 0
       }
   ]
}
```

The result is a list of data points, representing the last two weeks of sending activity. Each data point in the list contains statistics for a 15-minute interval.

In this example, there are only two data points because the only emails that the user sent in the last two weeks fell within two 15-minute intervals.

For more information, see Monitoring Your Amazon SES Usage Statistics in the *Amazon Simple Email Service Developer Guide*.

- For API details, see `GetSendStatistics` in *AWS CLI Command Reference*.
**set-identity-dkim-enabled**

The following code example shows how to use set-identity-dkim-enabled.

**AWS CLI**

To enable or disable Easy DKIM for an Amazon SES verified identity

The following example uses the set-identity-dkim-enabled command to disable DKIM for a verified email address:

```
aws ses set-identity-dkim-enabled --identity user@example.com --no-dkim-enabled
```

For more information about Easy DKIM, see Easy DKIM in Amazon SES in the *Amazon Simple Email Service Developer Guide*.

- For API details, see [SetIdentityDkimEnabled](#) in *AWS CLI Command Reference*.

**set-identity-feedback-forwarding-enabled**

The following code example shows how to use set-identity-feedback-forwarding-enabled.

**AWS CLI**

To enable or disable bounce and complaint email feedback forwarding for an Amazon SES verified identity

The following example uses the set-identity-feedback-forwarding-enabled command to enable a verified email address to receive bounce and complaint notifications by email:

```
aws ses set-identity-feedback-forwarding-enabled --identity user@example.com --forwarding-enabled
```

You are required to receive bounce and complaint notifications via either Amazon SNS or email feedback forwarding, so you can only disable email feedback forwarding if you select an Amazon SNS topic for both bounce and complaint notifications.

For more information about notifications, see Using Notifications With Amazon SES in the *Amazon Simple Email Service Developer Guide*.

- For API details, see [SetIdentityFeedbackForwardingEnabled](#) in *AWS CLI Command Reference*. 
set-identity-notification-topic

The following code example shows how to use set-identity-notification-topic.

**AWS CLI**

To set the Amazon SNS topic to which Amazon SES will publish bounce, complaint, and/or delivery notifications for a verified identity

The following example uses the set-identity-notification-topic command to specify the Amazon SNS topic to which a verified email address will receive bounce notifications:

```bash
aws ses set-identity-notification-topic --identity user@example.com --notification-type Bounce --sns-topic arn:aws:sns:us-east-1:EXAMPLE65304:MyTopic
```

For more information about notifications, see Using Notifications With Amazon SES in the *Amazon Simple Email Service Developer Guide.*

- For API details, see [SetIdentityNotificationTopic](#) in *AWS CLI Command Reference.*

verify-domain-dkim

The following code example shows how to use verify-domain-dkim.

**AWS CLI**

To generate a verified domain's DKIM tokens for DKIM signing with Amazon SES

The following example uses the verify-domain-dkim command to generate DKIM tokens for a domain that has been verified with Amazon SES:

```bash
aws ses verify-domain-dkim --domain example.com
```

Output:

```json
{
   "DkimTokens": [
      "EXAMPLEq76owjnks31nluwg65scbemvw",
      "EXAMPLEi3dnsj67hstzaj673klariwx2",
      "EXAMPLEwfbtcukvimehexktmtaz6naj"
   ]
}
```
To set up DKIM, you must use the returned DKIM tokens to update your domain's DNS settings with CNAME records that point to DKIM public keys hosted by Amazon SES. For more information, see Easy DKIM in Amazon SES in the Amazon Simple Email Service Developer Guide.

- For API details, see VerifyDomainDkim in AWS CLI Command Reference.

### Shield examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Shield.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

#### Topics

- **Actions**

#### Actions

**associate-drt-log-bucket**

The following code example shows how to use associate-drt-log-bucket.

**AWS CLI**

**To authorize the DRT to access an Amazon S3 bucket**

The following associate-drt-log-bucket example creates an association between the DRT and the specified S3 bucket. This permits the DRT to access the bucket on behalf of the account:

```
aws shield associate-drt-log-bucket \
   --log-bucket flow-logs-for-website-lb
```
associate-drt-role

The following code example shows how to use associate-drt-role.

AWS CLI

To authorize the DRT to mitigate potential attacks on your behalf

The following associate-drt-role example creates an association between the DRT and the specified role. The DRT can use the role to access and manage the account.

```
aws shield associate-drt-role \
  --role-arn arn:aws:iam::123456789012:role/service-role/DrtRole
```

This command produces no output.

For more information, see Authorize the DDoS Response Team in the AWS Shield Advanced Developer Guide.

• For API details, see AssociateDrtLogBucket in AWS CLI Command Reference.

create-protection

The following code example shows how to use create-protection.

AWS CLI

To enable AWS Shield Advanced protection for a single AWS resource

The following create-protection example enables Shield Advanced protection for the specified AWS CloudFront distribution.

```
aws shield create-protection \
  --name "Protection for CloudFront distribution" \
  --resource-arn arn:aws:cloudfront::123456789012:distribution/E198WC25FX0WY8
```
Output:

```
{
    "ProtectionId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111"
}
```

For more information, see Specify Your Resources to Protect in the AWS Shield Advanced Developer Guide.

- For API details, see CreateProtection in AWS CLI Command Reference.

**create-subscription**

The following code example shows how to use `create-subscription`.

**AWS CLI**

To enable AWS Shield Advanced protection for an account

The following create-subscription example enables Shield Advanced protection for the account.

```
aws shield create-subscription
```

This command produces no output.

For more information, see Getting Started with AWS Shield Advanced in the AWS Shield Advanced Developer Guide.

- For API details, see CreateSubscription in AWS CLI Command Reference.

**delete-protection**

The following code example shows how to use `delete-protection`.

**AWS CLI**

To remove AWS Shield Advanced protection from an AWS resource

The following delete-protection example removes the specified AWS Shield Advanced protection.
aws shield delete-protection \
  --protection-id a1b2c3d4-5678-90ab-cdef-EXAMPLE11111

This command produces no output.

For more information, see Removing AWS Shield Advanced from an AWS Resource in the AWS Shield Advanced Developer Guide.

- For API details, see DeleteProtection in AWS CLI Command Reference.

describe-attack

The following code example shows how to use describe-attack.

AWS CLI

To retrieve a detailed description of an attack

The following describe-attack example displays details about the DDoS attack with the specified attack ID. You can obtain attack IDs by running the list-attacks command.

aws shield describe-attack --attack-id a1b2c3d4-5678-90ab-cdef-EXAMPLE22222

Output:

```json
{
    "Attack": {
        "AttackId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE22222",
        "SubResources": [
            {
                "Type": "IP",
                "Id": "192.0.2.2",
                "AttackVectors": [
                    {
                        "VectorType": "SYN_FLOOD",
                        "VectorCounters": [
                            {
                                "Name": "SYN_FLOOD_BPS",
                                "Max": 982184.0,
                                "Average": 982184.0,
                            }"...
                        }"...
                    }"...
                }"...
            }"...
        }"...
    }"...
}"...
```
AWS Command Line Interface

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"Sum": 11786208.0,
"N": 12,
"Unit": "BPS"
}
]
}
],
"Counters": []
},
{
"Type": "IP",
"Id": "192.0.2.3",
"AttackVectors": [
{
"VectorType": "SYN_FLOOD",
"VectorCounters": [
{
"Name": "SYN_FLOOD_BPS",
"Max": 982184.0,
"Average": 982184.0,
"Sum": 9821840.0,
"N": 10,
"Unit": "BPS"
}
]
}
],
"Counters": []
},
{
"Type": "IP",
"Id": "192.0.2.4",
"AttackVectors": [
{
"VectorType": "SYN_FLOOD",
"VectorCounters": [
{
"Name": "SYN_FLOOD_BPS",
"Max": 982184.0,
"Average": 982184.0,
"Sum": 7857472.0,
"N": 8,
"Unit": "BPS"
}

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[},
],
"Counters": []
},
{
 "Type": "IP",
 "Id": "192.0.2.5",
 "AttackVectors": [
  {
   "VectorType": "SYN_FLOOD",
   "VectorCounters": [
    {
      "Name": "SYN_FLOOD_BPS",
      "Max": 982184.0,
      "Average": 982184.0,
      "Sum": 1964368.0,
      "N": 2,
      "Unit": "BPS"
    }
   ]
  },
  ],
"Counters": []
},
{
 "Type": "IP",
 "Id": "2001:DB8::bcde:4321:8765:0:0",
 "AttackVectors": [
  {
   "VectorType": "SYN_FLOOD",
   "VectorCounters": [
    {
      "Name": "SYN_FLOOD_BPS",
      "Max": 982184.0,
      "Average": 982184.0,
      "Sum": 1964368.0,
      "N": 2,
      "Unit": "BPS"
    }
   ]
  }
],
"Counters": []
}
{"Type": "IP",
"Id": "192.0.2.6",
"AttackVectors": [
{
"VectorType": "SYN_FLOOD",
"VectorCounters": [
{
"Name": "SYN_FLOOD_BPS",
"Max": 982184.0,
"Average": 982184.0,
"Sum": 1964368.0,
"N": 2,
"Unit": "BPS"
}
]
},
"Counters": []
],
"StartTime": 1576024927.457,
"EndTime": 1576025647.457,
"AttackCounters": [],
"AttackProperties": [
{
"AttackLayer": "NETWORK",
"AttackPropertyIdentifier": "SOURCE_IP_ADDRESS",
"TopContributors": [
{
"Name": "198.51.100.5",
"Value": 2024475682
},
{
"Name": "198.51.100.8",
"Value": 1311380863
},
{
"Name": "203.0.113.4",
"Value": 900599855
},
{
"Name": "198.51.100.4",
"Value": 900599855
}]}
"Value": 769417366

"Value": 757992847

"Name": "203.1.113.13",
"Value": 757992847

"Total": 92773354841

"Unit": "BYTES",
"Total": 92773354841

"AttackLayer": "NETWORK",
"AttackPropertyIdentifier": "SOURCE_COUNTRY",
"TopContributors": [
    {
        "Name": "United States",
        "Value": 80938161764
    },
    {
        "Name": "Brazil",
        "Value": 9929864330
    },
    {
        "Name": "Netherlands",
        "Value": 1635009446
    },
    {
        "Name": "Mexico",
        "Value": 144832971
    },
    {
        "Name": "Japan",
        "Value": 45369000
    }
],
"Unit": "BYTES",
"Total": 92773354841

"AttackLayer": "NETWORK",
"AttackPropertyIdentifier": "SOURCE_ASN",
"TopContributors": [
    {
        "Name": "12345",
        "Value": 5674
    }
]
For more information, see Reviewing DDoS Incidents in the AWS Shield Advanced Developer Guide.

- For API details, see DescribeAttack in AWS CLI Command Reference.

**describe-drt-access**

The following code example shows how to use describe-drt-access.

**AWS CLI**

To retrieve a description of the authorizations the DRT has to mitigate attacks on your behalf

The following describe-drt-access example retrieves the role and S3 bucket authorizations that the DRT has, which allow it to respond to potential attacks on your behalf.
aws shield describe-drt-access

Output:

```json
{
   "RoleArn": "arn:aws:iam::123456789012:role/service-role/DrtRole",
   "LogBucketList": [
   "flow-logs-for-website-lb"
   ]
}
```

For more information, see Authorize the DDoS Response Team in the AWS Shield Advanced Developer Guide.

- For API details, see DescribeDrtAccess in AWS CLI Command Reference.

**describe-emergency-contact-settings**

The following code example shows how to use describe-emergency-contact-settings.

**AWS CLI**

**To retrieve emergency e-mail addresses that you have on file with the DRT**

The following describe-emergency-contact-settings example retrieves the e-mail addresses that are on file with the DRT for the account. These are the addresses the DRT should contact when it's responding to a suspected attack.

aws shield describe-emergency-contact-settings

Output:

```json
{
   "EmergencyContactList": [
   {
      "EmailAddress": "ops@example.com"
   },
   {
      "EmailAddress": "ddos-notifications@example.com"
   }
   ]
}
```
For more information, see How AWS Shield Works<https://docs.aws.amazon.com/waf/latest/developerguide/ddos-overview.html> in the AWS Shield Advanced Developer Guide.

- For API details, see DescribeEmergencyContactSettings in AWS CLI Command Reference.

**describe-protection**

The following code example shows how to use describe-protection.

**AWS CLI**

**To retrieve the details for an AWS Shield Advanced protection**

The following describe-protection example displays details about the Shield Advanced protection with the specified ID. You can obtain protection IDs by running the list-protections command.

```bash
aws shield describe-protection \
   --protection-id a1b2c3d4-5678-90ab-cdef-EXAMPLE11111
```

Output:

```json
{
   "Protection": {
      "Id": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
      "Name": "1.2.3.4",
      "ResourceArn": "arn:aws:ec2:us-west-2:123456789012:eip-allocation/eipalloc-0ac1537af40742a6d"
   }
}
```

For more information, see Specify Your Resources to Protect in the AWS Shield Advanced Developer Guide.

- For API details, see DescribeProtection in AWS CLI Command Reference.

**describe-subscription**

The following code example shows how to use describe-subscription.
AWS CLI

To retrieve the details of the AWS Shield Advanced protection for the account

The following describe-subscription example displays details about the Shield Advanced protection provided for the account:

```bash
aws shield describe-subscription
```

Output:

```json
{
   "Subscription": {
       "StartTime": 1534368978.0,
       "EndTime": 1597613778.0,
       "TimeCommitmentInSeconds": 63244800,
       "AutoRenew": "ENABLED",
       "Limits": [
           {
               "Type": "GLOBAL_ACCELERATOR",
               "Max": 1000
           },
           {
               "Type": "ROUTE53_HOSTED_ZONE",
               "Max": 1000
           },
           {
               "Type": "CF_DISTRIBUTION",
               "Max": 1000
           },
           {
               "Type": "ELB_LOAD_BALANCER",
               "Max": 1000
           },
           {
               "Type": "EC2_ELASTIC_IP_ALLOCATION",
               "Max": 1000
           }
       ]
   }
}
```

For more information, see [How AWS Shield Works](https://docs.aws.amazon.com/shield/latest/advisor/what-is-shield-advanced.html) in the *AWS Shield Advanced Developer Guide*. 
disassociate-drt-log-bucket

The following code example shows how to use disassociate-drt-log-bucket.

AWS CLI

To remove the authorization for DRT to access an Amazon S3 bucket on your behalf

The following disassociate-drt-log-bucket example removes the association between the DRT and the specified S3 bucket. After this command completes, the DRT can no longer access the bucket on behalf of the account.

```
aws shield disassociate-drt-log-bucket \
   --log-bucket flow-logs-for-website-lb
```

This command produces no output.

For more information, see Authorize the DDoS Response Team in the AWS Shield Advanced Developer Guide.

• For API details, see DisassociateDrtLogBucket in AWS CLI Command Reference.

disassociate-drt-role

The following code example shows how to use disassociate-drt-role.

AWS CLI

To remove the authorization for DRT to mitigate potential attacks on your behalf

The following disassociate-drt-role example removes the association between the DRT and the account. After this call, the DRT can no longer access or manage your account.

```
aws shield disassociate-drt-role
```

This command produces no output.

For more information, see Authorize the DDoS Response Team in the AWS Shield Advanced Developer Guide.
get-subscription-state

The following code example shows how to use get-subscription-state.

AWS CLI

To retrieve the current state of the account's AWS Shield Advanced subscription

The following get-subscription-state example retrieves the state of the Shield Advanced protection for the account.

```
aws shield get-subscription-state
```

Output:

```
{
    "SubscriptionState": "ACTIVE"
}
```

For more information, see How AWS Shield Works in the AWS Shield Advanced Developer Guide.

• For API details, see GetSubscriptionState in AWS CLI Command Reference.

list-attacks

The following code example shows how to use list-attacks.

AWS CLI

To retrieve attack summaries from AWS Shield Advanced

The following list-attacks example retrieves summaries of attacks for the specified AWS CloudFront distribution during the specified time period. The response includes attack IDs that you can provide to the describe-attack command for detailed information on an attack.

```
aws shield list-attacks \
    --resource-arns arn:aws:cloudfront::12345678910:distribution/E1PXMP22ZVFAOR \
    --start-time FromInclusive=1529280000,ToExclusive=1529300000
```
Output:

```json
{
  "AttackSummaries": [
    {
      "AttackId": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
      "ResourceArn": "arn:aws:cloudfront::123456789012:distribution/E1PXMP22ZVFAOR",
      "StartTime": 1529280000.0,
      "EndTime": 1529449200.0,
      "AttackVectors": [
        {
          "VectorType": "SYN_FLOOD"
        }
      ]
    }
  ]
}
```

For more information, see [Reviewing DDoS Incidents](#) in the *AWS Shield Advanced Developer Guide*.

- For API details, see [ListAttacks](#) in *AWS CLI Command Reference*.

**list-protections**

The following code example shows how to use `list-protections`.

**AWS CLI**

To retrieve protection summaries from AWS Shield Advanced

The following `list-protections` example retrieves summaries of the protections that are enabled for the account.

```bash
aws shield list-protections
```

Output:

```json
{
  "Protections": [
  
  ]
}
For more information, see [Specify Your Resources to Protect](#) in the *AWS Shield Advanced Developer Guide*.

- For API details, see [ListProtections](#) in *AWS CLI Command Reference*.

**update-emergency-contact-settings**

The following code example shows how to use `update-emergency-contact-settings`.

**AWS CLI**

To define the emergency e-mail addresses that are on file with the DRT

The following `update-emergency-contact-settings` example defines two e-mail addresses that the DRT should contact when it's responding to a suspected attack.

```
aws shield update-emergency-contact-settings \
  --emergency-contact-list EmailAddress=ops@example.com EmailAddress=ddos-notifications@example.com
```

This command produces no output.

For more information, see [How AWS Shield Works](#) in the *AWS Shield Advanced Developer Guide*.

- For API details, see [UpdateEmergencyContactSettings](#) in *AWS CLI Command Reference*.

**update-subscription**

The following code example shows how to use `update-subscription`.

**AWS CLI**

To modify the account's AWS Shield Advanced subscription
The following update-subscription example enables auto-renewal of the AWS Shield Advanced subscription for the account.

```bash
aws shield update-subscription \
   --auto-renew ENABLED
```

This command produces no output.

For more information, see How AWS Shield Works in the AWS Shield Advanced Developer Guide.

- For API details, see UpdateSubscription in AWS CLI Command Reference.

**Signer examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Signer.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- **Actions**

**Actions**

**cancel-signing-profile**

The following code example shows how to use cancel-signing-profile.

**AWS CLI**

**To delete a signing profile**

The following cancel-signing-profile example removes an existing signing profile from AWS Signer.
aws signer cancel-signing-profile \
   --profile-name MyProfile1

This command produces no output.
• For API details, see CancelSigningProfile in AWS CLI Command Reference.

describe-signing-job

The following code example shows how to use describe-signing-job.

AWS CLI

To display details about a signing job

The following describe-signing-job example displays details about the specified signing job.

aws signer describe-signing-job \
   --job-id 2065c468-73e2-4385-a6c9-0123456789abc

Output:

```json
{
   "status": "Succeeded",
   "completedAt": 1568412037,
   "platformId": "AmazonFreeRTOS-Default",
   "signingMaterial": {
      "certificateArn": "arn:aws:acm:us-west-2:123456789012:certificate/6a55389b-306b-4e8c-a95c-0123456789abc"
   },
   "statusReason": "Signing Succeeded",
   "jobId": "2065c468-73e2-4385-a6c9-0123456789abc",
   "source": {
      "s3": {
         "version": "PNyFaUTgsQh5ZdMCcoCe6pTl9pB_M4",
         "bucketName": "signer-source",
         "key": "MyCode.rb"
      }
   },
   "profileName": "MyProfile2",
   "signedObject": {
```
"s3": {
    "bucketName": "signer-destination",
    "key": "signed-2065c468-73e2-4385-a6c9-0123456789abc"
},
"requestedBy": "arn:aws:iam::123456789012:user/maria",
"createdAt": 1568412036
}

- For API details, see `DescribeSigningJob` in *AWS CLI Command Reference*.

**get-signing-platform**

The following code example shows how to use `get-signing-platform`.

**AWS CLI**

**To display details about a signing platform**

The following `get-signing-platform` example displays details about the specified signing platform.

```bash
aws signer get-signing-platform \
    --platform-id AmazonFreeRTOS-TI-CC3220SF
```

Output:

```json
{
    "category": "AWS",
    "displayName": "Amazon FreeRTOS SHA1-RSA CC3220SF-Format",
    "target": "SHA1-RSA-TISHA1",
    "platformId": "AmazonFreeRTOS-TI-CC3220SF",
    "signingConfiguration": {
        "encryptionAlgorithmOptions": {
            "defaultValue": "RSA",
            "allowedValues": ["RSA"
        ]
    },
    "hashAlgorithmOptions": {
        "defaultValue": "SHA1",
        "allowedValues": ["SHA1"
```
"SHA1"
]
}
),
"maxSizeInMB": 16,
"partner": "AmazonFreeRTOS",
"signingImageFormat": {
   "defaultFormat": "JSONEmbedded",
   "supportedFormats": [
   "JSONEmbedded"
   ]
}
}

• For API details, see `GetSigningPlatform` in *AWS CLI Command Reference*.

get-signing-profile

The following code example shows how to use `get-signing-profile`.

**AWS CLI**

**To display details about a signing profile**

The following `get-signing-profile` example displays details about the specified signing profile.

```
aws signer get-signing-profile \
   --profile-name MyProfile3
```

**Output:**

```
{
   "platformId": "AmazonFreeRTOS-TI-CC3220SF",
   "profileName": "MyProfile3",
   "status": "Active",
   "signingMaterial": {
      "certificateArn": "arn:aws:acm:us-west-2:123456789012:certificate/6a55389b-306b-4e8c-a95c-0123456789abc"
   }
}
```
list-signing-jobs

The following code example shows how to use list-signing-jobs.

AWS CLI

To list all signing jobs

The following list-signing-jobs example displays details about all signing jobs for the account.

```bash/aws signer list-signing-jobs
```

In this example, two jobs are returned, one successful, and one failed.

```json
{
  "jobs": [
    {
      "status": "Succeeded",
      "signingMaterial": {
        "certificateArn": "arn:aws:acm:us-west-2:123456789012:certificate/6a55389b-306b-4e8c-a95c-0123456789abc"
      },
      "jobId": "2065c468-73e2-4385-a6c9-0123456789abc",
      "source": {
        "s3": {
          "version": "PNyFaUTgsQh5ZdMCcoCe6pT1gOpgB_M4",
          "bucketName": "signer-source",
          "key": "MyCode.rb"
        }
      },
      "signedObject": {
        "s3": {
          "bucketName": "signer-destination",
          "key": "signed-2065c468-73e2-4385-a6c9-0123456789abc"
        }
      },
      "createdAt": 1568412036
    },
    {
      "status": "Failed",
      "signedObject": {
        "s3": {
          "bucketName": "signer-destination",
          "key": "signed-2065c468-73e2-4385-a6c9-0123456789abc"
        }
      },
      "createdAt": 1568412036
    }
  ]
}
```
For API details, see `ListSigningJobs` in *AWS CLI Command Reference*.

**list-signing-platforms**

The following code example shows how to use `list-signing-platforms`.

**AWS CLI**

**To list all signing platforms**

The following `list-signing-platforms` example displays details about all available signing platforms.

```
aws signer list-signing-platforms
```

**Output:**

```
{
   "platforms": [
       {
           "category": "AWS",
           "displayName": "AWS IoT Device Management SHA256-ECDSA",
           "target": "SHA256-ECDSA",
           "platformId": "AWSIoTDeviceManagement-SHA256-ECDSA",
           "signingConfiguration": {
               "certificateArn": "arn:aws:acm:us-west-2:123456789012:certificate/6a55389b-306b-4e8c-a95c-0123456789abc",
               "createdAt": 1568402690,
               "jobId": "74d9825e-22fc-4a0d-b962-0123456789abc"
           }
       }
   ]
}
```
"encryptionAlgorithmOptions": {
    "defaultValue": "ECDSA",
    "allowedValues": [
        "ECDSA"
    ],
},
"hashAlgorithmOptions": {
    "defaultValue": "SHA256",
    "allowedValues": [
        "SHA256"
    ]
}
},
"maxSizeInMB": 2048,
"partner": "AWSIoTDeviceManagement",
"signingImageFormat": {
    "defaultFormat": "JSONDetached",
    "supportedFormats": [
        "JSONDetached"
    ]
}
},
{
    "category": "AWS",
    "displayName": "Amazon FreeRTOS SHA1-RSA CC3220SF-Format",
    "target": "SHA1-RSA-TISHA1",
    "platformId": "AmazonFreeRTOS-TI-CC3220SF",
    "signingConfiguration": {
        "encryptionAlgorithmOptions": {
            "defaultValue": "RSA",
            "allowedValues": [
                "RSA"
            ]
        },
        "hashAlgorithmOptions": {
            "defaultValue": "SHA1",
            "allowedValues": [
                "SHA1"
            ]
        }
    },
    "maxSizeInMB": 16,
    "partner": "AmazonFreeRTOS",
    "signingImageFormat": {

"defaultFormat": "JSONEmbedded",
"supportedFormats": [  "JSONEmbedded"
]
}
},
{
  "category": "AWS",
  "displayName": "Amazon FreeRTOS SHA256-ECDSA",
  "target": "SHA256-ECDSA",
  "platformId": "AmazonFreeRTOS-Default",
  "signingConfiguration": {  
    "encryptionAlgorithmOptions": {  
      "defaultValue": "ECDSA",
      "allowedValues": [  
        "ECDSA"
      ]
    },
    "hashAlgorithmOptions": {  
      "defaultValue": "SHA256",
      "allowedValues": [  
        "SHA256"
      ]
    }
  },
  "maxSizeInMB": 16,
  "partner": "AmazonFreeRTOS",
  "signingImageFormat": {  
    "defaultFormat": "JSONEmbedded",
    "supportedFormats": [  
      "JSONEmbedded"
    ]
  }
}
]

- For API details, see ListSigningPlatforms in AWS CLI Command Reference.

list-signing-profiles

The following code example shows how to use list-signing-profiles.
AWS CLI

To list all signing profiles

The following `list-signing-profiles` example displays details about all signing profiles for the account.

```
aws signer list-signing-profiles
```

Output:

```
{
  "profiles": [
  {
    "platformId": "AmazonFreeRTOS-TI-CC3220SF",
    "profileName": "MyProfile4",
    "status": "Active",
    "signingMaterial": {
      "certificateArn": "arn:aws:acm:us-west-2:123456789012:certificate/6a55389b-306b-4e8c-a95c-0123456789abc"
    }
  },
  {
    "platformId": "AWSIoTDeviceManagement-SHA256-ECDSA",
    "profileName": "MyProfile5",
    "status": "Active",
    "signingMaterial": {
      "certificateArn": "arn:aws:acm:us-west-2:123456789012:certificate/6a55389b-306b-4e8c-a95c-0123456789abc"
    }
  }
  ]
}
```

- For API details, see [ListSigningProfiles](#) in *AWS CLI Command Reference*.

**put-signing-profile**

The following code example shows how to use `put-signing-profile`.

```
**AWS CLI**

**To create a signing profile**

The following `put-signing-profile` example creates a signing profile using the specified certificate and platform.

```bash
aws signer put-signing-profile \
  --profile-name MyProfile6 \
  --signing-material certificateArn=arn:aws:acm:us-west-2:123456789012:certificate/6a55389b-306b-4e8c-a95c-0123456789abc \
  --platform AmazonFreeRTOS-TI-CC3220SF
```

Output:

```json
{
  "arn": "arn:aws:signer:us-west-2:123456789012:/signing-profiles/MyProfile6"
}
```

- For API details, see [PutSigningProfile](#) in *AWS CLI Command Reference*.

**start-signing-job**

The following code example shows how to use `start-signing-job`.

**AWS CLI**

**To start a signing job**

The following `start-signing-job` example starts a signing job on the code found at the specified source. It uses the specified profile to do the signing and places the signed code in the specified destination.

```bash
aws signer start-signing-job \
  --source 's3={bucketName=signer-source,key=MyCode.rb,version=PNyFaUTgsQh5ZdMCcoCe6pT1g0pgB_M4}' \
  --destination 's3={bucketName=signer-destination,prefix=signed-}' \
  --profile-name MyProfile7
```

The output is the ID of the signing job.
Snowball examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Snowball.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**
- **Actions**

**Actions**

**get-snowball-usage**

The following code example shows how to use `get-snowball-usage`.

**AWS CLI**

To get information about the Snowball service limit for your account

The following `get-snowball-usage` example displays information about the Snowball service limit for your account, and also the number of Snowballs your account has in use.

```
aws snowball get-snowball-usage
```
Output:

```json
{
    "SnowballLimit": 1,
    "SnowballsInUse": 0
}
```

FOR more information, see AWS Snowball Edge Limits in the AWS Snowball Developer Guide.

- For API details, see GetSnowballUsage in AWS CLI Command Reference.

**list-jobs**

The following code example shows how to use `list-jobs`.

**AWS CLI**

**To list the current Snowball jobs in your account**

The following list-jobs example displays an array of JobListEntry objects. In this example, a single job is listed.

```bash
aws snowball list-jobs
```

Output:

```json
{
    "JobListEntries": [
        {
            "CreationDate": "2016-09-27T14:50Z",
            "Description": "Important Photos 2016-08-11",
            "IsMaster": "TRUE",
            "JobId": "ABCd1e324fe-022f-488e-a98b-3b0566063db1",
            "JobState": "Complete",
            "JobType": "IMPORT",
            "SnowballType": "EDGE"
        }
    ]
}
```

For more information, see Jobs for AWS Snowball Edge devices in the AWS Snowball Developer Guide.
• For API details, see ListJobs in AWS CLI Command Reference.

Amazon SNS examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon SNS.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics
• Actions
• Scenarios

Actions

Add tags to a topic

The following code example shows how to add tags to an Amazon SNS topic.

AWS CLI

To add a tag to a topic

The following tag-resource example adds a metadata tag to the specified Amazon SNS topic.

```
aws sns tag-resource \
    --tags Key=Team,Value=Alpha
```

This command produces no output.
Check whether a phone number is opted out

The following code example shows how to check whether a phone number is opted out of receiving Amazon SNS messages.

**AWS CLI**

**To check SMS message opt-out for a phone number**

The following check-if-phone-number-is-opted-out example checks whether the specified phone number is opted out of receiving SMS messages from the current AWS account.

```bash
aws sns check-if-phone-number-is-opted-out \
  --phone-number +1555550100
```

Output:

```json
{
  "isOptedOut": false
}
```

**Confirm an endpoint owner wants to receive messages**

The following code example shows how to confirm the owner of an endpoint wants to receive Amazon SNS messages by validating the token sent to the endpoint by an earlier Subscribe action.

**AWS CLI**

**To confirm a subscription**

The following confirm-subscription command completes the confirmation process started when you subscribed to an SNS topic named my-topic. The --token parameter comes from the confirmation message sent to the notification endpoint specified in the subscribe call.

```bash
aws sns confirm-subscription \
  --topic-arn arn:aws:sns:us-west-2:123456789012:my-topic \
```
Output:

```
{
    "SubscriptionArn": "arn:aws:sns:us-west-2:123456789012:my-topic:8a21d249-4329-4871-acc6-7be709c6ea7f"
}
```

- For API details, see `ConfirmSubscription` in *AWS CLI Command Reference*.

Create a topic

The following code example shows how to create an Amazon SNS topic.

**AWS CLI**

**To create an SNS topic**

The following `create-topic` example creates an SNS topic named `my-topic`.

```
aws sns create-topic \
   --name my-topic
```

Output:

```
{
    "ResponseMetadata": {
        "RequestId": "1469e8d7-1642-564e-b85d-a19b4b341f83"
    },
}
```

For more information, see [Using the AWS Command Line Interface with Amazon SQS and Amazon SNS](https://docs.aws.amazon.com/cli/latest/reference/sns.html) in the *AWS Command Line Interface User Guide*.

- For API details, see `CreateTopic` in *AWS CLI Command Reference*.

Delete a subscription

The following code example shows how to delete an Amazon SNS subscription.
**AWS CLI**

**To unsubscribe from a topic**

The following unsubscribe example deletes the specified subscription from a topic.

```bash
aws sns unsubscribe \\
   --subscription-arn arn:aws:sns:us-west-2:0123456789012:my-topic:8a21d249-4329-4871-acc6-7be709c6ea7f
```

This command produces no output.

- For API details, see [Unsubscribe](#) in *AWS CLI Command Reference*.

**Delete a topic**

The following code example shows how to delete an Amazon SNS topic and all subscriptions to that topic.

**AWS CLI**

**To delete an SNS topic**

The following delete-topic example deletes the specified SNS topic.

```bash
aws sns delete-topic \\
```

This command produces no output.

- For API details, see [DeleteTopic](#) in *AWS CLI Command Reference*.

**Get the properties of a topic**

The following code example shows how to get the properties of an Amazon SNS topic.

**AWS CLI**

**To retrieve the attributes of a topic**

The following get-topic-attributes example displays the attributes for the specified topic.

```bash
aws sns get-topic-attributes \
```
Output:

```json
{
    "Attributes": {
        "SubscriptionsConfirmed": "1",
        "DisplayName": "my-topic",
        "SubscriptionsDeleted": "0",
        "EffectiveDeliveryPolicy": "{"http":{"defaultHealthyRetryPolicy":{
            "minDelayTarget":20,"maxDelayTarget":20,"numRetries":3,"numMaxDelayRetries":0,"numNoDelayRetries":0,"numMinDelayRetries":0,"backoffFunction":"linear"},"disableSubscriptionOverrides":false}}",
        "Owner": "123456789012",
    }
}
```

- For API details, see [GetTopicAttributes](https://awscli.amazonaws.com/v2/documentation/api/index.html) in *AWS CLI Command Reference*.

### Get the settings for sending SMS messages

The following code example shows how to get the settings for sending Amazon SNS SMS messages.

**AWS CLI**

**To list the default SMS message attributes**

The following `get-sms-attributes` example lists the default attributes for sending SMS messages.

```
aws sns get-sms-attributes
```
List opted out phone numbers

The following code example shows how to list phone numbers that are opted out of receiving Amazon SNS messages.

**AWS CLI**

**To list SMS message opt-outs**

The following `list-phone-numbers-opted-out` example lists the phone numbers opted out of receiving SMS messages.

```bash
aws sns list-phone-numbers-opted-out
```

Output:

```json
{
   "phoneNumbers": [
      "+15555550100"
   ]
}
```

- For API details, see `ListPhoneNumbersOptedOut` in *AWS CLI Command Reference*.

List the subscribers of a topic

The following code example shows how to retrieve the list of subscribers of an Amazon SNS topic.

**AWS CLI**

**To list your SNS subscriptions**
The following list-subscriptions example displays a list of the SNS subscriptions in your AWS account.

```sh/aws sns list-subscriptions
```

Output:

```json
{
  "Subscriptions": [
    {
      "Owner": "123456789012",
      "Endpoint": "my-email@example.com",
      "Protocol": "email",
      "SubscriptionArn": "arn:aws:sns:us-west-2:123456789012:my-topic:8a21d249-4329-4871-acc6-7be709c6ea7f"
    }
  ]
}
```

- For API details, see [ListSubscriptions](https://docs.aws.amazon.com/cli/latest/reference/sns/list-subscriptions.html) in *AWS CLI Command Reference*.

**List topics**

The following code example shows how to list Amazon SNS topics.

**AWS CLI**

**To list your SNS topics**

The following list-topics example lists all of SNS topics in your AWS account.

```sh/aws sns list-topics
```

Output:

```json
{
  "Topics": [
    {
    }
  ]
}
```
Publish to a topic

The following code example shows how to publish messages to an Amazon SNS topic.

AWS CLI

**Example 1: To publish a message to a topic**

The following publish example publishes the specified message to the specified SNS topic. The message comes from a text file, which enables you to include line breaks.

```bash
aws sns publish \
   --topic-arn "arn:aws:sns:us-west-2:123456789012:my-topic" \ 
   --message file://message.txt
```

**Contents of message.txt:**

Hello World
Second Line

**Output:**

```json
{
   "MessageId": "123a45b6-7890-12c3-45d6-111122223333"
}
```

**Example 2: To publish an SMS message to a phone number**

The following publish example publishes the message Hello world! to the phone number +1-555-555-0100.

```bash
aws sns publish \
   --message "Hello world!" \ 
   --phone-number +1-555-555-0100
```

**Output:**


• For API details, see Publish in AWS CLI Command Reference.

Set a filter policy

The following code example shows how to set an Amazon SNS filter policy.

AWS CLI

To set subscription attributes

The following set-subscription-attributes example sets the RawMessageDelivery attribute to an SQS subscription.

```
aws sns set-subscription-attributes \
   --subscription-arn arn:aws:sns:us-east-1:123456789012:mytopic:f248de18-2cf6-578c-8592-b6f1eaa877dc \
   --attribute-name RawMessageDelivery \
   --attribute-value true
```

This command produces no output.

The following set-subscription-attributes example sets a FilterPolicy attribute to an SQS subscription.

```
aws sns set-subscription-attributes \
   --subscription-arn arn:aws:sns:us-east-1:123456789012:mytopic:f248de18-2cf6-578c-8592-b6f1eaa877dc \
   --attribute-name FilterPolicy \
   --attribute-value "{ "anyMandatoryKey": ["any", "of", "these"] }"
```

This command produces no output.

The following set-subscription-attributes example removes the FilterPolicy attribute from an SQS subscription.

```
aws sns set-subscription-attributes \
```

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This command produces no output.

- For API details, see `SetSubscriptionAttributes` in *AWS CLI Command Reference*.

### Set the default settings for sending SMS messages

The following code example shows how to set the default settings for sending SMS messages using Amazon SNS.

**AWS CLI**

**To set SMS message attributes**

The following `set-sms-attributes` example sets the default sender ID for SMS messages to `MyName`.

```
aws sns set-sms-attributes 
    --attributes DefaultSenderId=MyName
```

This command produces no output.

- For API details, see `SetSMSAttributes` in *AWS CLI Command Reference*.

### Set topic attributes

The following code example shows how to set Amazon SNS topic attributes.

**AWS CLI**

**To set an attribute for a topic**

The following `set-topic-attributes` example sets the `DisplayName` attribute for the specified topic.

```
aws sns set-topic-attributes 
    --attribute-name DisplayName
```

---

This instruction is relevant to the AWS Command Line Interface and provides a detailed guide on how to set default SMS message attributes and topic attributes using the AWS CLI. It includes code examples for setting default settings, SMS message attributes, and topic attributes, along with guidance on where to find API details for each operation in the *AWS CLI Command Reference*. The commands are formatted clearly, demonstrating the use of AWS CLI commands for these operations. The text is structured to follow a logical flow, ensuring that users can understand how to implement these settings in their AWS environment.
This command produces no output.

- For API details, see `SetTopicAttributes` in *AWS CLI Command Reference*.

### Subscribe an email address to a topic

The following code example shows how to subscribe an email address to an Amazon SNS topic.

**AWS CLI**

**To subscribe to a topic**

The following subscribe command subscribes an email address to the specified topic.

```bash
aws sns subscribe \
   --topic-arn arn:aws:sns:us-west-2:123456789012:my-topic \
   --protocol email \
   --notification-endpoint my-email@example.com
```

Output:

```json
{
   "SubscriptionArn": "pending confirmation"
}
```

- For API details, see `Subscribe` in *AWS CLI Command Reference*.

### add-permission

The following code example shows how to use `add-permission`.

**AWS CLI**

**To add a permission to a topic**

The following add-permission example adds the permission for AWS account 987654321098 to use the Publish action with the specified topic under AWS account 123456789012.

```bash
aws sns add-permission \
```
This command produces no output.

- For API details, see `AddPermission` in *AWS CLI Command Reference*.

**create-platform-application**

The following code example shows how to use `create-platform-application`.

**AWS CLI**

**To create a platform application**

The following `create-platform-application` example creates a Google Firebase platform application using the specified platform credential.

```bash
aws sns create-platform-application \
   --name MyApplication \
   --platform GCM \
   --attributes PlatformCredential=EXAMPLEabcd12345jklm67890stuv12345bcdef
```

**Output:**

```json
{
}
```

- For API details, see `CreatePlatformApplication` in *AWS CLI Command Reference*.

**delete-endpoint**

The following code example shows how to use `delete-endpoint`.

**AWS CLI**

**To delete a platform application endpoint**
The following `delete-endpoint` example deletes the specified platform application endpoint.

```bash
aws sns delete-endpoint \
```

This command produces no output.


### delete-platform-application

The following code example shows how to use `delete-platform-application`.

#### AWS CLI

**To delete a platform application**

The following `delete-platform-application` example deletes the specified platform application.

```bash
aws sns delete-platform-application \
```

This command produces no output.


### get-endpoint-attributes

The following code example shows how to use `get-endpoint-attributes`.

#### AWS CLI

**To list platform application endpoint attributes**

The following `get-endpoint-attributes` example lists the attributes for the specified platform application endpoint.

```bash
aws sns get-endpoint-attributes \
```

---

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MyApplication/12345678-abcd-9012-efgh-345678901234

Output:

```
{
   "Attributes": {
      "Enabled": "true",
      "Token": "EXAMPLE12345..."
   }
}
```

- For API details, see [GetEndpointAttributes](#) in *AWS CLI Command Reference*.

**get-platform-application-attributes**

The following code example shows how to use `get-platform-application-attributes`.

**AWS CLI**

To list the platform application attributes

The following `get-platform-application-attributes` example lists the attributes for the specified platform application.

```
aws sns get-platform-application-attributes \
MyApplication
```

Output:

```
{
   "Attributes": {
      "Enabled": "true",
      "SuccessFeedbackSampleRate": "100"
   }
}
```

- For API details, see [GetPlatformApplicationAttributes](#) in *AWS CLI Command Reference*. 

get-subscription-attributes

The following code example shows how to use get-subscription-attributes.

AWS CLI

To retrieve subscription attributes for a topic

The following get-subscription-attributes displays the attributes of the specified subscription. You can get the subscription-arn from the output of the list-subscriptions command.

```bash
aws sns get-subscription-attributes \
    --subscription-arn "arn:aws:sns:us-west-2:123456789012:my-topic:8a21d249-4329-4871-acc6-7be709c6ea7f"
```

Output:

```json
{
    "Attributes": {
        "Endpoint": "my-email@example.com",
        "Protocol": "email",
        "RawMessageDelivery": "false",
        "ConfirmationWasAuthenticated": "false",
        "Owner": "123456789012",
        "SubscriptionArn": "arn:aws:sns:us-west-2:123456789012:my-topic:8a21d249-4329-4871-acc6-7be709c6ea7f",
    }
}
```

- For API details, see [GetSubscriptionAttributes](http://awscli.amazonaws.com/v2/documentation/api/index.html) in AWS CLI Command Reference.

list-endpoints-by-platform-application

The following code example shows how to use list-endpoints-by-platform-application.

AWS CLI

To list the endpoints for a platform application
The following list-endpoints-by-platform-application example lists the endpoints and endpoint attributes for the specified platform application.

```bash
aws sns list-endpoints-by-platform-application \
```

Output:

```json
{
   "Endpoints": [
      {
         "Attributes": {
            "Token": "EXAMPLE12345...,
            "Enabled": "true"
         },
      }
   ]
}
```

- For API details, see [ListEndpointsByPlatformApplication](https://awscli.amazonaws.com/v2/documentation/api/latest/reference/sns/list-endpoints-by-platform-application.html) in *AWS CLI Command Reference*.

**list-platform-applications**

The following code example shows how to use list-platform-applications.

**AWS CLI**

To list platform applications

The following list-platform-applications example lists the platform applications for ADM and MPNS.

```bash
aws sns list-platform-applications
```

Output:

```json
{
}
```
For API details, see [ListPlatformApplications](https://docs.aws.amazon.com/cli/latest/reference/sns/list-platformapplications.html) in *AWS CLI Command Reference*.

**list-subscriptions-by-topic**

The following code example shows how to use `list-subscriptions-by-topic`.

**AWS CLI**

To list the subscriptions associated with a topic

The following `list-subscriptions-by-topic` retrieves a list of SNS subscriptions associated with the specified topic.

```bash
aws sns list-subscriptions-by-topic
```

Output:

```json
{
  "Subscriptions": [
    {
      "Owner": "123456789012",
```
"Endpoint": "my-email@example.com",
"Protocol": "email",
"SubscriptionArn": "arn:aws:sns:us-west-2:123456789012:my-topic:8a21d249-4329-4871-acc6-7be709c6ea7f"
]
]

- For API details, see `ListSubscriptionsByTopic` in *AWS CLI Command Reference*.

### list-tags-for-resource

The following code example shows how to use `list-tags-for-resource`.

#### AWS CLI

**To list tags for a topic**

The following `list-tags-for-resource` example lists the tags for the specified Amazon SNS topic.

```bash
aws sns list-tags-for-resource \
```

**Output:**

```json
{
  "Tags": [
    {
      "Key": "Team",
      "Value": "Alpha"
    }
  ]
}
```

- For API details, see `ListTagsForResource` in *AWS CLI Command Reference*.

### opt-in-phone-number

The following code example shows how to use `opt-in-phone-number`.
AWS CLI

To opt-in for SMS messages

The following `opt-in-phone-number` example opts the specified phone number into receiving SMS messages.

```bash
aws sns opt-in-phone-number \
   --phone-number +15555550100
```

This command produces no output.

- For API details, see [OptInPhoneNumber](awsCLICommandReference) in *AWS CLI Command Reference*.

**put-data-protection-policy**

The following code example shows how to use `put-data-protection-policy`.

AWS CLI

To set data protection policy

Example 1: To deny publishers from publishing messages with CreditCardNumber

The following `put-data-protection-policy` example denies publishers from publishing messages with CreditCardNumber.

```bash
aws sns put-data-protection-policy \
   --resource-arn arn:aws:sns:us-east-1:123456789012:mytopic \
   --data-protection-policy "{"Name":"data_protection_policy","Description":"Example data protection policy","Version":"2021-06-01","Statement":[{"DataDirection":"Inbound","Principal":["*"],"DataIdentifier": ["arn:aws:dataprotection::aws:data-identifier/CreditCardNumber"],"Operation": {"Deny":{}}}]"
```

This command produces no output.

Example 2: To load parameters from a file

The following `put-data-protection-policy` loads parameters from a file.

```bash
aws sns put-data-protection-policy \
```
--data-protection-policy file://policy.json

This command produces no output.

- For API details, see PutDataProtectionPolicy in AWS CLI Command Reference.

**remove-permission**

The following code example shows how to use remove-permission.

**AWS CLI**

To remove a permission from a topic

The following remove-permission example removes the permission Publish-Permission from the specified topic.

```bash
aws sns remove-permission \
   --topic-arn arn:aws:sns:us-west-2:123456789012:MyTopic \
   --label Publish-Permission
```

This command produces no output.

- For API details, see RemovePermission in AWS CLI Command Reference.

**set-endpoint-attributes**

The following code example shows how to use set-endpoint-attributes.

**AWS CLI**

To set endpoint attributes

The following set-endpoint-attributes example disables the specified platform application endpoint.

```bash
aws sns set-endpoint-attributes \
   --attributes Enabled=false
```
Output:

```json
{
   "Attributes": {
      "Enabled": "false",
      "Token": "EXAMPLE12345..."
   }
}
```

- For API details, see [SetEndpointAttributes](https://docs.aws.amazon.com/cli/latest/reference/sns/set-endpoint-attributes.html) in *AWS CLI Command Reference*.

**set-platform-application-attributes**

The following code example shows how to use `set-platform-application-attributes`.

### AWS CLI

#### To set platform application attributes

The following `set-platform-application-attributes` example sets the `EventDeliveryFailure` attribute for the specified platform application to the ARN of the specified Amazon SNS topic.

```bash
aws sns set-platform-application-attributes \
   --platform-application-arn arn:aws:sns:us-west-2:123456789012:app/GCM/MyApplication \
```

This command produces no output.

- For API details, see [SetPlatformApplicationAttributes](https://docs.aws.amazon.com/cli/latest/reference/sns/set-platform-application-attributes.html) in *AWS CLI Command Reference*.

**untag-resource**

The following code example shows how to use `untag-resource`.

### AWS CLI

#### To remove a tag from a topic

```bash
```
The following `untag-resource` example removes any tags with the specified keys from the specified Amazon SNS topic.

```bash
aws sns untag-resource \
    --tag-keys Team
```

This command produces no output.

- For API details, see `UntagResource` in *AWS CLI Command Reference*.

## Scenarios

### Create a platform endpoint for push notifications

The following code example shows how to create a platform endpoint for Amazon SNS push notifications.

**AWS CLI**

To create a platform application endpoint

The following `create-platform-endpoint` example creates an endpoint for the specified platform application using the specified token.

```bash
aws sns create-platform-endpoint \
    --platform-application-arn arn:aws:sns:us-west-2:123456789012:app/GCM/MyApplication \
    --token EXAMPLE12345...
```

**Output:**

```json
{
}
```

## Amazon SQS examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon SQS.
Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics

- Actions

Actions

Change message timeout visibility

The following code example shows how to change an Amazon SQS message timeout visibility.

AWS CLI

To change a message's timeout visibility

This example changes the specified message's timeout visibility to 10 hours (10 hours * 60 minutes * 60 seconds).

Command:

```
aws sqs change-message-visibility --queue-url https://sqs.us-east-1.amazonaws.com/80398EXAMPLE/MyQueue --receipt-handle AQEBTpyI...t6HyQg== --visibility-timeout 36000
```

Output:

```
None.
```

- For API details, see ChangeMessageVisibility in AWS CLI Command Reference.

Create a queue

The following code example shows how to create an Amazon SQS queue.
AWS CLI

To create a queue

This example creates a queue with the specified name, sets the message retention period to 3 days (3 days * 24 hours * 60 minutes * 60 seconds), and sets the queue's dead letter queue to the specified queue with a maximum receive count of 1,000 messages.

Command:

```bash
aws sqs create-queue --queue-name MyQueue --attributes file://create-queue.json
```

Input file (create-queue.json):

```json
{
   "RedrivePolicy": "{"deadLetterTargetArn":"arn:aws:sqs:us-east-1:80398EXAMPLE:MyDeadLetterQueue","maxReceiveCount":"1000"},
   "MessageRetentionPeriod": "259200"
}
```

Output:

```json
{
   "QueueUrl": "https://queue.amazonaws.com/80398EXAMPLE/MyQueue"
}
```

- For API details, see CreateQueue in AWS CLI Command Reference.

Delete a batch of messages from a queue

The following code example shows how to delete a batch of messages from an Amazon SQS queue.

AWS CLI

To delete multiple messages as a batch

This example deletes the specified messages.

Command:

Input file (delete-message-batch.json):

```
[
  {
    "Id": "FirstMessage",
    "ReceiptHandle": "AQEB1mg1...Z4GuLw=="
  },
  {
    "Id": "SecondMessage",
    "ReceiptHandle": "AQEBLsYM...VQubAA=="
  }
]
```

Output:

```
{
  "Successful": [
    {
      "Id": "FirstMessage"
    },
    {
      "Id": "SecondMessage"
    }
  ]
}
```

- For API details, see [DeleteMessageBatch](#) in AWS CLI Command Reference.

**Delete a message from a queue**

The following code example shows how to delete a message from an Amazon SQS queue.

**AWS CLI**

**To delete a message**

This example deletes the specified message.

**Command:**
Delete a queue

The following code example shows how to delete an Amazon SQS queue.

AWS CLI

To delete a queue

This example deletes the specified queue.

Command:

```
aws sqs delete-message --queue-url https://sqs.us-east-1.amazonaws.com/80398EXAMPLE/MyQueue --receipt-handle AQEBRXTo...q2doVA==
```

Output:

None.

For API details, see `DeleteMessage` in `AWS CLI Command Reference`.

Get attributes for a queue

The following code example shows how to get attributes for an Amazon SQS queue.

AWS CLI

To get a queue's attributes

This example gets all of the specified queue's attributes.
Command:

```
aws sqs get-queue-attributes --queue-url https://sqs.us-east-1.amazonaws.com/80398EXAMPLE/MyQueue --attribute-names All
```

Output:

```
{
  "Attributes": {
    "ApproximateNumberOfMessagesNotVisible": "0",
    "RedrivePolicy": "{"deadLetterTargetArn":"arn:aws:sqs:us-east-1:80398EXAMPLE:MyDeadLetterQueue","maxReceiveCount":1000}",
    "MessageRetentionPeriod": "345600",
    "ApproximateNumberOfMessagesDelayed": "0",
    "MaximumMessageSize": "262144",
    "CreatedTimestamp": "1442426968",
    "ApproximateNumberOfMessages": "0",
    "ReceiveMessageWaitTimeSeconds": "0",
    "DelaySeconds": "0",
    "VisibilityTimeout": "30",
    "LastModifiedTimestamp": "1442426968",
    "QueueArn": "arn:aws:sqs:us-east-1:80398EXAMPLE:MyNewQueue"
  }
}
```

This example gets only the specified queue's maximum message size and visibility timeout attributes.

Command:

```
aws sqs get-queue-attributes --queue-url https://sqs.us-east-1.amazonaws.com/80398EXAMPLE/MyNewQueue --attribute-names MaximumMessageSize VisibilityTimeout
```

Output:

```
{
  "Attributes": {
    "VisibilityTimeout": "30",
    "MaximumMessageSize": "262144"
  }
}
Get the URL of a queue

The following code example shows how to get the URL of an Amazon SQS queue.

AWS CLI

To get a queue URL

This example gets the specified queue's URL.

Command:

```bash
aws sqs get-queue-url --queue-name MyQueue
```

Output:

```json
{
   "QueueUrl": "https://queue.amazonaws.com/80398EXAMPLE/MyQueue"
}
```

For API details, see `GetQueueAttributes` in AWS CLI Command Reference.

List queues

The following code example shows how to list Amazon SQS queues.

AWS CLI

To list queues

This example lists all queues.

Command:

```bash
aws sqs list-queues
```
Output:

```json
{
  "QueueUrls": [
    "https://queue.amazonaws.com/80398EXAMPLE/MyDeadLetterQueue",
    "https://queue.amazonaws.com/80398EXAMPLE/MyQueue",
    "https://queue.amazonaws.com/80398EXAMPLE/MyOtherQueue",
    "https://queue.amazonaws.com/80398EXAMPLE/TestQueue1",
    "https://queue.amazonaws.com/80398EXAMPLE/TestQueue2"
  ]
}
```

This example lists only queues that start with "My".

Command:

```bash
aws sqs list-queues --queue-name-prefix My
```

Output:

```json
{
  "QueueUrls": [
    "https://queue.amazonaws.com/80398EXAMPLE/MyDeadLetterQueue",
    "https://queue.amazonaws.com/80398EXAMPLE/MyQueue",
    "https://queue.amazonaws.com/80398EXAMPLE/MyOtherQueue"
  ]
}
```

- For API details, see [ListQueues](#) in *AWS CLI Command Reference*.

### Receive messages from a queue

The following code example shows how to receive messages from an Amazon SQS queue.

**AWS CLI**

**To receive a message**

This example receives up to 10 available messages, returning all available attributes.

Command:
aws sqs receive-message --queue-url https://sqs.us-east-1.amazonaws.com/80398EXAMPLE/MyQueue --attribute-names All --message-attribute-names All --max-number-of-messages 10

Output:

```json
{
  "Messages": [
    {
      "Body": "My first message.,
      "ReceiptHandle": "AQEBzbVv...fqNzFw==",
      "MD5OfBody": "1000f835...a35411fa",
      "MD5OfMessageAttributes": "9424c491...26bc3ae7",
      "MessageId": "d6790f8d-d575-4f01-bc51-40122EXAMPLE",
      "Attributes": {
        "ApproximateFirstReceiveTimestamp": "1442428276921",
        "SenderId": "AIDAIAZKMSNQ7TEXAMPLE",
        "ApproximateReceiveCount": "5",
        "SentTimestamp": "1442428276921"
      },
      "MessageAttributes": {
        "PostalCode": {
          "DataType": "String",
          "StringValue": "ABC123"
        },
        "City": {
          "DataType": "String",
          "StringValue": "Any City"
        }
      }
    }
  ]
}
```

This example receives the next available message, returning only the SenderId and SentTimestamp attributes as well as the PostalCode message attribute.

Command:

```bash
aws sqs receive-message --queue-url https://sqs.us-east-1.amazonaws.com/80398EXAMPLE/MyQueue --attribute-names SenderId SentTimestamp --message-attribute-namesPostalCodes
```
Send a batch of messages to a queue

The following code example shows how to send a batch of messages to an Amazon SQS queue.

**AWS CLI**

**To send multiple messages as a batch**

This example sends 2 messages with the specified message bodies, delay periods, and message attributes, to the specified queue.

**Command:**

```bash
```
Input file (send-message-batch.json):

```
[
    {
        "Id": "FuelReport-0001-2015-09-16T140731Z",
        "MessageBody": "Fuel report for account 0001 on 2015-09-16 at 02:07:31 PM.",
        "DelaySeconds": 10,
        "MessageAttributes": {
            "SellerName": {
                "DataType": "String",
                "StringValue": "Example Store"
            },
            "City": {
                "DataType": "String",
                "StringValue": "Any City"
            },
            "Region": {
                "DataType": "String",
                "StringValue": "WA"
            },
            "PostalCode": {
                "DataType": "String",
                "StringValue": "99065"
            },
            "PricePerGallon": {
                "DataType": "Number",
                "StringValue": "1.99"
            }
        }
    },
    {
        "Id": "FuelReport-0002-2015-09-16T140930Z",
        "MessageBody": "Fuel report for account 0002 on 2015-09-16 at 02:09:30 PM.",
        "DelaySeconds": 10,
        "MessageAttributes": {
            "SellerName": {
                "DataType": "String",
                "StringValue": "Example Fuels"
            },
            "City": {
                "DataType": "String",
                "StringValue": "North Town"
            },
            "Region": {

```
Output:

```json
{
  "Successful": [
    {
      "MD5OfMessageBody": "203c4a38...7943237e",
      "MD5OfMessageAttributes": "10809b55...baf283ef",
      "Id": "FuelReport-0001-2015-09-16T140731Z",
      "MessageId": "d175070c-d6b8-4101-861d-adeb3EXAMPLE"
    },
    {
      "MD5OfMessageBody": "2cf0159a...c1980595",
      "MD5OfMessageAttributes": "55623928...ae354a25",
      "Id": "FuelReport-0002-2015-09-16T140930Z",
      "MessageId": "f9b7d55d-0570-413e-b9c5-a9264EXAMPLE"
    }
  ]
}
```

- For API details, see [SendMessageBatch](#) in [AWS CLI Command Reference](#).

### Send a message to a queue

The following code example shows how to send a message to an Amazon SQS queue.

**AWS CLI**

To send a message
This example sends a message with the specified message body, delay period, and message attributes, to the specified queue.

Command:

```
aws sqs send-message --queue-url https://sqs.us-east-1.amazonaws.com/80398EXAMPLE/MyQueue --message-body "Information about the largest city in Any Region." --delay-seconds 10 --message-attributes file://send-message.json
```

Input file (send-message.json):

```json
{
    "City": {
        "DataType": "String",
        "StringValue": "Any City"
    },
    "Greeting": {
        "DataType": "Binary",
        "BinaryValue": "Hello, World!"
    },
    "Population": {
        "DataType": "Number",
        "StringValue": "1250800"
    }
}
```

Output:

```json
{
    "MD5OfMessageBody": "51b0a325...39163aa0",
    "MD5OfMessageAttributes": "00484c68...59e48f06",
    "MessageId": "da68f62c-0c07-4bee-bf5f-7e856EXAMPLE"
}
```

- For API details, see [SendMessage](#) in [AWS CLI Command Reference](#).

**Set queue attributes**

The following code example shows how to set the attributes for an Amazon SQS queue.
AWS CLI

To set queue attributes

This example sets the specified queue to a delivery delay of 10 seconds, a maximum message size of 128 KB (128 KB * 1,024 bytes), a message retention period of 3 days (3 days * 24 hours * 60 minutes * 60 seconds), a receive message wait time of 20 seconds, and a default visibility timeout of 60 seconds. This example also associates the specified dead letter queue with a maximum receive count of 1,000 messages.

Command:

```
```

Input file (set-queue-attributes.json):

```
{
    "DelaySeconds": "10",
    "MaximumMessageSize": "131072",
    "MessageRetentionPeriod": "259200",
    "ReceiveMessageWaitTimeSeconds": "20",
    "RedrivePolicy": "{"deadLetterTargetArn":"arn:aws:sqs:us-east-1:80398EXAMPLE:MyDeadLetterQueue","maxReceiveCount":"1000"}",
    "VisibilityTimeout": "60"
}
```

Output:

```
None.
```

- For API details, see `SetQueueAttributes` in *AWS CLI Command Reference*.

add-permission

The following code example shows how to use add-permission.

AWS CLI

To add a permission to a queue
This example enables the specified AWS account to send messages to the specified queue.

Command:

```bash
aws sqs add-permission --queue-url https://sqs.us-east-1.amazonaws.com/80398EXAMPLE/MyQueue --label SendMessagesFromMyQueue --aws-account-ids 12345EXAMPLE --actions SendMessage
```

Output:

None.

- For API details, see `AddPermission` in *AWS CLI Command Reference*.

**cancel-message-move-task**

The following code example shows how to use `cancel-message-move-task`.

**AWS CLI**

**To cancel a message move task**

The following `cancel-message-move-task` example cancels the specified message move task.

```bash
aws sqs cancel-message-move-task \\
    --task-handle AQEB6nR4...HzlvZQ==
```

Output:

```
{
    "ApproximateNumberOfMessagesMoved": 102
}
```

For more information, see *Amazon SQS API permissions: Actions and resource reference* in the *Developer Guide*.

- For API details, see `CancelMessageMoveTask` in *AWS CLI Command Reference*. 
change-message-visibility-batch

The following code example shows how to use change-message-visibility-batch.

AWS CLI

To change multiple messages' timeout visibilities as a batch

This example changes the 2 specified messages' timeout visibilities to 10 hours (10 hours * 60 minutes * 60 seconds).

Command:

```bash
```

Input file (change-message-visibility-batch.json):

```json
[
  {
    "Id": "FirstMessage",
    "ReceiptHandle": "AQEBhz2q...Jf3kaw==",
    "VisibilityTimeout": 36000
  },
  {
    "Id": "SecondMessage",
    "ReceiptHandle": "AQEBkTUH...HifSnw==",
    "VisibilityTimeout": 36000
  }
]
```

Output:

```json
{
  "Successful": [
    {
      "Id": "SecondMessage"
    },
    {
      "Id": "FirstMessage"
    }
  ]
}
```
list-dead-letter-source-queues

The following code example shows how to use `list-dead-letter-source-queues`.

**AWS CLI**

**To list dead letter source queues**

This example lists the queues that are associated with the specified dead letter source queue.

**Command:**

```bash
aws sqs list-dead-letter-source-queues --queue-url https://sqs.us-east-1.amazonaws.com/80398EXAMPLE/MyDeadLetterQueue
```

**Output:**

```json
{
    "queueUrls": [
        "https://queue.amazonaws.com/80398EXAMPLE/MyQueue",
        "https://queue.amazonaws.com/80398EXAMPLE/MyOtherQueue"
    ]
}
```

**For API details, see** `ListDeadLetterSourceQueues` **in** *AWS CLI Command Reference*.

list-message-move-tasks

The following code example shows how to use `list-message-move-tasks`.

**AWS CLI**

**To list the message move tasks**

The following `list-message-move-tasks` example lists the 2 most recent message move tasks in the specified queue.
aws sqs list-message-move-tasks \
  --source-arn arn:aws:sqs:us-west-2:80398EXAMPLE:MyQueue \
  --max-results 2

Output:

```json
{
  "Results": [
    {
      "TaskHandle": "AQEB6nR4...HzlvZQ==",
      "Status": "RUNNING",
      "MaxNumberOfMessagesPerSecond": 50,
      "ApproximateNumberOfMessagesMoved": 203,
      "ApproximateNumberOfMessagesToMove": 30,
      "StartedTimestamp": 1442428276921
    },
    {
      "Status": "COMPLETED",
      "ApproximateNumberOfMessagesMoved": 29,
      "ApproximateNumberOfMessagesToMove": 0,
      "StartedTimestamp": 1342428272093
    }
  ]
}
```

For more information, see [Amazon SQS API permissions: Actions and resource reference](https://docs.aws.amazon.com/AWS SDK for .NET/latest/APIReference/AmazonSQS.ListMessageMoveTasks.html) in the [Developer Guide](https).

- For API details, see [ListMessageMoveTasks](https://docs.aws.amazon.com/AWS SDK for .NET/latest/APIReference/AmazonSQS.ListMessageMoveTasks.html) in *AWS CLI Command Reference*.

### list-queue-tags

The following code example shows how to use `list-queue-tags`.

**AWS CLI**

To list all cost allocation tags for a queue
The following `list-queue-tags` example displays all of the cost allocation tags associated with the specified queue.

```bash
aws sqs list-queue-tags \
    --queue-url https://sqs.us-west-2.amazonaws.com/123456789012/MyQueue
```

Output:

```json
{
    "Tags": {
        "Team": "Alpha"
    }
}
```

For more information, see `Listing Cost Allocation Tags` in the *Amazon Simple Queue Service Developer Guide*.

- For API details, see `ListQueueTags` in *AWS CLI Command Reference*.

### purge-queue

The following code example shows how to use `purge-queue`.

**AWS CLI**

**To purge a queue**

This example deletes all messages in the specified queue.

**Command:**

```bash
aws sqs purge-queue --queue-url https://sqs.us-east-1.amazonaws.com/80398EXAMPLE/MyNewQueue
```

Output:

```bash
None.
```

- For API details, see `PurgeQueue` in *AWS CLI Command Reference*. 

Actions and scenarios
remove-permission

The following code example shows how to use `remove-permission`.

**AWS CLI**

To remove a permission

This example removes the permission with the specified label from the specified queue.

Command:

```bash
aws sqs remove-permission --queue-url https://sqs.us-east-1.amazonaws.com/80398EXAMPLE/MyQueue --label SendMessagesFromMyQueue
```

Output:

None.

- For API details, see [RemovePermission](#) in *AWS CLI Command Reference*.

start-message-move-task

The following code example shows how to use `start-message-move-task`.

**AWS CLI**

*Example 1: To start a message move task*

The following `start-message-move-task` example starts a message move task to redrive messages from the specified dead-letter queue to the source queue.

```bash
aws sqs start-message-move-task \
```

Output:

```json
{
   "TaskHandle": "AQEB6nR4...Hz1vZQ=="
}
```
Example 2: *To start a message move task with a maximum rate*

The following `start-message-move-task` example starts a message move task to redrive messages from the specified dead-letter queue to the specified destination queue at a maximum rate of 50 messages per second.

```bash
aws sqs start-message-move-task \
  --source-arn arn:aws:sqs:us-west-2:80398EXAMPLE:MyQueue1 \
  --destination-arn arn:aws:sqs:us-west-2:80398EXAMPLE:MyQueue2 \
  --max-number-of-messages-per-second 50
```

Output:

```json
{
  "TaskHandle": "AQEB6nR4...HzlvZQ=="
}
```

For more information, see Amazon SQS API permissions: Actions and resource reference in the Developer Guide.

- For API details, see StartMessageMoveTask in AWS CLI Command Reference.

tag-queue

The following code example shows how to use `tag-queue`.

**AWS CLI**

To add cost allocation tags to a queue

The following `tag-queue` example adds a cost allocation tag to the specified Amazon SQS queue.

```bash
aws sqs tag-queue \
  --queue-url https://sqs.us-west-2.amazonaws.com/123456789012/MyQueue \
  --tags Priority=Highest
```

This command produces no output.
For more information, see Adding Cost Allocation Tags in the Amazon Simple Queue Service Developer Guide.

- For API details, see TagQueue in AWS CLI Command Reference.

untag-queue

The following code example shows how to use untag-queue.

AWS CLI

To remove cost allocation tags from a queue

The following untag-queue example removes a cost allocation tag from the specified Amazon SQS queue.

```bash
aws sqs untag-queue \
    --queue-url https://sqs.us-west-2.amazonaws.com/123456789012/MyQueue \
    --tag-keys "Priority"
```

This command produces no output.

For more information, see Adding Cost Allocation Tags in the Amazon Simple Queue Service Developer Guide.

- For API details, see UntagQueue in AWS CLI Command Reference.

Storage Gateway examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Storage Gateway.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.
Topics

• Actions

Actions

describe-gateway-information

The following code example shows how to use describe-gateway-information.

AWS CLI

To describe a gateway

The following describe-gateway-information command returns metadata about the specified gateway. To specify which gateway to describe, use the Amazon Resource Name (ARN) of the gateway in the command.

This examples specifies a gateway with the id sgw-12A3456B in account 123456789012:

```bash
```

This command outputs a JSON block that contains metadata about about the gateway such as its name, network interfaces, configured time zone, and the state (whether the gateway is running or not).

• For API details, see DescribeGatewayInformation in AWS CLI Command Reference.

list-file-shares

The following code example shows how to use list-file-shares.

AWS CLI

To list file shares

The following command-name example lists the available widgets in your AWS account.

```bash
aws storagegateway list-file-shares \
   --gateway-arn arn:aws:storagegateway:us-east-1:209870788375:gateway/sgw-FB02E292
```
Output:

```json
{
   "FileShareInfoList": [
      {
         "FileShareType": "NFS",
         "FileShareId": "share-2FA12345",
         "FileShareStatus": "AVAILABLE",
         "GatewayARN": "arn:aws:storagegateway:us-east-1:111122223333:gateway/sgw-FB0AAAAA"
      }
   ],
   "Marker": null
}
```

For more information, see ListFileShares in the AWS Storage Gateway Service API Reference.

- For API details, see ListFileShares in AWS CLI Command Reference.

### list-gateways

The following code example shows how to use list-gateways.

**AWS CLI**

**To list gateways for an account**

The following list-gateways command lists all the gateways defined for an account:

```
aws storagegateway list-gateways
```

This command outputs a JSON block that contains a list of gateway Amazon Resource Names (ARNs).

- For API details, see ListGateways in AWS CLI Command Reference.

### list-volumes

The following code example shows how to use list-volumes.
AWS CLI

To list the volumes configured for a gateway

The following list-volumes command returns a list of volumes configured for the specified gateway. To specify which gateway to describe, use the Amazon Resource Name (ARN) of the gateway in the command.

This example specifies a gateway with the id sgw-12A3456B in account 123456789012:

```
aws storagegateway list-volumes --gateway-arn "arn:aws:storagegateway:us-west-2:123456789012:gateway/sgw-12A3456B"
```

This command outputs a JSON block that a list of volumes that includes the type and ARN for each volume.

- For API details, see ListVolumes in AWS CLI Command Reference.

refresh-cache

The following code example shows how to use refresh-cache.

AWS CLI

To refresh the file share cache

The following refresh-cache example refreshes the cache for the specified file share.

```
aws storagegateway refresh-cache \
```

Output:

```
{
   "NotificationId": "4954d4b1-abcd-ef01-1234-97950a7d3483"
}
```

For more information, see ListFileShares in the AWS Storage Gateway Service API Reference.

- For API details, see RefreshCache in AWS CLI Command Reference.
AWS STS examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS STS.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics
• Actions

Actions

Assume a role

The following code example shows how to assume a role with AWS STS.

AWS CLI

To assume a role

The following assume-role command retrieves a set of short-term credentials for the IAM role s3-access-example.

```
aws sts assume-role \
   --role-arn arn:aws:iam::123456789012:role/xaccounts3access \
   --role-session-name s3-access-example
```

Output:

```
{
    "AssumedRoleUser": {
        "AssumedRoleId": "AROA3XFRBF535PLBIFPI4:s3-access-example",
        "Arn": "arn:aws:sts::123456789012:assumed-role/xaccounts3access/s3-access-example"
    }
}
```
The output of the command contains an access key, secret key, and session token that you can use to authenticate to AWS.

For AWS CLI use, you can set up a named profile associated with a role. When you use the profile, the AWS CLI will call assume-role and manage credentials for you. For more information, see Use an IAM role in the AWS CLI in the AWS CLI User Guide.

- For API details, see AssumeRole in AWS CLI Command Reference.

Get a session token

The following code example shows how to get a session token with AWS STS and use it to perform a service action that requires an MFA token.

**AWS CLI**

To get a set of short term credentials for an IAM identity

The following get-session-token command retrieves a set of short-term credentials for the IAM identity making the call. The resulting credentials can be used for requests where multi-factor authentication (MFA) is required by policy. The credentials expire 15 minutes after they are generated.

```
aws sts get-session-token \
  --duration-seconds 900 \ 
  --serial-number "YourMFADeviceSerialNumber" \ 
  --token-code 123456
```
Output:

```
{
  "Credentials": {
    "AccessKeyId": "ASIAIOSFODNN7EXAMPLE",
    "SecretAccessKey": "wJalrXUtncFEMI/K7MDENG/bPxRfiCYzEXampIKEY",
    "SessionToken": "AQoEXAMPLEH4aoAH0gNCAPyJxz4BLCCFxxWNE10PTgk5TthT+FwqKc0frRh3c/LTo6UDDyJw00vEVPvLXCrIrrUtdnIiEXAMPLE/IvU1dYu2GRAJVanLiHb4IgRmpRV3zkuWJogQs8IzZaIv2BXIa2R401kBN9bkUDNCJiBebeAX1zBBko7b15fjrb2s2+cTQtp23CYWFXG8C5zq37wnOE49mRl/+OtIKG07fAE",
    "Expiration": "2020-05-19T18:06:10+00:00"
  }
}
```

For more information, see [Requesting Temporary Security Credentials](https://docs.aws.amazon.com/iam/latest/userguide/iam-create-credentials-temporary-creds.html) in the AWS IAM User Guide.

- For API details, see [GetSessionToken](https://docs.aws.amazon.com/cli/latest/reference/sts/getsessiontoken.html) in AWS CLI Command Reference.

### assume-role-with-saml

The following code example shows how to use `assume-role-with-saml`.

#### AWS CLI

**To get short-term credentials for a role authenticated with SAML**

The following `assume-role-with-saml` command retrieves a set of short-term credentials for the IAM role `TestSaml`. The request in this example is authenticated by using the SAML assertion supplied by your identity provider when you authenticate to it.

```
aws sts assume-role-with-saml \
  --role-arn arn:aws:iam::123456789012:role/TestSaml \
  --principal-arn arn:aws:iam::123456789012:saml-provider/SAML-test \
  --saml-assertion
"VERYLONGENCODEDASSERTIONEXAPLlxezYVls0kF1ZG11bmNLPM3sYV5rPC9zYW1s0kF1ZG11bmNLPlpwc2FtbDpBdHNhbWw6TmFtZUAIEZvc1hd0idXJ0Om9hc21zOm5hbWVzOm0Rj01NBTUw6Mien4w0m5hbWVpc1mb3JtYXQ6dHJhbnN+PHNhbwW6U3ViamVjdENvbms2pcm1hdGlvbiBNZXRob291bumps0YzpTQU1MOj1uMDpjb1p1ZWFr48L3NhbWw6U3ViamVjdD48c2FtbDpBdXRoblN0YXRlbWVudCBBdXRoPD94bWwgdmpSZXNwb25zZT4="
```

**Output:**

```
{
}
```
The following code example shows how to use `assume-role-with-web-identity`.

**AWS CLI**

**To get short-term credentials for a role authenticated with Web Identity (OAuth 2.0)**

The following `assume-role-with-web-identity` command retrieves a set of short-term credentials for the IAM role `app1`. The request is authenticated by using the web identity token supplied by the specified web identity provider. Two additional policies are applied to the session to further restrict what the user can do. The returned credentials expire one hour after they are generated.

```
aws sts assume-role-with-web-identity \
```
The following code example shows how to use decode-authorization-message:

```
--duration-seconds 3600 \
--role-session-name "app1" \
--role-arm arn:aws:iam::123456789012:role/FederatedWebIdentityRole \
--web-identity-token Atza%7CIQEBLjAsAhRF1xuWpUXuRvQ9PL3GMFcYevydwIUFHAZwXZXXXXXJnru1xKDHwy87oGKPh0D6bEQZTSCzyoCrKqj7nPBvjNIL016GGvu5G5vPRxWES3SYFm1w17WTI7jn-Pcb6M-buCgHhF0zTQxod27L9Cqn0Lo7N3gZAGpssp6n1-AJBOCJckcyXe2c6u0Sr0JeZUKm2eTDVMf8IehDVI0r1QOnTV6KzzAI30Y87Vd_cVMQ"
```

Output:

```json
{
   "SubjectFromWebIdentityToken": "amzn1.account.AF6RH07KZU5XRQGXF6HB56KR2A"
   "Audience": "client.5498841531868486423.1548@apps.example.com",
   "AssumedRoleUser": { 
       "Arn": "arn:aws:sts::123456789012:assumed-role/FederatedWebIdentityRole/app1",
       "AssumedRoleId": "AROACLKWSDQRAOEXAMPLE:app1"
   }
   "Credentials": { 
       "AccessKeyId": "AKIAIOSFODNN7EXAMPLE",
       "SecretAccessKey": "wJalrXUtnFEMI/K7MDENG/bPxFrlCyYzEXAMPLEKEY",
       "SessionToken": "AQoEXAMPLEH4aoAH0gNCAPyJxz4BlCFxWNE1OPTgkSTt6TthT+FwqKnKwRcOifrRh3c/LTo6UDDyJw0OvEVPvLXCrrrUtdnniCEXAMPLE/IvU1dYUg2RVAJBanLiHb4IgRmpRV3zrkuWJOQgQs8IZZaIv2BXIa2R4olgkBN9bkUDNCJiBeb/AX1zBBko7b15fjrbS2ctcTQtzp3CYWFXG8C5qz37wn0E49mRl/+OtkIKG07fAE",
       "Expiration": "2020-05-19T18:06:10+00:00"
   },
   "Provider": "www.amazon.com"
}
```


decode-authorization-message

The following code example shows how to decode-authorization-message.
To decode an encoded authorization message returned in response to a request

The following decode-authorization-message example decodes additional information about the authorization status of a request from an encoded message returned in response to an Amazon Web Services request.

```
aws sts decode-authorization-message
   --encoded-message EXAMPLEWodyRNrtlQARDip-eTA6i6DrlUhHhPqrLWB_1Ab15pAkx19mPDLexYcGBreyIKQC1BGIBpBK3rdFDkwqe07e2NMk5j_hmzAiCh3J8-8oy3EwiOjau7BmjOTWwOCPHv_Vaz8t7yENidir745EjQwrd5laol3vN8_SZfA9UibMKDgVh1gj:j:3FuiQoubv78V1RhHNYnK44EPou3FZjywYStfvTb3Ghs3-6rlribG09jZ0ktkfe6vqaxIzLyEdr4P2ihC1wty9tAcvGzIAUNmARQJ2VVWPxioqgoqCZJWP5pwe_m4yghONlw-r1S56YC_90onj9A80sNrhH1I-tIiNd7tgNTYzDuPQyD2FMDBnp82V9eVmYtGp5P5IEspuf3f0HanFuBZgENxQZZd1H3xjJGMtYayzZrXjiq_SF9zeBFAoPb8LmmKVBlpIB0iFhU9sEHPqKVHPi6jdxQaZaFvYVvmOiuQdNQkuyk0p067P0FrZECLjjo1tNPbO2ZCuEKEXAMPLE
```

Output:

```
{
   "DecodedMessage": {
      "allowed": false,
      "explicitDeny": true,
      "matchedStatements": {
         "items": [
            {
               "statementId": "VisualEditor0",
               "effect": "DENY",
               "principals": {
                  "items": [
                     {
                        "value": "AROA123456789EXAMPLE"
                     }
                  ]
               },
               "principalGroups": {
                  "items": []
               },
               "actions": {
                  "items": [
                     {
                        "value": "ec2:RunInstances"
                     }
                  ]
               },
               "resources": {
                  "items": []
               },
               "conditions": {
                  "items": []
               },
               "failures": [],
               "context": {
                  "principal": {
                     "id": "AROA123456789EXAMPLE:Ana",
                     "arn": "arn:aws:sts::111122223333:assumed-role/Developer/Ana",
                     "action": "RunInstances",
                     "resource": "arn:aws:ec2:us-east-1:111122223333:instance/*",
                     "conditions": {
                        "items": [
                           {
                              "key": "ec2:MetadataHttpPutResponseHopLimit",
                              "values": [
                                 {
                                    "value": 2
                                 }
                              ]
                           },
                           {
                              "key": "ec2:InstanceMarketType",
                              "values": [
                                 {
                                    "value": "on-demand"
                                 }
                              ]
                           },
                           {
                              "key": "aws:Resource",
                              "values": [
                                 {
                                    "value": "instance/*"
                                 }
                              ]
                           },
                           {
                              "key": "aws:Account",
                              "values": [
                                 {
                                    "value": "111122223333"
                                 }
                              ]
                           },
                           {
                              "key": "ec2:AvailabilityZone",
                              "values": [
                                 {
                                    "value": "us-east-1f"
                                 }
                              ]
                           },
                           {
                              "key": "ec2:RootDeviceType",
                              "values": [
                                 {
                                    "value": "ebs"
                                 }
                              ]
                           },
                           {
                              "key": "aws:Region",
                              "values": [
                                 {
                                    "value": "us-east-1"
                                 }
                              ]
                           },
                           {
                              "key": "ec2:MetadataHttpEndpoint",
                              "values": []
                           },
                           {
                              "key": "ec2:InstanceID",
                              "values": []
                           }
                        ]
                     }
                  }
               },
               "failures": [],
               "context": {
                  "principal": {
                     "id": "AROA123456789EXAMPLE:Ana",
                     "arn": "arn:aws:sts::111122223333:assumed-role/Developer/Ana",
                     "action": "RunInstances",
                     "resource": "arn:aws:ec2:us-east-1:111122223333:instance/*",
                     "conditions": {
                        "items": [
                           {
                              "key": "ec2:MetadataHttpPutResponseHopLimit",
                              "values": [
                                 {
                                    "value": 2
                                 }
                              ]
                           },
                           {
                              "key": "ec2:InstanceMarketType",
                              "values": [
                                 {
                                    "value": "on-demand"
                                 }
                              ]
                           },
                           {
                              "key": "aws:Resource",
                              "values": [
                                 {
                                    "value": "instance/*"
                                 }
                              ]
                           },
                           {
                              "key": "aws:Account",
                              "values": [
                                 {
                                    "value": "111122223333"
                                 }
                              ]
                           },
                           {
                              "key": "ec2:AvailabilityZone",
                              "values": [
                                 {
                                    "value": "us-east-1f"
                                 }
                              ]
                           },
                           {
                              "key": "ec2:RootDeviceType",
                              "values": [
                                 {
                                    "value": "ebs"
                                 }
                              ]
                           },
                           {
                              "key": "aws:Region",
                              "values": [
                                 {
                                    "value": "us-east-1"
                                 }
                              ]
                           },
                           {
                              "key": "ec2:MetadataHttpEndpoint",
                              "values": []
                           },
                           {
                              "key": "ec2:InstanceID",
                              "values": []
                           }
                        ]
                     }
                  }
               },
               "failures": [],
               "context": {
                  "principal": {
                     "id": "AROA123456789EXAMPLE:Ana",
                     "arn": "arn:aws:sts::111122223333:assumed-role/Developer/Ana",
                     "action": "RunInstances",
                     "resource": "arn:aws:ec2:us-east-1:111122223333:instance/*",
                     "conditions": {
                        "items": [
                           {
                              "key": "ec2:MetadataHttpPutResponseHopLimit",
                              "values": [
                                 {
                                    "value": 2
                                 }
                              ]
                           },
                           {
                              "key": "ec2:InstanceMarketType",
                              "values": [
                                 {
                                    "value": "on-demand"
                                 }
                              ]
                           },
                           {
                              "key": "aws:Resource",
                              "values": [
                                 {
                                    "value": "instance/*"
                                 }
                              ]
                           },
                           {
                              "key": "aws:Account",
                              "values": [
                                 {
                                    "value": "111122223333"
                                 }
                              ]
                           },
                           {
                              "key": "ec2:AvailabilityZone",
                              "values": [
                                 {
                                    "value": "us-east-1f"
                                 }
                              ]
                           },
                           {
                              "key": "ec2:RootDeviceType",
                              "values": []
                           },
                           {
                              "key": "aws:Region",
                              "values": []
                           }
                        ]
                     }
                  }
               },
               "failures": [],
               "context": {
                  "principal": {
                     "id": "AROA123456789EXAMPLE:Ana",
                     "arn": "arn:aws:sts::111122223333:assumed-role/Developer/Ana",
                     "action": "RunInstances",
                     "resource": "arn:aws:ec2:us-east-1:111122223333:instance/*",
                     "conditions": {
                        "items": []
                     }
                  }
               }
            }
         ]
      },
      "failed": false,
      "explicitDeny": true,
      "matchedStatements": {
         "items": []
      },
      "failures": {
         "items": []
      },
      "context": {
         "principal": {
            "id": "AROA123456789EXAMPLE:Ana",
            "arn": "arn:aws:sts::111122223333:assumed-role/Developer/Ana",
            "action": "RunInstances",
            "resource": "arn:aws:ec2:us-east-1:111122223333:instance/*",
            "conditions": {
               "items": 
```
The following code example shows how to use `get-caller-identity`.

**AWS CLI**

To get details about the current IAM identity

The following `get-caller-identity` command displays information about the IAM identity used to authenticate the request. The caller is an IAM user.

```
aws sts get-caller-identity
```

Output:

```
{
    "UserId": "AIDASAMPLEUSERID",
    "Account": "123456789012",
    "Arn": "arn:aws:iam::123456789012:user/DevAdmin"
}
```

For API details, see [GetCallerIdentity](#) in *AWS CLI Command Reference*.

The following code example shows how to use `get-federation-token`.

**AWS CLI**

To return a set of temporary security credentials using IAM user access key credentials
The following `get-federation-token` example returns a set of temporary security credentials (consisting of an access key ID, a secret access key, and a security token) for a user. You must call the `GetFederationToken` operation using the long-term security credentials of an IAM user.

```bash
aws sts get-federation-token \
   --name Bob \ 
   --policy file://myfile.json \ 
   --policy-arns arn:aws:iam::aws:policy/AmazonS3ReadOnlyAccess \ 
   --duration-seconds 900
```

**Contents of `myfile.json`:**

```json
{
   "Version": "2012-10-17",
   "Statement": [
      {
         "Effect": "Allow",
         "Action": "ec2:Describe*",
         "Resource": "*"
      },
      {
         "Effect": "Allow",
         "Action": "elasticloadbalancing:Describe*",
         "Resource": "*"
      },
      {
         "Effect": "Allow",
         "Action": "cloudwatch:ListMetrics",
         "Resource": "*
      },
      {
         "Effect": "Allow",
         "Action": "autoscaling:Describe*",
         "Resource": "*
      }
   ]
}
```
AWS Support examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS Support.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- [Actions](#)
Actions

Create a case

The following code example shows how to create a new AWS Support case.

AWS CLI

To create a case

The following create-case example creates a support case for your AWS account.

```bash
aws support create-case \
  --category-code "using-aws" \ 
  --cc-email-addresses "myemail@example.com" \ 
  --communication-body "I want to learn more about an AWS service." \ 
  --issue-type "technical" \ 
  --language "en" \ 
  --service-code "general-info" \ 
  --severity-code "low" \ 
  --subject "Question about my account"
```

Output:

```
{
  "caseId": "case-12345678910-2013-c4c1d2bf33c5cf47"
}
```

For more information, see Case management in the AWS Support User Guide.

- For API details, see CreateCase in AWS CLI Command Reference.

Describe an attachment

The following code example shows how to describe an attachment for an AWS Support case.

AWS CLI

To describe an attachment

The following describe-attachment example returns information about the attachment with the specified ID.
Describe cases

The following code example shows how to describe AWS Support cases.

AWS CLI

To describe a case

The following describe-cases example returns information about the specified support case in your AWS account.

```bash
aws support describe-cases \
  --display-id "1234567890" \
  --after-time "2020-03-23T21:31:47.774Z" \
  --include-resolved-cases \
  --language "en" \
  --no-include-communications \
  --max-item 1
```

Output:

```json
{
  "cases": [
  
  ]
}
```
Describe communications

The following code example shows how to describe AWS Support communications for a case.

**AWS CLI**

To describe the latest communication for a case

The following `describe-communications` example returns the latest communication for the specified support case in your AWS account.

```
aws support describe-communications \\
  --case-id "case-12345678910-2013-c4c1d2bf33c5cf47" \\
  --after-time "2020-03-23T21:31:47.774Z" \\
  --max-item 1
```

Output:

```json
{
  "communications": [ 
    { 
      "body": "I want to learn more about an AWS service."
    }
  ]
}
```
For more information, see Case management in the AWS Support User Guide.

- For API details, see DescribeCommunications in AWS CLI Command Reference.

Describe services

The following code example shows how to describe the list of AWS services.

AWS CLI

To list AWS services and service categories

The following describe-services example lists the available service categories for requesting general information.

```bash
aws support describe-services
   --service-code-list "general-info"
```

Output:

```json
{
   "services": [ 
      {
         "code": "general-info",
         "name": "General Info and Getting Started",
         "categories": [
            {
               "code": "charges",
               "name": "How Will I Be Charged?"
            },
            {
               "code": "gdpr-queries",
               "name": "Data Privacy Query"
            }
         ]
      }
   ]
}
```
For more information, see [Case management](aws-support-user-guide) in the *AWS Support User Guide*.

- For API details, see [DescribeServices](aws-cli-command-reference) in *AWS CLI Command Reference*.

### Describe severity levels

The following code example shows how to describe AWS Support severity levels.

#### AWS CLI

**To list the available severity levels**

The following `describe-severity-levels` example lists the available severity levels for a support case.
aws support describe-severity-levels

Output:

```json
{
  "severityLevels": [
    {
      "code": "low",
      "name": "Low"
    },
    {
      "code": "normal",
      "name": "Normal"
    },
    {
      "code": "high",
      "name": "High"
    },
    {
      "code": "urgent",
      "name": "Urgent"
    },
    {
      "code": "critical",
      "name": "Critical"
    }
  ]
}
```

For more information, see Choosing a severity in the AWS Support User Guide.

- For API details, see DescribeSeverityLevels in AWS CLI Command Reference.

Resolve case

The following code example shows how to resolve an AWS Support case.

AWS CLI

To resolve a support case

The following resolve-case example resolves a support case in your AWS account.
aws support resolve-case \
   --case-id "case-12345678910-2013-c4c1d2bf33c5cf47"

Output:

```
{ 
   "finalCaseStatus": "resolved",
   "initialCaseStatus": "work-in-progress"
}
```

For more information, see Case management in the AWS Support User Guide.

- For API details, see ResolveCase in AWS CLI Command Reference.

add-attachments-to-set

The following code example shows how to use add-attachments-to-set.

AWS CLI

To add an attachment to a set

The following add-attachments-to-set example adds an image to a set that you can then specify for a support case in your AWS account.

```
aws support add-attachments-to-set \
   --attachment-set-id "as-2f5a6faa2a4a1e600-mu-nk5xQ1Br70-G1cUos5LZkd38K0AHZa9BMDVzNEXAMPLE" \
   --attachments fileName=troubleshoot-screenshot.png,data=base64-encoded-string
```

Output:

```
{
   "attachmentSetId": "as-2f5a6faa2a4a1e600-mu-nk5xQ1Br70-G1cUos5LZkd38K0AHZa9BMDVzNEXAMPLE",
   "expiryTime": "2020-05-14T17:04:40.790+0000"
}
```

For more information, see Case management in the AWS Support User Guide.
add-communication-to-case

The following code example shows how to use add-communication-to-case.

AWS CLI

To add communication to a case

The following add-communication-to-case example adds communications to a support case in your AWS account.

```bash
aws support add-communication-to-case \
   --case-id "case-12345678910-2013-c4c1d2bf33c5cf47" \
   --communication-body "I'm attaching a set of images to this case." \
   --cc-email-addresses "myemail@example.com" \
   --attachment-set-id "as-2f5a6f3aa2a4a1e600-mu-nk5xS1Br70-G1cUos5LZkd38KOAHZa9BMDVzNEXAMPLE"
```

Output:

```
{
   "result": true
}
```

For more information, see Case management in the AWS Support User Guide.

- For API details, see AddAttachmentsToSet in AWS CLI Command Reference.

describe-trusted-advisor-check-refresh-statuses

The following code example shows how to use describe-trusted-advisor-check-refresh-statuses.

AWS CLI

To list the refresh statuses of AWS Trusted Advisor checks

The following describe-trusted-advisor-check-refresh-statuses example lists the refresh statuses for two Trusted Advisor checks: Amazon S3 Bucket Permissions and IAM Use.
aws support describe-trusted-advisor-check-refresh-statuses \
--check-id "Pfx0RwqBli" "zXCkfM1nI3"

Output:

```
{
  "statuses": [
    {
      "checkId": "Pfx0RwqBli",
      "status": "none",
      "millisUntilNextRefreshable": 0
    },
    {
      "checkId": "zXCkfM1nI3",
      "status": "none",
      "millisUntilNextRefreshable": 0
    }
  ]
}
```

For more information, see AWS Trusted Advisor in the AWS Support User Guide.

- For API details, see DescribeTrustedAdvisorCheckRefreshStatuses in AWS CLI Command Reference.

**describe-trusted-advisor-check-result**

The following code example shows how to use describe-trusted-advisor-check-result.

**AWS CLI**

**To list the results of an AWS Trusted Advisor check**

The following describe-trusted-advisor-check-result example lists the results of the IAM Use check.

```
aws support describe-trusted-advisor-check-result \
--check-id "zXCkfM1nI3"
```

Output:
For more information, see [AWS Trusted Advisor](https://aws.amazon.com/trustedadvisor/) in the [AWS Support User Guide](https://docs.aws.amazon.com/support/userguide/

- For API details, see [DescribeTrustedAdvisorCheckResult](https://docs.aws.amazon.com/cli/latest/reference/trusted-advisor/describe-trusted-advisor-check-result.html) in [AWS CLI Command Reference](https://docs.aws.amazon.com/cli/latest/reference/trusted-advisor/).

**describe-trusted-advisor-checksummaries**

The following code example shows how to use `describe-trusted-advisor-checksummaries`.

**AWS CLI**

**To list the summaries of AWS Trusted Advisor checks**

The following `describe-trusted-advisor-checksummaries` example lists the results for two Trusted Advisor checks: Amazon S3 Bucket Permissions and IAM Use.
aws support describe-trusted-advisor-check-summaries \
--check-ids "Pfx0RwqBli" "zXCkfM1nI3"

Output:

```json
{
    "summaries": [
    {
        "checkId": "Pfx0RwqBli",
        "timestamp": "2020-05-13T21:38:12Z",
        "status": "ok",
        "hasFlaggedResources": true,
        "resourcesSummary": {
            "resourcesProcessed": 44,
            "resourcesFlagged": 0,
            "resourcesIgnored": 0,
            "resourcesSuppressed": 0
        },
        "categorySpecificSummary": {
            "costOptimizing": {
                "estimatedMonthlySavings": 0.0,
                "estimatedPercentMonthlySavings": 0.0
            }
        }
    },
    {
        "checkId": "zXCkfM1nI3",
        "timestamp": "2020-05-13T21:38:05Z",
        "status": "ok",
        "hasFlaggedResources": true,
        "resourcesSummary": {
            "resourcesProcessed": 1,
            "resourcesFlagged": 0,
            "resourcesIgnored": 0,
            "resourcesSuppressed": 0
        },
        "categorySpecificSummary": {
            "costOptimizing": {
                "estimatedMonthlySavings": 0.0,
                "estimatedPercentMonthlySavings": 0.0
            }
        }
    }
    ]
}
```
For more information, see AWS Trusted Advisor in the AWS Support User Guide.

- For API details, see DescribeTrustedAdvisorCheckSummaries in AWS CLI Command Reference.

describe-trusted-advisor-checks

The following code example shows how to use describe-trusted-advisor-checks.

AWS CLI

To list the available AWS Trusted Advisor checks

The following describe-trusted-advisor-checks example lists the available Trusted Advisor checks in your AWS account. This information includes the check name, ID, description, category, and metadata. Note that the output is shortened for readability.

```
aws support describe-trusted-advisor-checks \
   --language "en"
```

Output:

```json
{
   "checks": [
   {
      "id": "zXCkfM1nI3",
      "name": "IAM Use",
      "description": "Checks for your use of AWS Identity and Access Management (IAM). You can use IAM to create users, groups, and roles in AWS, and you can use permissions to control access to AWS resources. \n\n\nAlert Criteria\nYellow: No IAM users have been created for this account.\n\nRecommended Action\nCreate one or more IAM users and groups in your account. You can then create additional users whose permissions are limited to perform specific tasks in your AWS environment. For more information, see <a href="https://docs.aws.amazon.com/IAM/latest/UserGuide/IAMGettingStarted.html" target="_blank">Getting Started</a>. Additional Resources <a href="https://docs.aws.amazon.com/IAM/latest/UserGuide/IAM_Introduction.html" target="_blank">What Is IAM?</a>,
      "category": "security",
      "metadata": []
   }
   ]
}
```
refresh-trusted-advisor-check

The following code example shows how to use refresh-trusted-advisor-check.

AWS CLI

To refresh an AWS Trusted Advisor check

The following refresh-trusted-advisor-check example refreshes the Amazon S3 Bucket Permissions Trusted Advisor check in your AWS account.

```bash
aws support refresh-trusted-advisor-check \
   --check-id "Pfx0RwqBli"
```

Output:

```json
{
   "status": {
      "checkId": "Pfx0RwqBli",
      "status": "enqueued",
      "millisUntilNextRefreshable": 3599992
   }
}
```

For more information, see [AWS Trusted Advisor](https://docs.aws.amazon.com/awscloudformation/latest/userguide/aws-trusted-advisor.html) in the [AWS Support User Guide](https://docs.aws.amazon.com/awscloudformation/latest/userguide/aws-support-user-guide.html).

- For API details, see [DescribeTrustedAdvisorChecks](https://docs.aws.amazon.com/AWS/CLI/latest/userguide/aws-cli-commands.html) in [AWS CLI Command Reference](https://docs.aws.amazon.com/AWS/CLI/latest/userguide/aws-cli-commands.html).

Amazon SWF examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon SWF.
**Actions** are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

**Scenarios** are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**
- **Actions**

**Actions**

**count-closed-workflow-executions**

The following code example shows how to use `count-closed-workflow-executions`.

**AWS CLI**

**Counting Closed Workflow Executions**

You can use `swf count-closed-workflow-executions` to retrieve the number of closed workflow executions for a given domain. You can specify filters to count specific classes of executions.

The `--domain` and *either* `--close-time-filter` or `--start-time-filter` arguments are required. All other arguments are optional.

```
aws swf count-closed-workflow-executions \
    --domain DataFrobtzz \
    --close-time-filter "{ "latestDate" : 1377129600, "oldestDate" : 1370044800 }"
```

Output:

```
{
    "count": 2,
    "truncated": false
}
```
If "truncated" is `true`, then "count" represents the maximum number that can be returned by Amazon SWF. Any further results are truncated.

To reduce the number of results returned, you can:

modify the `--close-time-filter` or `--start-time-filter` values to narrow the time range that is searched. Each of these is mutually exclusive: You can specify *only one of these* in a request. Use the `--close-status-filter`, `--execution-filter`, `--tag-filter` or `--type-filter` arguments to further filter the results. However, these arguments are also mutually exclusive.

See Also [CountClosedWorkflowExecutions](https://docs.aws.amazon.com/simpleswagger/service-summaries/AWSSimpleWorkflowService-2013-01-11) in the *Amazon Simple Workflow Service API Reference*

- For API details, see [CountClosedWorkflowExecutions](https://docs.aws.amazon.com/cli/latest/reference/swf/count-closed-workflow-executions.html) in *AWS CLI Command Reference*.

### count-open-workflow-executions

The following code example shows how to use `count-open-workflow-executions`.

#### AWS CLI

**Counting Open Workflow Executions**

You can use `swf count-open-workflow-executions` to retrieve the number of open workflow executions for a given domain. You can specify filters to count specific classes of executions.

The `--domain` and `--start-time-filter` arguments are required. All other arguments are optional.

```
aws swf count-open-workflow-executions \
    --domain DataFrobtzz \
    --start-time-filter "{{ "latestDate" : 1377129600, "oldestDate" : 1370044800 }}"
```

Output:

```json
{
    Actions and scenarios
```
If "truncated" is true, then "count" represents the maximum number that can be returned by Amazon SWF. Any further results are truncated.

To reduce the number of results returned, you can:

- modify the --start-time-filter values to narrow the time range that is searched.
- use the --close-status-filter, --execution-filter, --tag-filter or --type-filter arguments to further filter the results. Each of these is mutually exclusive: You can specify only one of these in a request.

For more information, see CountOpenWorkflowExecutions in the Amazon Simple Workflow Service API Reference

- For API details, see CountOpenWorkflowExecutions in AWS CLI Command Reference.

**deprecate-domain**

The following code example shows how to use deprecate-domain.

**AWS CLI**

**Deprecating a Domain**

To deprecate a domain (you can still see it, but cannot create new workflow executions or register types on it), use swf deprecate-domain. It has a sole required parameter, --name, which takes the name of the domain to deprecate.

```
aws swf deprecate-domain \
  --name MyNeatNewDomain ""
```

As with register-domain, no output is returned. If you use list-domains to view the registered domains, however, you will see that the domain has been deprecated and no longer appears in the returned data.

```
aws swf list-domains \
  --registration-status REGISTERED
```
If you use `--registration-status DEPRECATED` with `list-domains`, you will see your deprecated domain.

```bash
code
aws swf list-domains
  --registration-status DEPRECATED
{
  "domainInfos": [
  {
    "status": "DEPRECATED",
    "name": "MyNeatNewDomain"
  }]
}
```

You can still use `describe-domain` to get information about a deprecated domain.

```bash
code
aws swf describe-domain
  --name MyNeatNewDomain
{
  "domainInfo": {
    "status": "DEPRECATED",
    "name": "MyNeatNewDomain"
  },
  "configuration": {
    "workflowExecutionRetentionPeriodInDays": "0"
  }
}
```

See Also [DeprecateDomain](#) in the *Amazon Simple Workflow Service API Reference*
describe-domain

The following code example shows how to use describe-domain.

AWS CLI

Getting Information About a Domain

To get detailed information about a particular domain, use the swf describe-domain command. There is one required parameter: --name, which takes the name of the domain you want information about.

```
aws swf describe-domain
  --name DataFrobotz
  
  "domainInfo": {
    "status": "REGISTERED",
    "name": "DataFrobotz"
  },
  "configuration": {
    "workflowExecutionRetentionPeriodInDays": "1"
  }
```

You can also use describe-domain to get information about deprecated domains.

```
aws swf describe-domain
  --name MyNeatNewDomain
  
  "domainInfo": {
    "status": "DEPRECATED",
    "name": "MyNeatNewDomain"
  },
  "configuration": {
    "workflowExecutionRetentionPeriodInDays": "0"
  }
```

See Also DescribeDomain in the Amazon Simple Workflow Service API Reference
For API details, see DescribeDomain in AWS CLI Command Reference.

list-activity-types

The following code example shows how to use list-activity-types.

AWS CLI

Listing Activity Types

To get a list of the activity types for a domain, use swf list-activity-types. The --domain and --registration-status arguments are required.

```
aws swf list-activity-types \
  --domain DataFrobtzz \
  --registration-status REGISTERED
```

Output:

```
{
  "typeInfos": [
    {
      "status": "REGISTERED",
      "creationDate": 1371454150.451,
      "activityType": {
        "version": "1",
        "name": "confirm-user-email"
      },
      "description": "subscribe confirm-user-email activity"
    },
    {
      "status": "REGISTERED",
      "creationDate": 1371454150.709,
      "activityType": {
        "version": "1",
        "name": "confirm-user-phone"
      },
      "description": "subscribe confirm-user-phone activity"
    },
    {
      "status": "REGISTERED",
      "creationDate": 1371454149.871,
      "activityType": {
        "version": "1",
        "name": "confirm-user-mobile"
      },
      "description": "subscribe confirm-user-mobile activity"
    }
  ]
}
```
You can use the --name argument to select only activity types with a particular name:

```
aws swf list-activity-types \
   --domain DataFrobtzz \ 
   --registration-status REGISTERED \ 
   --name "send-subscription-success"
```

**Output:**

```
{
   "typeInfos": [
    {
      "status": "REGISTERED",
      "creationDate": 1371454150.909,
      "activityType": {
        "version": "1",
        "name": "send-subscription-success"
      },
      "description": "subscribe send-subscription-success activity"
    },
    {
      "status": "REGISTERED",
      "creationDate": 1371454150.085,
      "activityType": {
        "version": "1",
        "name": "subscribe-user-sns"
      },
      "description": "subscribe subscribe-user-sns activity"
    }
  ]
}
```
To retrieve results in pages, you can set the `--maximum-page-size` argument. If more results are returned than will fit in a page of results, a "nextPageToken" will be returned in the result set:

```bash
aws swf list-activity-types \
  --domain DataFrobtzz \
  --registration-status REGISTERED \
  --maximum-page-size 2
```

Output:

```json
{
  "nextPageToken": "AAAAKgAAAAEAAAAAAA16p1Bem3jQ+PmHvAnDxJYbup8+0R4LVtbXLDl1QNY7C3opHo9Sz06D/GuFz10yC73ubmBQ1XFJ/gC/\n  aYpzDmqUIWIA1T9W0s2DryyZX40C/6Lhk9/o5ksuWMSBkHhgaZjgwp3WJINIFJFaSMxY2vYAX7AtRtpcqJuBDDRE9RaRqDGYYqIYUMItarkiqpSY1ZVveBasBv1vyU\n  WGAaqehiD7/JzLT/wWNNUM0d+Nhe",
  "typeInfos": [
    {
      "status": "REGISTERED",
      "creationDate": 1371454150.451,
      "activityType": {
        "version": "1",
        "name": "confirm-user-email"
      },
      "description": "subscribe confirm-user-email activity"
    },
    {
      "status": "REGISTERED",
      "creationDate": 1371454150.709,
      "activityType": {
        "version": "1",
        "name": "confirm-user-phone"
      },
      "description": "subscribe confirm-user-phone activity"
    }
  ]
}
```
You can pass the nextPageToken value to the next call to `list-activity-types` in the `--next-page-token` argument, retrieving the next page of results:

```bash
aws swf list-activity-types \
    --domain DataFrobtzz \
    --registration-status REGISTERED \
    --maximum-page-size 2 \
    --next-page-token "AAAAKgAAAAEAAAAAAAADp1BelJq+PmhvJyBp8+0R4LvFtXLGNY7C3opHo9Sz06D/GuFz10yC73umBQ1tOPJ/gC/aYpzDMqUIWIA1T9W0s2DryvZX4OC/6Lhk9/o5kdsuWMSBkHhggaZjgw3WJINIFJFdaSMxY2vYAX7AtRtpcqJuBDDRE9RaRqDGYqIYUMltarkiqpSY1ZVveBasBv1vyUWGAaqehiDz7/JzLT/wWNNUMOd+Nhe"
```

Output:

```json
{
    "nextPageToken": "AAAAKgAAAAEAAAAAAAADp1BelJq+PmhvJyBp8+0R4LvFtXLGNY7C3opHo9Sz06D/GuFz10yC73umBQ1tOPJ/gC/aYpzDMqUIWIA1T9W0s2DryvZX4OC/6Lhk9/o5kdsuWMSBkHhggaZjgw3WJINIFJFdaSMxY2vYAX7AtRtpcqJuBDDRE9RaRqDGYqIYUMltarkiqpSY1ZVveBasBv1vyUWGAaqehiDz7/JzLT/wWNNUMOd+Nhe",
    "typeInfos": [
        {
            "status": "REGISTERED",
            "creationDate": 1371454149.871,
            "activityType": {
                "version": "1",
                "name": "get-subscription-info"
            },
            "description": "subscribe get-subscription-info activity"
        },
        {
            "status": "REGISTERED",
            "creationDate": 1371454150.909,
            "activityType": {
                "version": "1",
                "name": "send-subscription-success"
            },
            "description": "subscribe send-subscription-success activity"
        }
    ]
}
```
If there are still more results to return, "nextPageToken" will be returned with the results. When there are no more pages of results to return, "nextPageToken" will not be returned in the result set.

You can use the --reverse-order argument to reverse the order of the returned results. This also affects paged results.

```
aws swf list-activity-types \
   --domain DataFrobtzz \
   --registration-status REGISTERED \
   --maximum-page-size 2 \
   --reverse-order
```

Output:

```
{
   "nextPageToken": "AAAAKgAAAAEAAAAAAAAnWcpu5ePSyQkirC+yMCGvC13xjDWM8OE4GbcncLmY6QihMDmUWocpr7To6/R7CJlu0St1gdKg1xyOidJXErQW0zdNfQaIWAAnF/cwio8Bxlz1fQzmDeU3M5oYGMPQIrUqkPq7pMESW0q01K5eDN97NzFydzZZ/rlcLDWPZhUjY",
   "typeInfos": [
      {
         "status": "REGISTERED",
         "creationDate": 1371454150.085,
         "activityType": {
            "version": "1",
            "name": "subscribe-user-sns"
         },
         "description": "subscribe subscribe-user-sns activity"
      },
      {
         "status": "REGISTERED",
         "creationDate": 1371454150.909,
         "activityType": {
            "version": "1",
            "name": "send-subscription-success"
         },
         "description": "subscribe send-subscription-success activity"
      }
   ]
}
```
See Also [ListActivityTypes](#) in the *Amazon Simple Workflow Service API Reference*

- For API details, see [ListActivityTypes](#) in *AWS CLI Command Reference*.

**list-domains**

The following code example shows how to use `list-domains`.

**AWS CLI**

**Example 1: To list your registered domains**

The following `list-domains` command example lists the REGISTERED SWF domains that you have registered for your account.

```
aws swf list-domains \
  --registration-status REGISTERED
```

Output:

```
{
  "domainInfos": [
  {
    "status": "REGISTERED",
    "name": "DataFrobotz"
  },
  {
    "status": "REGISTERED",
    "name": "erontest"
  }
  ]
}
```

For more information, see [ListDomains](#) in the *Amazon Simple Workflow Service API Reference*

**Example 2: To list your deprecated domains**

The following `list-domains` command example lists the DEPRECATED SWF domains that you have registered for your account. Deprecated domains are domains that can not register new workflows or activities, but that can still be queried.
aws swf list-domains \
  --registration-status DEPRECATED

Output:

```
{
  "domainInfos": [
    {
      "status": "DEPRECATED",
      "name": "MyNeatNewDomain"
    }
  ]
}
```

For more information, see `ListDomains` in the *Amazon Simple Workflow Service API Reference*

**Example 3: To list the first page of registered domains**

The following list-domains command example lists the first page REGISTERED SWF domains that you have registered for your account using the --maximum-page-size option.

```
aws swf list-domains \
  --registration-status REGISTERED \
  --maximum-page-size 1
```

Output:

```
{
  "domainInfos": [
    {
      "status": "REGISTERED",
      "name": "DataFrobotz"
    }
  ],
  "nextPageToken": "AAAAKgAAAAEAAAAAAA2QJKNtidVgd49TTeNwYcpD\n+QKT2ynuEbibiCQWe2QKrs1MGe63gpS0MgZGpcpoKttL40CXRFn98Xif557it\n+wSZUsvUDtImjDlvgyuyyyFdIZtvIxIKEOPm3k2r40jAGaFsG0uVbrKljvLa7wdU7FYH30lkNCP8b7PBj9SBkUyGoiAghET74P93AuVIIkdKGtQ=="
}
```

For more information, see `ListDomains` in the *Amazon Simple Workflow Service API Reference*

**Example 4: To list the specified single page of registered domains**
The following list-domains command example lists the first page REGISTERED SWF domains that you have registered for your account using the --maximum-page-size option.

When you make the call again, this time supplying the value of nextPageToken in the --next-page-token argument, you'll get another page of results.

```
aws swf list-domains \
   --registration-status REGISTERED \
   --maximum-page-size 1 \
   --next-page-token "AAAAKgAAAAEAAAAA2QJKNtidVgd49TTeNwYcpD+QKT2ynuEbIcQWe2QKrs1MGe63gpS0MGpcoKttL40CXRFn98Xif557it+wSZUsvUDtImjDLvguyuyyFdiZtvIxEK0Pm3k2r40jAGaFsGOuVbrK1jvl1a7wdU7FYH30lKNCp8b7PBj9SBkUyGoisAg"
```

Output:

```
{
   "domainInfos": [
      {
         "status": "REGISTERED",
         "name": "erontest"
      }
   ]
}
```

When there are no further pages of results to retrieve, nextPageToken will not be returned in the results.

For more information, see ListDomains in the Amazon Simple Workflow Service API Reference

- For API details, see ListDomains in AWS CLI Command Reference.

list-workflow-types

The following code example shows how to use list-workflow-types.

AWS CLI

Listing Workflow Types

To get a list of the workflow types for a domain, use swf list-workflow-types. The --domain and --registration-status arguments are required. Here's a simple example.
```
aws swf list-workflow-types
   --domain DataFrobtzz
   --registration-status REGISTERED
```

Output:

```
{
   "typeInfos": [
      {
         "status": "REGISTERED",
         "creationDate": 1371454149.598,
         "description": "DataFrobtzz subscribe workflow",
         "workflowType": {
            "version": "v3",
            "name": "subscribe"
         }
      }
   ]
}
```

As with `list-activity-types`, you can use the `--name` argument to select only workflow types with a particular name, and use the `--maximum-page-size` argument in coordination with `--next-page-token` to page results. To reverse the order in which results are returned, use `--reverse-order`.

See Also `ListWorkflowTypes` in the Amazon Simple Workflow Service API Reference

- For API details, see `ListWorkflowTypes` in AWS CLI Command Reference.

**register-domain**

The following code example shows how to use `register-domain`.

**AWS CLI**

**Registering a Domain**

You can use the AWS CLI to register new domains. Use the `swf register-domain` command. There are two required parameters, `--name`, which takes the domain name, and `--workflow-execution-retention-period-in-days`, which takes an integer to specify the number of days to retain workflow execution data on this domain, up to a maximum period of 90 days.
Workflow execution data will not be retained after the specified number of days have passed.

```bash
aws swf register-domain
  --name MyNeatNewDomain
  --workflow-execution-retention-period-in-days 0
  ""
```

When you register a domain, nothing is returned (""), but you can use `swf list-domains` or `swf describe-domain` to see the new domain.

```bash
aws swf list-domains
  --registration-status REGISTERED
{
  "domainInfos": [
    {
      "status": "REGISTERED",
      "name": "DataFrobotz"
    },
    {
      "status": "REGISTERED",
      "name": "MyNeatNewDomain"
    },
    {
      "status": "REGISTERED",
      "name": "erontest"
    }
  ]
}
```

Using `swf describe-domain`:

```bash
aws swf describe-domain --name MyNeatNewDomain
{
  "domainInfo": {
    "status": "REGISTERED",
    "name": "MyNeatNewDomain"
  },
  "configuration": {
    "workflowExecutionRetentionPeriodInDays": "0"
  }
}
```
register-workflow-type

The following code example shows how to use `register-workflow-type`.

**AWS CLI**

**Registering a Workflow Type**

To register a Workflow type with the AWS CLI, use the `swf register-workflow-type` command.

```bash
aws swf register-workflow-type \
  --domain DataFrobtzz \
  --name "MySimpleWorkflow" \
  --workflow-version "v1"
```

If successful, the command produces no output.

On an error (for example, if you try to register the same workflow type twice, or specify a domain that doesn't exist) you will get a response in JSON.

```json
{
  "message": "WorkflowType=[name=MySimpleWorkflow, version=v1]",
  "__type": "com.amazonaws.swf.base.model#TypeAlreadyExistsFault"
}
```

The `--domain`, `--name` and `--workflow-version` are required. You can also set the workflow description, timeouts, and child workflow policy.

For more information, see `RegisterWorkflowType` in the Amazon Simple Workflow Service API Reference.

- For API details, see `RegisterWorkflowType` in AWS CLI Command Reference.
Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics
- Actions

Actions

Add a parameter

The following code example shows how to add a Systems Manager parameter.

AWS CLI

Example 1: To change a parameter value

The following put-parameter example changes the value of the specified parameter.

```bash
aws ssm put-parameter \
    --name "MyStringParameter" \
    --type "String" \
    --value "Vici" \ 
    --overwrite
```

Output:

```json
{
    "Version": 2,
    "Tier": "Standard"
}
```

For more information, see Create a Systems Manager parameter (AWS CLI), 'Managing parameter tiers <https://docs.aws.amazon.com/systems-manager/latest/userguide/parameter-
Example 2: To create an advanced parameter

The following `put-parameter` example creates an advanced parameter.

```bash
aws ssm put-parameter \
  --name "MyAdvancedParameter" \
  --description "This is an advanced parameter" \
  --value "Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat [truncated]" \
  --type "String" \
  --tier Advanced
```

Output:

```json
{
  "Version": 1,
  "Tier": "Advanced"
}
```

For more information, see Create a Systems Manager parameter (AWS CLI), 'Managing parameter tiers <https://docs.aws.amazon.com/systems-manager/latest/userguide/parameter-store-advanced-parameters.html>`__, and Working with parameter policies in the AWS Systems Manager User Guide.

Example 3: To convert a standard parameter to an advanced parameter

The following `put-parameter` example converts a existing standard parameter into an advanced parameter.

```bash
aws ssm put-parameter \
  --name "MyConvertedParameter" \
  --value "abc123" \
  --type "String"  \
  --tier Advanced \
  --overwrite
```

Output:
Example 4: To create a parameter with a policy attached

The following `put-parameter` example creates an advanced parameter with a parameter policy attached.

```bash
aws ssm put-parameter \
  --name "/Finance/Payroll/q2accesskey" \
  --value "P@sSwW)rd" \
  --type "SecureString" \
  --tier Advanced \
  --policies "[{"Type":"Expiration","Version":"1.0","Attributes":
  {"Timestamp":"2020-06-30T00:00:00.000Z"}},{"Type":"ExpirationNotification","Version":"1.0","Attributes":{"Before":"5","Unit":"Days"}},{"Type":"NoChangeNotification","Version":"1.0","Attributes":{"After":"60","Unit":"Days"}}]"
```

Output:

```json
{
   "Version": 1,
   "Tier": "Advanced"
}
```

For more information, see Create a Systems Manager parameter (AWS CLI), 'Managing parameter tiers <https://docs.aws.amazon.com/systems-manager/latest/userguide/parameter-store-advanced-parameters.html>`__, and Working with parameter policies in the AWS Systems Manager User Guide.

Example 5: To add a policy to an existing parameter

The following `put-parameter` example attaches a policy to an existing advanced parameter.
aws ssm put-parameter \
  --name "/Finance/Payroll/q2accesskey" \
  --value "N3wP@sSwW)rd" \
  --type "SecureString" \
  --tier Advanced \
  --policies "[{"Type":"Expiration","Version":"1.0","Attributes":\{"Timestamp":"2020-06-30T00:00:00.000Z\"\},{"Type":"ExpirationNotification","Version":"1.0","Attributes":\{"Before":"5","Unit":"Days\"\}},{"Type":"NoChangeNotification","Version":"1.0","Attributes":\{"After":"60","Unit \"Days\"\}}]" \
  --overwrite

Output:

```
{
   "Version": 2,
   "Tier": "Advanced"
}
```

For more information, see Create a Systems Manager parameter (AWS CLI), 'Managing parameter tiers <https://docs.aws.amazon.com/systems-manager/latest/userguide/parameter-store-advanced-parameters.html>`__, and Working with parameter policies in the AWS Systems Manager User Guide.

- For API details, see PutParameter in AWS CLI Command Reference.

Create a new OpsItem

The following code example shows how to create a new OpsItem.

AWS CLI

To create an OpsItem

The following create-ops-item example uses the /aws/resources key in OperationalData to create an OpsItem with an Amazon DynamoDB related resource.

aws ssm create-ops-item \
  --title "EC2 instance disk full" \
  --description "Log clean up may have failed which caused the disk to be full" \
  --priority 2 \
  --source ec2 \

Actions and scenarios
Describe an OpsItem

The following code example shows how to describe an OpsItem.

AWS CLI

To list a set of OpsItems

The following describe-ops-items example displays a list of all open OpsItems in your AWS account.

```
aws ssm describe-ops-items \
   --ops-item-filters "Key=Status,Values=Open,Operator=Equal"
```

Output:

```json
{
   "OpsItemSummaries": [
      {
         "CreatedBy": "arn:aws:sts::111222333444:assumed-role/OpsItem-CWE-Role/fbf77cbe264a33509569f23e4EXAMPLE",
         "CreatedTime": "2020-03-14T17:02:46.375000-07:00",
         "LastModifiedBy": "arn:aws:sts::111222333444:assumed-role/OpsItem-CWE-Role/fbf77cbe264a33509569f23e4EXAMPLE",
         "LastModifiedTime": "2020-03-14T17:02:46.375000-07:00",
         "Source": "SSM",
         "Status": "Open",
         ...
      }
   ]
}
```
"OpsItemId": "oi-7cfc5EXAMPLE",
"Title": "SSM Maintenance Window execution failed",
"OperationalData": {
    "/aws/dedup": {
        "Value": "\"dedupString\":\"SSMOpsItems-SSM-maintenance-window-
execution-failed\"\",
        "Type": "SearchableString"
    },
    "/aws/resources": {
        "Type": "SearchableString"
    }
},
"Category": "Availability",
"Severity": "3"
},
{
    "CreatedBy": "arn:aws:sts::1112223233444:assumed-role/OpsItem-CWE-Role/
fbf77cbe264a33509569f23e4EXAMPLE",
    "CreatedTime": "2020-02-26T11:43:15.426000-08:00",
    "LastModifiedBy": "arn:aws:sts::111222333444:assumed-role/OpsItem-CWE-
Role/fbf77cbe264a33509569f23e4EXAMPLE",
    "LastModifiedTime": "2020-02-26T11:43:15.426000-08:00",
    "Source": "EC2",
    "Status": "Open",
    "OpsItemId": "oi-6f966EXAMPLE",
    "Title": "EC2 instance stopped",
    "OperationalData": {
        "/aws/automations": {
            "Value": "[ { \"automationType\": \"AWS:SSM:Automation\", \"automationId\": \"AWS-RestartEC2Instance\" } ]",
            "Type": "SearchableString"
        },
        "/aws/dedup": {
            "Value": "\"dedupString\":\"SSMOpsItems-EC2-instance-stopped\"
        },
        "/aws/resources": {
            "Value": "\{"\"arn\":\"arn:aws:ec2:us-east-2:111222333444:instance/i-0beccfbc02EXAMPLE\"\",
            "Type": "SearchableString"
        }
    }
}
For more information, see Working with OpsItems in the AWS Systems Manager User Guide.

- For API details, see DescribeOpsItems in AWS CLI Command Reference.

Get parameters information

The following code example shows how to get Systems Manager parameters information.

AWS CLI

Example 1: To list all parameters

The following describe-parameters example lists all parameters in the current AWS account and Region.

```
aws ssm describe-parameters
```

Output:

```
{
  "Parameters": [
    {
      "Name": "MySecureStringParameter",
      "Type": "SecureString",
      "KeyId": "alias/aws/ssm",
      "LastModifiedDate": 1582155479.205,
      "LastModifiedUser": "arn:aws:sts::111222333444:assumed-role/Admin/Richard-Roe-Managed",
      "Description": "This is a SecureString parameter",
      "Version": 2,
      "Tier": "Advanced",
      "Policies": [
        {
          "PolicyText": "{"Type":"Expiration","Version":"1.0"},
          "Attributes":{"Timestamp":"2020-07-07T22:30:00Z"}"},
          "PolicyType": "Expiration",
```
"PolicyStatus": "Pending",
],
{
  "PolicyText": "{\"Type\":\"ExpirationNotification\",\"Version\":\"1.0\",\"Attributes\":{\"Before\":\"12\",\"Unit\":\"Hours\"}}",
  "PolicyType": "ExpirationNotification",
  "PolicyStatus": "Pending"
}
],
{
  "Name": "MyStringListParameter",
  "Type": "StringList",
  "LastModifiedDate": 1582154764.222,
  "LastModifiedUser": "arn:aws:iam::111222333444:user/Mary-Major",
  "Description": "This is a StringList parameter",
  "Version": 1,
  "Tier": "Standard",
  "Policies": []
},
{
  "Name": "MyStringParameter",
  "Type": "String",
  "LastModifiedDate": 1582154711.976,
  "LastModifiedUser": "arn:aws:iam::111222333444:user/Alejandro-Rosalez",
  "Description": "This is a String parameter",
  "Version": 1,
  "Tier": "Standard",
  "Policies": []
},
{
  "Name": "latestAmi",
  "Type": "String",
  "LastModifiedDate": 1580862415.521,
  "LastModifiedUser": "arn:aws:sts::111222333444:assumed-role/lambda-ssm-role/Automation-UpdateSSM-Param",
  "Version": 3,
  "Tier": "Standard",
  "Policies": []
]}
}
Example 2: To list all parameters matching specific metadata

This describe-parameters example lists all parameters matching a filter.

```bash
aws ssm describe-parameters --filters "Key=Type,Values=StringList"
```

Output:

```
{
   "Parameters": [
      {
         "Name": "MyStringListParameter",
         "Type": "StringList",
         "LastModifiedDate": 1582154764.222,
         "LastModifiedUser": "arn:aws:iam::111222333444:user/Mary-Major",
         "Description": "This is a StringList parameter",
         "Version": 1,
         "Tier": "Standard",
         "Policies": []
      }
   ]
}
```

For more information, see [Searching for Systems Manager Parameters](#) in the [AWS Systems Manager User Guide](#).

- For API details, see [DescribeParameters](#) in [AWS CLI Command Reference](#).

Updates an OpsItem

The following code example shows how to updates an OpsItem.

**AWS CLI**

**To update an OpsItem**

The following update-ops-item example updates the description, priority, and category for an OpsItem. In addition, the command specifies an SNS topic where the notifications are sent when this OpsItem is edited or changed.

```bash
aws ssm update-ops-item \
--ops-item-id "oi-287b5EXAMPLE" \
--description "Primary OpsItem for failover event 2020-01-01-fh398yf"
```
--priority 2 \
--category "Security" \

Output:

This command produces no output.

For more information, see Working with OpsItems in the AWS Systems Manager User Guide.
- For API details, see UpdateOpsItem in AWS CLI Command Reference.

add-tags-to-resource

The following code example shows how to use add-tags-to-resource.

AWS CLI

Example 1: To add tags to a maintenance window

The following add-tags-to-resource example adds a tag to the specified maintenance window.

```bash
aws ssm add-tags-to-resource \
--resource-type "MaintenanceWindow" \
--resource-id "mw-03eb9db428EXAMPLE" \
--tags "Key=Stack,Value=Production"
```

This command produces no output.

Example 2: To add tags to a parameter

The following add-tags-to-resource example adds two tags to the specified parameter.

```bash
aws ssm add-tags-to-resource \
--resource-type "Parameter" \
--resource-id "My-Parameter" \
--tags '{"Key":"Region","Value":"East"},{"Key":"Environment", "Value":"Production"}]
```

This command produces no output.
Example 3: To add tags to an SSM document

The following add-tags-to-resource example adds a tag to the specified document.

```bash
aws ssm add-tags-to-resource \
  --resource-type "Document" \
  --resource-id "My-Document" \
  --tags "Key=Quarter,Value=Q322"
```

This command produces no output.

For more information, see Tagging Systems Manager resources in the AWS Systems Manager User Guide.

- For API details, see AddTagsToResource in AWS CLI Command Reference.

associate-ops-item-related-item

The following code example shows how to use associate-ops-item-related-item.

AWS CLI

To associate a related item

The following associate-ops-item-related-item example associates a related item to the OpsItem.

```bash
aws ssm associate-ops-item-related-item \
  --ops-item-id "oi-649fExample" \
  --association-type "RelatesTo" \
  --resource-type "AWS::SSMIncidents::IncidentRecord" \
```

Output:

```json
{
  "AssociationId": "61d7178d-a30d-4bc5-9b4e-a9e74EXAMPLE"
}
```

For more information, see Working with Incident Manager incidents in OpsCenter in the AWS Systems Manager User Guide.
• For API details, see `AssociateOpsItemRelatedItem` in AWS CLI Command Reference.

**cancel-command**

The following code example shows how to use cancel-command.

**AWS CLI**

**Example 1: To cancel a command for all instances**

The following cancel-command example attempts to cancel the specified command that is already running for all instances.

```
aws ssm cancel-command \\
  --command-id "662add3d-5831-4a10-b64a-f2ff3EXAMPLE"
```

This command produces no output.

**Example 2: To cancel a command for specific instances**

The following cancel-command example attempts to cancel a command for the specified instance only.

```
aws ssm cancel-command \\
  --command-id "662add3d-5831-4a10-b64a-f2ff3EXAMPLE" \\
  --instance-ids "i-02573cafcfEXAMPLE"
```

This command produces no output.

For more information, see Tagging Systems Manager Parameters in the AWS Systems Manager User Guide.

• For API details, see `CancelCommand` in AWS CLI Command Reference.

**cancel-maintenance-window-execution**

The following code example shows how to use cancel-maintenance-window-execution.

**AWS CLI**

**To cancel a maintenance window execution**
This cancel-maintenance-window-execution example stops the specified maintenance window execution that is already in progress.

```
aws ssm cancel-maintenance-window-execution \\
--window-execution-id j2l8d5b5c-mw66-tk4d-r3g9-1d4d1EXAMPLE
```

Output:

```
{
    "WindowExecutionId": "j2l8d5b5c-mw66-tk4d-r3g9-1d4d1EXAMPLE"
}
```

For more information, see Systems Manager Maintenance Windows Tutorials (AWS CLI) in the AWS Systems Manager User Guide.

- For API details, see CancelMaintenanceWindowExecution in AWS CLI Command Reference.

create-activation

The following code example shows how to use create-activation.

AWS CLI

To create a managed instance activation

The following create-activation example creates a managed instance activation.

```
aws ssm create-activation \\
--default-instance-name "HybridWebServers" \\
--iam-role "HybridWebServersRole" \\
--registration-limit 5
```

Output:

```
{
    "ActivationId": "5743558d-563b-4457-8682-d16c3EXAMPLE",
    "ActivationCode": "dRmgnYaFv567vEXAMPLE"
}
```

For more information, see Step 4: Create a Managed-Instance Activation for a Hybrid Environment in the AWS Systems Manager User Guide.
For API details, see CreateActivation in AWS CLI Command Reference.

create-association

The following code example shows how to use create-association.

AWS CLI

Example 1: To associate a document using instance IDs

This example associates a configuration document with an instance, using instance IDs.

```bash
aws ssm create-association \
   --instance-id "i-0cb2b964d3e14fd9f" \
   --name "AWS-UpdateSSMAgent"
```

Output:

```json
{
   "AssociationDescription": {
      "Status": {
         "Date": 1487875500.33,
         "Message": "Associated with AWS-UpdateSSMAgent",
         "Name": "Associated"
      },
      "Name": "AWS-UpdateSSMAgent",
      "InstanceId": "i-0cb2b964d3e14fd9f",
      "Overview": {
         "Status": "Pending",
         "DetailedStatus": "Creating"
      },
      "AssociationId": "b7c3266e-a544-44db-877e-b20d3a108189",
      "DocumentVersion": "$DEFAULT",
      "LastUpdateAssociationDate": 1487875500.33,
      "Date": 1487875500.33,
      "Targets": [
         {
            "Values": [
               "i-0cb2b964d3e14fd9f"
            ],
            "Key": "InstanceIds"
         }
```
For more information, see CreateAssociation in the AWS Systems Manager API Reference.

Example 2: To associate a document using targets

This example associates a configuration document with an instance, using targets.

```
aws ssm create-association \
   --name "AWS-UpdateSSMAgent" \
   --targets "Key=instanceids,Values=i-0cb2b964d3e14fd9f"
```

Output:

```
{
   "AssociationDescription": {
      "Status": {
         "Date": 1487875500.33,
         "Message": "Associated with AWS-UpdateSSMAgent",
         "Name": "Associated"
      },
      "Name": "AWS-UpdateSSMAgent",
      "InstanceId": "i-0cb2b964d3e14fd9f",
      "Overview": {
         "Status": "Pending",
         "DetailedStatus": "Creating"
      },
      "AssociationId": "b7c3266e-a544-44db-877e-b20d3a108189",
      "DocumentVersion": "$DEFAULT",
      "LastUpdateAssociationDate": 1487875500.33,
      "Date": 1487875500.33,
      "Targets": [
         {
            "Values": [
               "i-0cb2b964d3e14fd9f"
            ],
            "Key": "InstanceIds"
         }
      ]
   }
}
```
For more information, see CreateAssociation in the AWS Systems Manager API Reference.

Example 3: To create an association that runs only once

This example creates a new association that only runs once on the specified date and time. Associations created with a date in the past or present (by the time it is processed the date is in the past) run immediately.

```
aws ssm create-association
   --name "AWS-UpdateSSMAgent" \ 
   --targets "Key=instanceids,Values=i-0cb2b964d3e14fd9f" \ 
   --schedule-expression "at(2020-05-14T15:55:00)" \ 
   --apply-only-at-cron-interval
```

Output:

```
{
   "AssociationDescription": {
      "Status": {
         "Date": 1487875500.33,
         "Message": "Associated with AWS-UpdateSSMAgent",
         "Name": "Associated"
      },
      "Name": "AWS-UpdateSSMAgent",
      "InstanceId": "i-0cb2b964d3e14fd9f",
      "Overview": {
         "Status": "Pending",
         "DetailedStatus": "Creating"
      },
      "AssociationId": "b7c3266e-a544-44db-877e-b20d3a108189",
      "DocumentVersion": "$DEFAULT",
      "LastUpdateAssociationDate": 1487875500.33,
      "Date": 1487875500.33,
      "Targets": [
         {
            "Values": [
               "i-0cb2b964d3e14fd9f"
            ],
            "Key": "InstanceIds"
         }
      ]
   }
}
```
For more information, see CreateAssociation in the AWS Systems Manager API Reference or Reference: Cron and rate expressions for Systems Manager in the AWS Systems Manager User Guide.

- For API details, see CreateAssociation in AWS CLI Command Reference.

`create-association-batch`

The following code example shows how to use create-association-batch.

**AWS CLI**

**To create multiple associations**

This example associates a configuration document with multiple instances. The output returns a list of successful and failed operations, if applicable.

**Command:**

```bash
aws ssm create-association-batch --entries "Name=AWS-UpdateSSMAgent,InstanceId=i-1234567890abcdef0" "Name=AWS-UpdateSSMAgent,InstanceId=i-9876543210abcdef0"
```

**Output:**

```json
{
  "Successful": [
    {
      "Name": "AWS-UpdateSSMAgent",
      "InstanceId": "i-1234567890abcdef0",
      "AssociationVersion": "1",
      "Date": 1550504725.007,
      "LastUpdateAssociationDate": 1550504725.007,
      "Status": {
        "Date": 1550504725.007,
        "Name": "Associated",
        "Message": "Associated with AWS-UpdateSSMAgent"
      },
      "Overview": {
        "Status": "Pending",
```
For API details, see CreateAssociationBatch in AWS CLI Command Reference.
create-document

The following code example shows how to use create-document.

AWS CLI

To create a document

The following create-document example creates a Systems Manager document.

```bash
aws ssm create-document \
   --content file://exampleDocument.yml \
   --name "Example" \
   --document-type "Automation" \
   --document-format YAML
```

Output:

```json
{
   "DocumentDescription": {
      "Hash": "fc2410281f40779e694a8b95975d0f9f316da8a153da94e3d9921102EXAMPLE",
      "HashType": "Sha256",
      "Name": "Example",
      "Owner": "29884EXAMPLE",
      "CreatedDate": 1583256349.452,
      "Status": "Creating",
      "DocumentVersion": "1",
      "Description": "Document Example",
      "Parameters": [
        {
          "Name": "AutomationAssumeRole",
          "Type": "String",
          "Description": "(Required) The ARN of the role that allows Automation to perform the actions on your behalf. If no role is specified, Systems Manager Automation uses your IAM permissions to execute this document.",
          "DefaultValue": ""
        },
        {
          "Name": "InstanceId",
          "Type": "String",
          "Description": "(Required) The ID of the Amazon EC2 instance.",
          "DefaultValue": ""
        }
      ]
   }
}
```
For more information, see [Creating Systems Manager Documents](#) in the AWS Systems Manager User Guide.

- For API details, see [CreateDocument](#) in AWS CLI Command Reference.

**create-maintenance-window**

The following code example shows how to use `create-maintenance-window`.

**AWS CLI**

**Example 1: To create a maintenance window**

The following `create-maintenance-window` example creates a new maintenance window that every five minutes for up to two hours (as needed), prevents new tasks from starting within one hour of the end of the maintenance window execution, allows unassociated targets (instances that you haven't registered with the maintenance window), and indicates through the use of custom tags that its creator intends to use it in a tutorial.

```
aws ssm create-maintenance-window \
   --name "My-Tutorial-Maintenance-Window" \
   --schedule "rate(5 minutes)" \
   --duration 2 --cutoff 1 \
   --allow-unassociated-targets \
   --tags "Key=Purpose,Value=Tutorial"
```

**Output:**


Example 2: To create a maintenance window that runs only once

The following `create-maintenance-window` example creates a new maintenance window that only runs one time on the specified date and time.

```bash
aws ssm create-maintenance-window \
    --name My-One-Time-Maintenance-Window \
    --schedule "at(2020-05-14T15:55:00)" \
    --duration 5 \n    --cutoff 2 \n    --allow-unassociated-targets \n    --tags "Key=Environment,Value=Production"
```

Output:

```
{
    "WindowId": "mw-01234567890abcdef"
}
```

For more information, see [Maintenance Windows](https://docs.aws.amazon.com/systems-manager/latest/userguide/systems-manager-maintenance-windows.html) in the *AWS Systems Manager User Guide*.

- For API details, see [CreateMaintenanceWindow](https://docs.aws.amazon.com/cli/latest/reference/ssm/create-maintenance-window.html) in *AWS CLI Command Reference*.

`create-patch-baseline`

The following code example shows how to use `create-patch-baseline`.

**AWS CLI**

**Example 1: To create a patch baseline with auto-approval**

The following `create-patch-baseline` example creates a patch baseline for Windows Server that approves patches for a production environment seven days after they are released by Microsoft.

```bash
aws ssm create-patch-baseline \
    --name "Windows-Production-Baseline-AutoApproval" \
    --operating-system "WINDOWS"
```
--approval-rules
"PatchRules=[{PatchFilterGroup={PatchFilters=[[Key=MSRC_SEVERITY,Values=[Critical,Important,Moderate]],
{Key=CLASSIFICATION,Values=[SecurityUpdates,Updates,UpdateRollups,CriticalUpdates]]}],ApproveAfterDays=7}],

--description "Baseline containing all updates approved for Windows Server production systems"

Output:

{
   "BaselineId": "pb-045f10b4f3EXAMPLE"
}

Example 2: To create a patch baseline with an approval cutoff date

The following create-patch-baseline example creates a patch baseline for Windows Server that approves all patches for a production environment that are released on or before July 7, 2020.

```
aws ssm create-patch-baseline \
   --name "Windows-Production-Baseline-AutoApproval" \
   --operating-system "WINDOWS" \
   --approval-rules
"PatchRules=[{PatchFilterGroup={PatchFilters=[[Key=MSRC_SEVERITY,Values=[Critical,Important,Moderate]],
{Key=CLASSIFICATION,Values=[SecurityUpdates,Updates,UpdateRollups,CriticalUpdates]]}],ApproveUntilDate=2020-07-07}],

--description "Baseline containing all updates approved for Windows Server production systems"
```

Output:

```
{
   "BaselineId": "pb-045f10b4f3EXAMPLE"
}
```

Example 3: To create a patch baseline with approval rules stored in a JSON file

The following create-patch-baseline example creates a patch baseline for Amazon Linux 2017.09 that approves patches for a production environment seven days after they are released, specifies approval rules for the patch baseline, and specifies a custom repository for patches.
aws ssm create-patch-baseline \
  --cli-input-json file://my-amazon-linux-approval-rules-and-repo.json

Contents of `my-amazon-linux-approval-rules-and-repo.json`:

```json
{
    "Name": "Amazon-Linux-2017.09-Production-Baseline",
    "Description": "My approval rules patch baseline for Amazon Linux 2017.09 instances",
    "OperatingSystem": "AMAZON_LINUX",
    "Tags": [
      {
        "Key": "Environment",
        "Value": "Production"
      }
    ],
    "ApprovalRules": {
      "PatchRules": [
        {
          "ApproveAfterDays": 7,
          "EnableNonSecurity": true,
          "PatchFilterGroup": {
            "PatchFilters": [
              {
                "Key": "SEVERITY",
                "Values": [
                  "Important",
                  "Critical"
                ]
              },
              {
                "Key": "CLASSIFICATION",
                "Values": [
                  "Security",
                  "Bugfix"
                ]
              },
              {
                "Key": "PRODUCT",
                "Values": [
                  "AmazonLinux2017.09"
                ]
              }
            ]
          }
        }
      ]
    }
}
```
Example 4: To create a patch baseline that specifies approved and rejected patches

The following `create-patch-baseline` example explicitly specifies patches to approve and reject as exception to the default approval rules.

```bash
aws ssm create-patch-baseline 
   --name "Amazon-Linux-2017.09-Alpha-Baseline" 
   --description "My custom approve/reject patch baseline for Amazon Linux 2017.09 instances" 
   --operating-system "AMAZON_LINUX" 
   --approved-patches "CVE-2018-1234567,example-pkg-EE-2018*.amzn1.noarch" 
   --approved-patches-compliance-level "HIGH" 
   --approved-patches-enable-non-security 
   --tags "Key=Environment,Value=Alpha"
```

For more information, see [Create a Custom Patch Baseline](https://docs.aws.amazon.com/systems-manager/latest/userguide/patch-baseline.html) in the [AWS Systems Manager User Guide](https://docs.aws.amazon.com/systems-manager/latest/userguide/patch-baseline.html).


create-resource-data-sync

The following code example shows how to use `create-resource-data-sync`.

---

**Sources**: [ ]

- [ ]

"Configuration": "[amzn-main] \nname=amzn-main-Base
\nmirrorlist=http://repo./$awsregion./$awsdomain//$releasever/main/mirror.list //
\nmirrorlist_expire=300//nmetadata_expire=300 \npriority=10 \nfailovermethod=priority
\nfastestmirror_enabled=0 \ngpgcheck=1 \ngpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-amazon-ga \nenabled=1 \nretries=3 \ntimeout=5\nreport_instanceid=yes"
]"
**AWS CLI**

**To create a resource data sync**

This example creates a resource data sync. There is no output if the command succeeds.

Command:

```
aws ssm create-resource-data-sync --sync-name "ssm-resource-data-sync" --s3-destination "BucketName=ssm-bucket,Prefix=inventory,SyncFormat=JsonSerDe,Region=us-east-1"
```

- For API details, see [CreateResourceDataSync](https://docs.aws.amazon.com/cli/latest/reference/ssm/create-resource-data-sync.html) in *AWS CLI Command Reference*.

**delete-activation**

The following code example shows how to use delete-activation.

**AWS CLI**

**To delete a managed instance activation**

The following delete-activation example deletes a managed instance activation.

```
aws ssm delete-activation \
    --activation-id "aa673477-d926-42c1-8757-1358cEXAMPLE"
```

This command produces no output.

For more information, see [Setting Up AWS Systems Manager for Hybrid Environments](https://docs.aws.amazon.com/systems-manager/latest/userguide/systems-manager-environments.html) in the *AWS Systems Manager User Guide*.

- For API details, see [DeleteActivation](https://docs.aws.amazon.com/cli/latest/reference/ssm/delete-activation.html) in *AWS CLI Command Reference*.

**delete-association**

The following code example shows how to use delete-association.

**AWS CLI**

**Example 1: To delete an association using the association ID**
The following delete-association example deletes the association for the specified association ID. There is no output if the command succeeds.

```bash
aws ssm delete-association \
   --association-id "8dfe3659-4309-493a-8755-0123456789ab"
```

This command produces no output.

For more information, see Editing and creating a new version of an association in the AWS Systems Manager User Guide.

**Example 2: To delete an association**

The following delete-association example deletes the association between an instance and a document. There is no output if the command succeeds.

```bash
aws ssm delete-association \
   --instance-id "i-1234567890abcdef0" \
   --name "AWS-UpdateSSMAgent"
```

This command produces no output.

For more information, see Working with associations in Systems Manager in the AWS Systems Manager User Guide.

- For API details, see DeleteAssociation in AWS CLI Command Reference.

**delete-document**

The following code example shows how to use delete-document.

**AWS CLI**

**To delete a document**

The following delete-document example deletes a Systems Manager document.

```bash
aws ssm delete-document \
   --name "Example"
```

This command produces no output.
For more information, see Creating Systems Manager Documents in the AWS Systems Manager User Guide.

- For API details, see DeleteDocument in AWS CLI Command Reference.

delete-inventory

The following code example shows how to use delete-inventory.

AWS CLI

To delete a custom inventory type

This example deletes a custom inventory schema.

Command:

```
aws ssm delete-inventory --type-name "Custom:RackInfo" --schema-delete-option "DeleteSchema"
```

Output:

```
{
   "DeletionId": "d72ac9e8-1f60-4d40-b1c6-bf8c78c68c4d",
   "TypeName": "Custom:RackInfo",
   "DeletionSummary": {
      "TotalCount": 1,
      "RemainingCount": 1,
      "SummaryItems": [
         {
            "Version": "1.0",
            "Count": 1,
            "RemainingCount": 1
         }
      ]
   }
}
```

To disable a custom inventory type

This example disables a custom inventory schema.

Command:
aws ssm delete-inventory --type-name "Custom:RackInfo" --schema-delete-option "DisableSchema"

Output:

```
{
    "DeletionId": "6961492a-8163-44ec-aa1e-923364dd0850",
    "TypeName": "Custom:RackInformation",
    "DeletionSummary": {
        "TotalCount": 0,
        "RemainingCount": 0,
        "SummaryItems": []
    }
}
```

- For API details, see `DeleteInventory` in *AWS CLI Command Reference*.

---

**delete-maintenance-window**

The following code example shows how to use `delete-maintenance-window`.

**AWS CLI**

**To delete a maintenance window**

This `delete-maintenance-window` example removes the specified maintenance window.

```
aws ssm delete-maintenance-window \
    --window-id "mw-1a2b3c4d5e6f7g8h9"
```

Output:

```
{
    "WindowId": "mw-1a2b3c4d5e6f7g8h9"
}
```

For more information, see `Delete a Maintenance Window (AWS CLI)` in the *AWS Systems Manager User Guide*.

- For API details, see `DeleteMaintenanceWindow` in *AWS CLI Command Reference*. 
**delete-parameter**

The following code example shows how to use `delete-parameter`.

**AWS CLI**

**To delete a parameter**

The following `delete-parameter` example deletes the specified single parameter.

```bash
aws ssm delete-parameter \
   --name "MyParameter"
```

This command produces no output.

For more information, see [Working with Parameter Store](https://aws.amazon.com/documentation/systems-manager/examples/) in the *AWS Systems Manager User Guide*.

- For API details, see [DeleteParameter](https://docs.aws.amazon.com/cli/latest/reference/ssm/delete-parameter.html) in *AWS CLI Command Reference*.

**delete-parameters**

The following code example shows how to use `delete-parameters`.

**AWS CLI**

**To delete a list of parameters**

The following `delete-parameters` example deletes the specified parameters.

```bash
aws ssm delete-parameters \
   --names "MyFirstParameter" "MySecondParameter" "MyInvalidParameterName"
```

Output:

```
{
   "DeletedParameters": [
      "MyFirstParameter",
      "MySecondParameter"
   ],
   "InvalidParameters": [
      "MyInvalidParameterName"
   ]
}
```
For more information, see Working with Parameter Store in the AWS Systems Manager User Guide.

- For API details, see DeleteParameters in AWS CLI Command Reference.

**delete-patch-baseline**

The following code example shows how to use delete-patch-baseline.

**AWS CLI**

To delete a patch baseline

The following delete-patch-baseline example deletes the specified patch baseline.

```
aws ssm delete-patch-baseline \
  --baseline-id "pb-045f10b4f382baeda"
```

Output:

```
{
  "BaselineId": "pb-045f10b4f382baeda"
}  
```

For more information, see Update or Delete a Patch Baseline (Console) in the AWS Systems Manager User Guide.

- For API details, see DeletePatchBaseline in AWS CLI Command Reference.

**delete-resource-data-sync**

The following code example shows how to use delete-resource-data-sync.

**AWS CLI**

To delete a resource data sync

This example deletes a resource data sync. There is no output if the command succeeds.

Command:
aws ssm delete-resource-data-sync --sync-name "ssm-resource-data-sync"

- For API details, see `DeleteResourceDataSync` in *AWS CLI Command Reference*.

deregister-managed-instance

The following code example shows how to use `deregister-managed-instance`.

**AWS CLI**

To deregister a managed instance

The following deregister-managed-instance example deregisters the specified managed instance.

```bash
aws ssm deregister-managed-instance
   --instance-id "mi-08ab247cdfEXAMPLE"
```

This command produces no output.

For more information, see *Deregistering Managed Instances in a Hybrid Environment* in the *AWS Systems Manager User Guide*.
- For API details, see `DeregisterManagedInstance` in *AWS CLI Command Reference*.

deregister-patch-baseline-for-patch-group

The following code example shows how to use `deregister-patch-baseline-for-patch-group`.

**AWS CLI**

To deregister a patch group from a patch baseline

The following deregister-patch-baseline-for-patch-group example deregisters the specified patch group from the specified patch baseline.

```bash
aws ssm deregister-patch-baseline-for-patch-group \
   --patch-group "Production" \
   --baseline-id "pb-0ca44a362fEXAMPLE"
```
Actions and scenarios

Output:

```json
{
    "PatchGroup":"Production",
    "BaselineId":"pb-0ca44a362fEXAMPLE"
}
```

For more information, see Add a Patch Group to a Patch Baseline in the AWS Systems Manager User Guide.

- For API details, see DeregisterPatchBaselineForPatchGroup in AWS CLI Command Reference.

```bash
deregister-target-from-maintenance-window
```

The following code example shows how to use deregister-target-from-maintenance-window.

AWS CLI

To remove a target from a maintenance window

The following deregister-target-from-maintenance-window example removes the specified target from the specified maintenance window.

```
aws ssm deregister-target-from-maintenance-window \
  --window-id "mw-ab12cd34ef56gh78" \
  --window-target-id "1a2b3c4d-1a2b-1a2b-1a2b-1a2b3c4d-1a2"
```

Output:

```json
{
    "WindowId":"mw-ab12cd34ef56gh78",
    "WindowTargetId":"1a2b3c4d-1a2b-1a2b-1a2b-1a2b3c4d-1a2"
}
```

For more information, see Update a Maintenance Window (AWS CLI) in the AWS Systems Manager User Guide.

- For API details, see DeregisterTargetFromMaintenanceWindow in AWS CLI Command Reference.
deregister-task-from-maintenance-window

The following code example shows how to use `deregister-task-from-maintenance-window`.

**AWS CLI**

**To remove a task from a maintenance window**

The following `deregister-task-from-maintenance-window` example removes the specified task from the specified maintenance window.

```
aws ssm deregister-task-from-maintenance-window \
   --window-id "mw-ab12cd34ef56gh78" \
   --window-task-id "1a2b3c4d-1a2b-1a2b-1a2b-1a2b3c4d5e6c"
```

**Output:**

```
{
   "WindowTaskId":"1a2b3c4d-1a2b-1a2b-1a2b-1a2b3c4d5e6c",
   "WindowId":"mw-ab12cd34ef56gh78"
}
```


- For API details, see [DeregisterTaskFromMaintenanceWindow](https://docs.aws.amazon.com/systems-manager/latest/command-reference/deregister-task-from-maintenance-window.html) in [AWS CLI Command Reference](https).

describe-activations

The following code example shows how to use `describe-activations`.

**AWS CLI**

**To describe activations**

The following `describe-activations` example lists details about the activations in your AWS account.

```
aws ssm describe-activations
```

**Output:**
{  
    "ActivationList": [
        {
            "ActivationId": "5743558d-563b-4457-8682-d16c3EXAMPLE",
            "Description": "Example1",
            "IamRole": "HybridWebServersRole",
            "RegistrationLimit": 5,
            "RegistrationsCount": 5,
            "ExpirationDate": 1584316800.0,
            "Expired": false,
            "CreatedDate": 1581954699.792
        },
        {
            "ActivationId": "3ee0322b-f62d-40eb-b672-13ebfEXAMPLE",
            "Description": "Example2",
            "IamRole": "HybridDatabaseServersRole",
            "RegistrationLimit": 5,
            "RegistrationsCount": 5,
            "ExpirationDate": 1580515200.0,
            "Expired": true,
            "CreatedDate": 1578064132.002
        }
    ]
}

For more information, see Step 4: Create a Managed-Instance Activation for a Hybrid Environment in the AWS Systems Manager User Guide.

- For API details, see DescribeActivations in AWS CLI Command Reference.

describe-association

The following code example shows how to use describe-association.

AWS CLI

Example 1: To get details of an association

The following describe-association example describes the association for the specified association ID.

```bash
aws ssm describe-association
```
Output:

```
{
   "AssociationDescription": {
      "Name": "AWS-GatherSoftwareInventory",
      "AssociationVersion": "1",
      "Date": 1534864780.995,
      "LastUpdateAssociationDate": 1543235759.81,
      "Overview": {
         "Status": "Success",
         "AssociationStatusAggregatedCount": {
            "Success": 2
         }
      },
      "DocumentVersion": "$DEFAULT",
      "Parameters": {
         "applications": [
            "Enabled"
         ],
         "awsComponents": [
            "Enabled"
         ],
         "customInventory": [
            "Enabled"
         ],
         "files": [
            ""
         ],
         "instanceDetailedInformation": [
            "Enabled"
         ],
         "networkConfig": [
            "Enabled"
         ],
         "services": [
            "Enabled"
         ],
         "windowsRegistry": [
            ""
         ],
         "windowsRoles": [
```
"Enabled"
  ],
  "windowsUpdates": [
    "Enabled"
  ],
  "AssociationId": "8dfe3659-4309-493a-8755-0123456789ab",
  "Targets": [
    {
      "Key": "InstanceIds",
      "Values": [
        "*"
      ]
    },
    "ScheduleExpression": "rate(24 hours)",
    "LastExecutionDate": 1550501886.0,
    "LastSuccessfulExecutionDate": 1550501886.0,
    "AssociationName": "Inventory-Association"
  ]
}

For more information, see [Editing and creating a new version of an association](#) in the AWS Systems Manager User Guide.

**Example 2: To get details of an association for a specific instance and document**

The following describe-association example describes the association between an instance and a document.

```bash
aws ssm describe-association
  --instance-id "i-1234567890abcdef0" \
  --name "AWS-UpdateSSMAgent"
```

**Output:**

```json
{
  "AssociationDescription": {
    "Status": {
      "Date": 1487876122.564,
      "Message": "Associated with AWS-UpdateSSMAgent",
      "Name": "Associated"
    },
  }
}
```
For more information, see Editing and creating a new version of an association in the AWS Systems Manager User Guide.

- For API details, see DescribeAssociation in AWS CLI Command Reference.

**describe-association-execution-targets**

The following code example shows how to use describe-association-execution-targets.

**AWS CLI**

To get details of an association execution

The following describe-association-execution-targets example describes the specified association execution.

```
aws ssm describe-association-execution-targets \
  --association-id "8dfe3659-4309-493a-8755-0123456789ab" \
  --execution-id "7abb6378-a4a5-4f10-8312-0123456789ab"
```
Output:

```json
{
    "AssociationExecutionTargets": [
        {
            "AssociationId": "8dfe3659-4309-493a-8755-0123456789ab",
            "AssociationVersion": "1",
            "ExecutionId": "7abb6378-a4a5-4f10-8312-0123456789ab",
            "ResourceId": "i-1234567890abcdef0",
            "ResourceType": "ManagedInstance",
            "Status": "Success",
            "DetailedStatus": "Success",
            "LastExecutionDate": 1550505538.497,
            "OutputSource": {
                "OutputSourceId": "97fff367-fc5a-4299-aed8-0123456789ab",
                "OutputSourceType": "RunCommand"
            }
        }
    ]
}
```

For more information, see [Viewing association histories](https://docs.aws.amazon.com/AWSSimpleSystemsManager/latest/ug/association-view-history.html) in the *AWS Systems Manager User Guide*.

- For API details, see [DescribeAssociationExecutionTargets](https://docs.aws.amazon.com/cli/latest/reference/ssm/describe-association-executions.html) in *AWS CLI Command Reference*.

### describe-association-executions

The following code example shows how to use `describe-association-executions`.

#### AWS CLI

**Example 1: To get details of all executions for an association**

The following `describe-association-executions` example describes all executions of the specified association.

```bash
code
aws ssm describe-association-executions \
    --association-id "8dfe3659-4309-493a-8755-0123456789ab"
```

**Output:**

```json
{
}
```
For more information, see Viewing association histories in the AWS Systems Manager User Guide.

Example 2: To get details of all executions for an association after a specific date and time

The following describe-association-executions example describes all executions of an association after the specified date and time.

```bash
aws ssm describe-association-executions \
   --association-id "8dfe3659-4309-493a-8755-0123456789ab" \
   --filters "Key=CreatedTime,Value=2019-02-18T16:00:00Z,Type=GREATER_THAN"
```

Output:

```json
{
   "AssociationExecutions": [
      {
         "AssociationId": "8dfe3659-4309-493a-8755-0123456789ab",
         "AssociationVersion": "1",
         "ExecutionId": "474925ef-1249-45a2-b93d-0123456789ab",
         "Status": "Success",
         "DetailedStatus": "Success",
         "CreatedTime": 1550505827.119,
         "ResourceCountByStatus": "{Success=1}"
      },
      {
         "AssociationId": "8dfe3659-4309-493a-8755-0123456789ab",
         "AssociationVersion": "1",
         "ExecutionId": "7abb6378-a4a5-4f10-8312-0123456789ab",
         "Status": "Success",
         "DetailedStatus": "Success",
         "CreatedTime": 1550505536.843,
         "ResourceCountByStatus": "{Success=1}"
      },
      ...
   ]
}
```
For more information, see [Viewing association histories](#) in the [AWS Systems Manager User Guide](#).

- For API details, see [DescribeAssociationExecutions](#) in [AWS CLI Command Reference](#).

### describe-automation-executions

The following code example shows how to use describe-automation-executions.

**AWS CLI**

**To describe an automation execution**

The following describe-automation-executions example displays details about an Automation execution.

```
aws ssm describe-automation-executions \
   --filters Key=ExecutionId,Values=73c8eef8-f4ee-4a05-820c-e354fEXAMPLE
```

**Output:**

```
{
   "AutomationExecutionMetadataList": [
   {
      "AutomationExecutionId": "73c8eef8-f4ee-4a05-820c-e354fEXAMPLE",
      "DocumentName": "AWS-StartEC2Instance",
      "DocumentVersion": "1",
   }]
}
```
"AutomationExecutionStatus": "Success",
"ExecutionStartTimestamp": 1583737233.748,
"ExecutionEndTime": 1583737234.719,
"ExecutedBy": "arn:aws:sts::29884EXAMPLE:assumed-role/mw_service_role/OrchestrationService",
"LogFile": "",
"Outputs": {},
"Mode": "Auto",
"Targets": [],
"ResolvedTargets": {
   "ParameterValues": [],
   "Truncated": false
},
"AutomationType": "Local"
]}
]

For more information, see [Running a Simple Automation Workflow](https://docs.aws.amazon.com/systems-manager/latest/userguide/) in the *AWS Systems Manager User Guide*.

- For API details, see [DescribeAutomationExecutions](https://docs.aws.amazon.com/cli/latest/reference/ssm/describe-automation-executions.html) in *AWS CLI Command Reference*.

### describe-automation-step-executions

The following code example shows how to use `describe-automation-step-executions`.

**AWS CLI**

**Example 1: To describe all steps for an automation execution**

The following `describe-automation-step-executions` example displays details about the steps of an Automation execution.

```
aws ssm describe-automation-step-executions
  --automation-execution-id 73c8eef8-f4ee-4a05-820c-e354fEXAMPLE
```

**Output:**

```json
{
   "StepExecutions": [
      {
         "StepName": "startInstances",
```

**Actions and scenarios**
Example 2: To describe a specific step for an automation execution

The following describe-automation-step-executions example displays details about a specific step of an Automation execution.

```bash
aws ssm describe-automation-step-executions \
   --automation-execution-id 73c8eef8-f4ee-4a05-820c-e354fEXAMPLE \
   --filters Key=StepExecutionId,Values=95e70479-cf20-4d80-8018-7e4e2EXAMPLE
```

For more information, see Running an Automation Workflow Step by Step (Command Line) in the AWS Systems Manager User Guide.

- For API details, see DescribeAutomationStepExecutions in AWS CLI Command Reference.

describe-available-patches

The following code example shows how to use describe-available-patches.

AWS CLI

To get available patches

The following describe-available-patches example retrieves details about all available patches for Windows Server 2019 that have a MSRC severity of Critical.
aws ssm describe-available-patches \
   --filters "Key=PRODUCT,Values=WindowsServer2019" \
   "Key=MSRC_SEVERITY,Values=Critical"

Output:

```
{
   "Patches": [

   {
      "Id": "fe6bd8c2-3752-4c8b-ab3e-1a7ed08767ba",
      "ReleaseDate": 1544047205.0,
      "Title": "2018-11 Update for Windows Server 2019 for x64-based Systems (KB4470788)",
      "Description": "Install this update to resolve issues in Windows. For a complete listing of the issues that are included in this update, see the associated Microsoft Knowledge Base article for more information. After you install this item, you may have to restart your computer.",
      "ContentUrl": "https://support.microsoft.com/en-us/kb/4470788",
      "Vendor": "Microsoft",
      "ProductFamily": "Windows",
      "Product": "WindowsServer2019",
      "Classification": "SecurityUpdates",
      "MsrcSeverity": "Critical",
      "KbNumber": "KB4470788",
      "MsrcNumber": "",
      "Language": "All"
   },
   {
      "Id": "c96115e1-5587-4115-b851-22b8a46a3f11",
      "ReleaseDate": 1549994410.0,
      "Title": "2019-02 Security Update for Adobe Flash Player for Windows Server 2019 for x64-based Systems (KB4487038)",
      "Description": "A security issue has been identified in a Microsoft software product that could affect your system. You can help protect your system by installing this update from Microsoft. For a complete listing of the issues that are included in this update, see the associated Microsoft Knowledge Base article. After you install this update, you may have to restart your system.",
      "ContentUrl": "https://support.microsoft.com/en-us/kb/4487038",
      "Vendor": "Microsoft",
      "ProductFamily": "Windows",
      "Product": "WindowsServer2019",
      "Classification": "SecurityUpdates",
      "MsrcSeverity": "Critical",
      "KbNumber": "KB4487038",
      "MsrcNumber": "",
      "Language": "All"
   }
]
```
To get details of a specific patch

The following `describe-available-patches` example retrieves details about the specified patch.

```bash
aws ssm describe-available-patches \
  --filters "Key=PATCH_ID,Values=KB4480979"
```

Output:

```json
{
  "Patches": [
    {
      "Id": "680861e3-fb75-432e-818e-d72e5f2be719",
      "ReleaseDate": 1546970408.0,
      "Title": "2019-01 Security Update for Adobe Flash Player for Windows Server 2016 for x64-based Systems (KB4480979)",
      "Description": "A security issue has been identified in a Microsoft software product that could affect your system. You can help protect your system by installing this update from Microsoft. For a complete listing of the issues that are included in this update, see the associated Microsoft Knowledge Base article. After you install this update, you may have to restart your system."
    },
    {
      "ContentUrl": "https://support.microsoft.com/en-us/kb/4480979",
      "Vendor": "Microsoft",
      "ProductFamily": "Windows",
      "Product": "WindowsServer2016",
      "Classification": "SecurityUpdates",
      "MsrcSeverity": "Critical",
      "KbNumber": "KB4480979",
      "MsrcNumber": "",
      "Language": "All"
    }
  ]
}
```
For more information, see How Patch Manager Operations Work in the AWS Systems Manager User Guide.

- For API details, see DescribeAvailablePatches in AWS CLI Command Reference.

describe-document

The following code example shows how to use describe-document.

AWS CLI

To display details of a document

The following describe-document example displays details about a Systems Manager document in your AWS account.

```
aws ssm describe-document \
  --name "Example"
```

Output:

```
{
  "Document": {
    "Hash": "fc2410281f40779e694a8b95975d0f9f316da8a153daa94e3d9921102EXAMPLE",
    "HashType": "Sha256",
    "Name": "Example",
    "Owner": "29884EXAMPLE",
    "CreatedDate": 1583257938.266,
    "Status": "Active",
    "DocumentVersion": "1",
    "Description": "Document Example",
    "Parameters": [
      {
        "Name": "AutomationAssumeRole",
        "Type": "String",
        "Description": "(Required) The ARN of the role that allows Automation to perform the actions on your behalf. If no role is specified, Systems Manager Automation uses your IAM permissions to execute this document."
      },
      {
        "Name": "InstanceId",
        "Type": "String",
```
describe-document-permission

The following code example shows how to use describe-document-permission.

AWS CLI

To describe document permissions

The following describe-document-permission example displays permission details about a Systems Manager document that is shared publicly.

```bash
aws ssm describe-document-permission \   
   --name "Example" \   
   --permission-type "Share"
```

Output:

```json
{
   "AccountIds": [ 
      "all"
   ],
```
"AccountSharingInfoList": [  
  {  
    "AccountId": "all",  
    "SharedDocumentVersion": "$DEFAULT"
  }  
] 
}

For more information, see [Share a Systems Manager Document](https://aws.amazon.com/documentation/ssm/) in the *AWS Systems Manager User Guide*.

- For API details, see [DescribeDocumentPermission](https://docs.aws.amazon.com/cli/latest/reference/ssm/describe-document-permission.html) in *AWS CLI Command Reference*.

describe-effective-instance-associations

The following code example shows how to use `describe-effective-instance-associations`.

**AWS CLI**

**To get details of the effective associations for an instance**

The following `describe-effective-instance-associations` example retrieves details about the effective associations for an instance.

**Command:**

```bash
aws ssm describe-effective-instance-associations --instance-id "i-1234567890abcdef0"
```

**Output:**

```json
{
    "Associations": [  
        {  
            "AssociationId": "8dfe3659-4309-493a-8755-0123456789ab",
            "InstanceId": "i-1234567890abcdef0",
            "Content": "{  
                "schemaVersion": "1.2",
                "description": "Update the Amazon SSM Agent to the latest version or specified version.\n                "parameters": {  
                    "version": {  
                        "default": "",  
                        "description": "(Optional) A specific version of the Amazon SSM Agent to install. If not specified, the agent will be updated to the latest version.\n                        "allowDowngrade": {  
                            "default": "false"  
                        }
                    }
                }
            }
        }
    ]
}
```
Allow the Amazon SSM Agent service to be downgraded to an earlier version. If set to false, the service can be upgraded to newer versions only (default). If set to true, specify the earlier version.

```json
"allowDowngrade": "{{ allowDowngrade }}",
"targetVersion": "{{ version }}"
```

For API details, see [DescribeEffectiveInstanceAssociations](https://docs.aws.amazon.com/cli/latest/reference/ssm/describe-effective-instance-associations.html) in AWS CLI Command Reference.

### describe-effective-patches-for-patch-baseline

The following code example shows how to use `describe-effective-patches-for-patch-baseline`.

#### AWS CLI

**Example 1: To get all patches defined by a custom patch baseline**

The following `describe-effective-patches-for-patch-baseline` example returns the patches defined by a custom patch baseline in the current AWS account. Note that for a custom baseline, only the ID is required for `--baseline-id`.

```bash
aws ssm describe-effective-patches-for-patch-baseline \
--baseline-id "pb-08b654cf9b9681f04"
```

**Output:**

```json
{
  "EffectivePatches": [
    {
      "Patch": {
        "Id": "fe6bd8c2-3752-4c8b-ab3e-1a7ed08767ba",
        "ReleaseDate": 1544047205.0,
    }
  ]
```

Actions and scenarios 5826
"Title": "2018-11 Update for Windows Server 2019 for x64-based Systems (KB4470788)",
"Description": "Install this update to resolve issues in Windows. For a complete listing of the issues that are included in this update, see the associated Microsoft Knowledge Base article for more information. After you install this item, you may have to restart your computer."
"ContentUrl": "https://support.microsoft.com/en-us/kb/4470788",
"Vendor": "Microsoft",
"ProductFamily": "Windows",
"Product": "WindowsServer2019",
"Classification": "SecurityUpdates",
"MsrgSeverity": "Critical",
"KbNumber": "KB4470788",
"MsrgNumber": "",
"Language": "All"

"PatchStatus": {
"DeploymentStatus": "APPROVED",
"ComplianceLevel": "CRITICAL",
"ApprovalDate": 1544047205.0
}

"Patch": {
"Id": "915a6b1a-f556-4d83-8f50-b2e75a9a7e58",
"ReleaseDate": 1549994400.0,
"Title": "2019-02 Cumulative Update for .NET Framework 3.5 and 4.7.2 for Windows Server 2019 for x64 (KB4483452)",
"Description": "A security issue has been identified in a Microsoft software product that could affect your system. You can help protect your system by installing this update from Microsoft. For a complete listing of the issues that are included in this update, see the associated Microsoft Knowledge Base article. After you install this update, you may have to restart your system."
"ContentUrl": "https://support.microsoft.com/en-us/kb/4483452",
"Vendor": "Microsoft",
"ProductFamily": "Windows",
"Product": "WindowsServer2019",
"Classification": "SecurityUpdates",
"MsrgSeverity": "Important",
"KbNumber": "KB4483452",
"MsrgNumber": "",
"Language": "All"

"PatchStatus": {
Example 2: To get all patches defined by an AWS managed patch baseline

The following describe-effective-patches-for-patch-baseline example returns the patches defined by an AWS managed patch baseline. Note that for an AWS managed baseline, the complete baseline ARN is required for --baseline-id.

```
aws ssm describe-effective-patches-for-patch-baseline \
  --baseline-id "arn:aws:ssm:us-east-2:733109147000:patchbaseline/pb-020d361a05defe4ed"
```

See example 1 for sample output.

For more information, see How Security Patches Are Selected in the AWS Systems Manager User Guide.

- For API details, see DescribeEffectivePatchesForPatchBaseline in AWS CLI Command Reference.

describe-instance-associations-status

The following code example shows how to use describe-instance-associations-status.

**AWS CLI**

To describe the status of an instance's associations

This example shows details of the associations for an instance.

Command:

```
aws ssm describe-instance-associations-status --instance-id "i-1234567890abcdef0"
```
Output:

```json
{
  "InstanceAssociationStatusInfos": [
    {
      "AssociationId": "8dfe3659-4309-493a-8755-0123456789ab",
      "Name": "AWS-GatherSoftwareInventory",
      "DocumentVersion": "1",
      "AssociationVersion": "1",
      "InstanceId": "i-1234567890abcdef0",
      "ExecutionDate": 1550501886.0,
      "Status": "Success",
      "ExecutionSummary": "1 out of 1 plugin processed, 1 success, 0 failed, 0 timedout, 0 skipped. ",
      "AssociationName": "Inventory-Association"
    },
    {
      "AssociationId": "5c5a31f6-6dae-46f9-944c-0123456789ab",
      "Name": "AWS-UpdateSSMAgent",
      "DocumentVersion": "1",
      "AssociationVersion": "1",
      "InstanceId": "i-1234567890abcdef0",
      "ExecutionDate": 1550505828.548,
      "Status": "Success",
      "DetailedStatus": "Success",
      "AssociationName": "UpdateSSMAgent"
    }
  ]
}
```

- For API details, see [DescribeInstanceAssociationsStatus](https://docs.aws.amazon.com/cli/latest/reference/ec2/describe-instance-associations-status.html) in *AWS CLI Command Reference*.

**describe-instance-information**

The following code example shows how to use `describe-instance-information`.

**AWS CLI**

**Example 1: To describe managed instance information**

The following `describe-instance-information` example retrieves details of each of your managed instances.
aws ssm describe-instance-information

**Example 2: To describe information about a specific managed instance**

The following describe-instance-information example shows details of the managed instance i-028ea792daEXAMPLE.

```bash
aws ssm describe-instance-information \
   --filters "Key=InstanceIds,Values=i-028ea792daEXAMPLE"
```

**Example 3: To describe information about managed instances with a specific tag key**

The following describe-instance-information example shows details for managed instances that have the tag key DEV.

```bash
aws ssm describe-instance-information \
   --filters "Key=tag-key,Values=DEV"
```

**Output:**

```json
{
   "InstanceInformationList": [
      {
         "InstanceId": "i-028ea792daEXAMPLE",
         "PingStatus": "Online",
         "LastPingDateTime": 1582221233.421,
         "AgentVersion": "2.3.842.0",
         "IsLatestVersion": true,
         "PlatformType": "Linux",
         "PlatformName": "SLES",
         "PlatformVersion": "15.1",
         "ResourceType": "EC2Instance",
         "IPAddress": "192.0.2.0",
         "ComputerName": "ip-198.51.100.0.us-east-2.compute.internal",
         "AssociationStatus": "Success",
         "LastAssociationExecutionDate": 1582220806.0,
         "LastSuccessfulAssociationExecutionDate": 1582220806.0,
         "AssociationOverview": {
            "DetailedStatus": "Success",
            "InstanceAssociationStatusAggregatedCount": {
               "Success": 2
            }
         }
      }
   ]
}```
For more information, see Managed Instances in the AWS Systems Manager User Guide.

- For API details, see DescribeInstanceInformation in AWS CLI Command Reference.

describe-instance-patch-states

The following code example shows how to use describe-instance-patch-states.

AWS CLI

To get the patch summary states for instances

This describe-instance-patch-states example gets the patch summary states for an instance.

```bash
aws ssm describe-instance-patch-states \
   --instance-ids "i-1234567890abcdef0"
```

Output:

```json
{
   "InstancePatchStates": [
      {
         "InstanceId": "i-1234567890abcdef0",
         "PatchGroup": "my-patch-group",
         "BaselineId": "pb-0713accee01234567",
         "SnapshotId": "521c3536-930c-4aa9-950e-01234567abcd",
         "CriticalNonCompliantCount": 2,
         "SecurityNonCompliantCount": 2,
         "OtherNonCompliantCount": 1,
         "InstalledCount": 123,
         "InstalledOtherCount": 334,
         "InstalledPendingRebootCount": 0,
         "InstalledRejectedCount": 0,
         "MissingCount": 1,
         "FailedCount": 2,
         "UnreportedNotApplicableCount": 11,
         "NotApplicableCount": 2063
      }
   ]
}
```
For more information, see About Patch Compliance in the AWS Systems Manager User Guide.

- For API details, see DescribeInstancePatchStates in AWS CLI Command Reference.

describe-instance-patch-states-for-patch-group

The following code example shows how to use describe-instance-patch-states-for-patch-group.

**AWS CLI**

**Example 1: To get the instance states for a patch group**

The following describe-instance-patch-states-for-patch-group example retrieves details about the patch summary states per-instance for the specified patch group.

```bash
aws ssm describe-instance-patch-states-for-patch-group \  --patch-group "Production"
```

Output:

```json
{
   "InstancePatchStates": [
      {
         "InstanceId": "i-02573cafcfEXAMPLE",
         "PatchGroup": "Production",
         "BaselineId": "pb-0c10e65780EXAMPLE",
         "SnapshotId": "a3f5ff34-9bc4-4d2c-a665-4d1c1EXAMPLE",
         "OwnerInformation": "",
         "InstalledCount": 32,
         "InstalledOtherCount": 1,
         "InstalledPendingRebootCount": 0,
         "InstalledRejectedCount": 0,
         "MissingCount": 2,
```
Example 2: To get the instance states for a patch group with more than five missing patches

The following `describe-instance-patch-states-for-patch-group` example retrieves details about the patch summary states for the specified patch group for instances with more than five missing patches.

```
aws ssm describe-instance-patch-states-for-patch-group \
```
Output:

```
{
   "InstancePatchStates": [
   {
      "InstanceId": "i-02573cafcfEXAMPLE",
      "PatchGroup": "Production",
      "BaselineId": "pb-0c10e65780EXAMPLE",
      "SnapshotId": "a3f5ff34-9bc4-4d2c-a665-4d1c1EXAMPLE",
      "OwnerInformation": "",
      "InstalledCount": 46,
      "InstalledOtherCount": 4,
      "InstalledPendingRebootCount": 1,
      "InstalledRejectedCount": 1,
      "MissingCount": 7,
      "FailedCount": 0,
      "UnreportedNotApplicableCount": 232,
      "NotApplicableCount": 654,
      "OperationStartTime": "2021-08-04T11:03:50.590000-07:00",
      "OperationEndTime": "2021-08-04T11:04:21.555000-07:00",
      "Operation": "Scan",
      "RebootOption": "NoReboot",
      "CriticalNonCompliantCount": 0,
      "SecurityNonCompliantCount": 1,
      "OtherNonCompliantCount": 1
   }
   ]
}
```

Example 3: To get the instance states for a patch group with fewer than ten instances that require a reboot

The following describe-instance-patch-states-for-patch-group example retrieves details about the patch summary states for the specified patch group for instances with fewer than ten instances requiring a reboot.

```
aws ssm describe-instance-patch-states-for-patch-group \
   --filters Key=InstalledPendingRebootCount,Type=LessThan,Values=10 \ 
   --patch-group "Production"
```
Output:

{
   "InstancePatchStates": [
   {
      "InstanceId": "i-02573cacf65EXAMPLE",
      "BaselineId": "pb-0c10e65780EXAMPLE",
      "SnapshotId": "a3f5ff34-9bc4-4d2c-a665-4d1c1EXAMPLE",
      "PatchGroup": "Production",
      "OwnerInformation": "",
      "InstalledCount": 32,
      "InstalledOtherCount": 1,
      "InstalledPendingRebootCount": 4,
      "InstalledRejectedCount": 0,
      "MissingCount": 2,
      "FailedCount": 0,
      "UnreportedNotApplicableCount": 846,
      "NotApplicableCount": 212,
      "OperationStartTime": "2021-08-06T11:03:50.590000-07:00",
      "OperationEndTime": "2021-08-06T11:04:21.555000-07:00",
      "Operation": "Scan",
      "RebootOption": "NoReboot",
      "CriticalNonCompliantCount": 0,
      "SecurityNonCompliantCount": 1,
      "OtherNonCompliantCount": 0
   }
   ]
}

For more information, see [Understanding patch compliance state values](#) in the *AWS Systems Manager User Guide*.

- For API details, see [DescribeInstancePatchStatesForPatchGroup](#) in *AWS CLI Command Reference*.

**describe-instance-patches**

The following code example shows how to use `describe-instance-patches`.

**AWS CLI**

**Example 1: To get the patch state details for an instance**
The following `describe-instance-patches` example retrieves details about the patches for the specified instance.

```
aws ssm describe-instance-patches \
   --instance-id "i-1234567890abcdef0"
```

Output:

```
{
   "Patches": [
     {
       "Title": "2019-01 Security Update for Adobe Flash Player for Windows Server 2016 for x64-based Systems (KB4480979)",
       "KBId": "KB4480979",
       "Classification": "SecurityUpdates",
       "Severity": "Critical",
       "State": "Installed",
       "InstalledTime": "2019-01-09T00:00:00+00:00"
     },
     {
       "Title": "",
       "KBId": "KB4481031",
       "Classification": "",
       "Severity": "",
       "State": "InstalledOther",
       "InstalledTime": "2019-02-08T00:00:00+00:00"
     },
     ...
   ],
   "NextToken": "--token string truncated--"
}
```

**Example 2: To get a list of patches in the Missing state for an instance**

The following `describe-instance-patches` example retrieves information about patches that are in the Missing state for the specified instance.

```
aws ssm describe-instance-patches \
   --instance-id "i-1234567890abcdef0" \
   --filters Key=State,Values=Missing
```

Output:
For more information, see [About Patch Compliance States](https://docs.aws.amazon.com/systems-manager/latest/userguide/patch-compliance-overview.html) in the *[AWS Systems Manager User Guide](https://docs.aws.amazon.com/systems-manager/latest/userguide/)*.

**Example 3: To get a list of patches installed since a specified InstalledTime for an instance**

The following `describe-instance-patches` example retrieves information about patches installed since a specified time for the specified instance by combining the use of `--filters` and `--query`.

```bash
aws ssm describe-instance-patches \
  --instance-id "i-1234567890abcdef0" \
  --filters Key=State,Values=Installed \
  --query "Patches[?InstalledTime >= `2023-01-01T16:00:00+00:00`]"
```

**Output:**

```json
{
  "Patches": [
    {
      "Title": "2023-03 Cumulative Update for Windows Server 2019 (1809) for x64-based Systems (KB5023702)",
      "KBId": "KB5023702",
      "Classification": "SecurityUpdates",
      "Severity": "Critical",
      "State": "Installed",
      "InstalledTime": "2023-03-16T11:00:00+00:00"
    }
  ],
  "NextToken": "--token string truncated--"}
```
For API details, see `DescribeInstancePatches` in *AWS CLI Command Reference*.

describe-inventory-deletions

The following code example shows how to use `describe-inventory-deletions`.

**AWS CLI**

To get inventory deletions

This example retrieves details for inventory deletion operations.

Command:

```bash
aws ssm describe-inventory-deletions
```

Output:

```json
{
  "InventoryDeletions": [
    {
      "DeletionId": "6961492a-8163-44ec-aa1e-01234567850",
      "TypeName": "Custom:RackInformation",
      "DeletionStartTime": 1550254911.0,
      "LastStatus": "InProgress",
      "LastStatusMessage": "The Delete is in progress",
      "DeletionSummary": {
        "TotalCount": 0,
        "RemainingCount": 0,
        "SummaryItems": []
      },
      "LastStatusUpdateTime": 1550254911.0
    },
    {
      "DeletionId": "d72ac9e8-1f60-4d40-b1c6-987654321c4d",
      "TypeName": "Custom:RackInfo",
      "DeletionStartTime": 1550254859.0,
    }
  ]
}
```
To get details of a specific inventory deletion

This example retrieves details for a specific inventory deletion operation.

Command:

```
aws ssm describe-inventory-deletions --deletion-id "d72ac9e8-1f60-4d40-b1c6-987654321c4d"
```

Output:

```
{
    "InventoryDeletions": [
        {
            "DeletionId": "d72ac9e8-1f60-4d40-b1c6-987654321c4d",
            "TypeName": "Custom:RackInfo",
            "DeletionStartTime": 1550254859.0,
            "LastStatus": "InProgress",
            "LastStatusMessage": "The Delete is in progress",
            "DeletionSummary": {
                "TotalCount": 1,
                "RemainingCount": 1,
                "SummaryItems": [
                    {
                        "Version": "1.0",
                        "Count": 1,
                        "RemainingCount": 1
                    }
                ]
            }
        }
    ]
}
```
The following code example shows how to use `describe-maintenance-window-execution-task-invocations`.

**AWS CLI**

To get the specific task invocations performed for a maintenance window task execution

The following `describe-maintenance-window-execution-task-invocations` example lists the invocations for the specified task executed as part of the specified maintenance window execution.

```bash
aws ssm describe-maintenance-window-execution-task-invocations 
  --window-execution-id "518d5565-5969-4cca-8f0e-da3b2a638355" 
  --task-id "ac0c6ae1-daa3-4a89-832e-d384503b6586"
```

Output:

```json
{
  "WindowExecutionTaskInvocationIdentities": [
    {
      "Status": "SUCCESS",
      "Parameters": "{\"documentName\":\"AWS-RunShellScript\",\"instanceIds\": ["i-0000293fffd8c57862"], \"parameters\": {\"commands\": [\"df\"], \"maxConcurrency\": \"1\", \"maxErrors\": \"1\"}},
      "InvocationId": "e274b6e1-fe56-4e32-bd2a-8073c6381d8b",
      "StartTime": 1487692834.723,
      "EndTime": 1487692834.871,
      "WindowExecutionId": "518d5565-5969-4cca-8f0e-da3b2a638355",
      ...
    }
  ]
}
```
For more information, see [View Information About Tasks and Task Executions (AWS CLI)](https://docs.aws.amazon.com/systems-manager/latest/userguide/ssm-view-tasks.html) in the [AWS Systems Manager User Guide](https://docs.aws.amazon.com/systems-manager/latest/userguide/).


**describe-maintenance-window-execution-tasks**

The following code example shows how to use `describe-maintenance-window-execution-tasks`.

**AWS CLI**

To list all tasks associated with a maintenance window execution

The following `ssm describe-maintenance-window-execution-tasks` example lists the tasks associated with the specified maintenance window execution.

```bash
aws ssm describe-maintenance-window-execution-tasks \
--window-execution-id "518d5565-5969-4cca-8f0e-da3b2EXAMPLE"
```

Output:

```json
{
  "WindowExecutionTaskIdentities": [
    {
      "Status": "SUCCESS",
      "TaskArn": "AWS-RunShellScript",
      "StartTime": 1487692834.684,
      "TaskType": "RUN_COMMAND",
      "EndTime": 1487692835.005,
      "WindowExecutionId": "518d5565-5969-4cca-8f0e-da3b2EXAMPLE",
      "TaskExecutionId": "ac0c6ae1-daa3-4a89-832e-d384503b6586"
    }
  ]
}
```
For more information, see View Information About Tasks and Task Executions (AWS CLI) in the AWS Systems Manager User Guide.

- For API details, see DescribeMaintenanceWindowExecutionTasks in AWS CLI Command Reference.

describe-maintenance-window-executions

The following code example shows how to use describe-maintenance-window-executions.

AWS CLI

Example 1: To list all executions for a maintenance window

The following describe-maintenance-window-executions example lists all of the executions for the specified maintenance window.

```
aws ssm describe-maintenance-window-executions \
   --window-id "mw-ab12cd34eEXAMPLE"
```

Output:

```
{
   "WindowExecutions": [
   {
      "WindowId": "mw-ab12cd34eEXAMPLE",
      "WindowExecutionId": "6027b513-64fe-4cf0-be7d-1191aEXAMPLE",
      "Status": "IN_PROGRESS",
      "StartTime": "2021-08-04T11:00:00.000000-07:00"
   },
   {
      "WindowId": "mw-ab12cd34eEXAMPLE",
      "WindowExecutionId": "ff75b750-4834-4377-8f61-b3cadEXAMPLE",
      "Status": "SUCCESS",
      "StartTime": "2021-08-03T11:00:00.000000-07:00",
      "EndTime": "2021-08-03T11:37:21.450000-07:00"
   },
   {
      "WindowId": "mw-ab12cd34eEXAMPLE",
      "WindowExecutionId": "9fac7dd9-ff21-42a5-96ad-bbc4bEXAMPLE",
      "Status": "FAILED",
```
Example 2: To list all executions for a maintenance window before a specified date

The following `describe-maintenance-window-executions` example lists all of the executions for the specified maintenance window before the specified date.

```bash
call ssm describe-maintenance-window-executions \
    --window-id "mw-ab12cd34eEXAMPLE" \
    --filters "Key=ExecutedBefore,Values=2021-08-03T00:00:00Z"
```

Output:

```
{
    "WindowExecutions": [
        {
            "WindowId": "mw-ab12cd34eEXAMPLE",
            "WindowExecutionId": "9fac7dd9-ff21-42a5-96ad-bbc4bEXAMPLE",
            "Status": "FAILED",
            "StatusDetails": "One or more tasks in the orchestration failed."
        }
    ]
}
```

Example 3: To list all executions for a maintenance window after a specified date

The following `describe-maintenance-window-executions` example lists all of the executions for the specified maintenance window after the specified date.

```bash
call ssm describe-maintenance-window-executions \
    --window-id "mw-ab12cd34eEXAMPLE" \
    --filters "Key=ExecutedAfter,Values=2021-08-04T00:00:00Z"
```

Output:

```
{
    "WindowExecutions": [
        {
            "WindowId": "mw-ab12cd34eEXAMPLE",
            "WindowExecutionId": "9fac7dd9-ff21-42a5-96ad-bbc4bEXAMPLE",
            "Status": "FAILED",
            "StatusDetails": "One or more tasks in the orchestration failed."
        }
    ]
}
```
describe-maintenance-window-schedule

The following code example shows how to use describe-maintenance-window-schedule.

AWS CLI

Example 1: To list upcoming executions for a maintenance window

The following describe-maintenance-window-schedule example lists all upcoming executions for the specified maintenance window.

```
aws ssm describe-maintenance-window-schedule \
  --window-id mw-ab12cd34eEXAMPLE
```

Output:

```json
{
  "ScheduledWindowExecutions": [
    {
      "WindowId": "mw-ab12cd34eEXAMPLE",
      "Name": "My-First-Maintenance-Window",
      "ExecutionTime": "2020-02-19T16:00Z"
    },
    {
      "WindowId": "mw-ab12cd34eEXAMPLE",
      "Name": "My-First-Maintenance-Window",
      "ExecutionTime": "2020-02-19T16:00Z"
    }
  ]
}
```
Example 2: To list all upcoming executions for a maintenance window before a specified date

The following describe-maintenance-window-schedule example lists all upcoming executions for the specified maintenance window that occur before the specified date.

```
aws ssm describe-maintenance-window-schedule \
--window-id mw-0ecb1226dd7b2e9a6 \
--filters "Key=ScheduledBefore,Values=2020-02-15T06:00:00Z"
```

Example 3: To list all upcoming executions for a maintenance window after a specified date

The following describe-maintenance-window-schedule example lists all upcoming executions for the specified maintenance window that occur after the specified date.

```
aws ssm describe-maintenance-window-schedule \
--window-id mw-0ecb1226dd7b2e9a6 \
--filters "Key=ScheduledAfter,Values=2020-02-15T06:00:00Z"
```

For more information, see View Information About Maintenance Windows (AWS CLI) in the AWS Systems Manager User Guide.

- For API details, see DescribeMaintenanceWindowSchedule in AWS CLI Command Reference.

describe-maintenance-window-targets

The following code example shows how to use describe-maintenance-window-targets.

**AWS CLI**

**Example 1: To list all targets for a Maintenance Window**

The following describe-maintenance-window-targets example lists all of the targets for a maintenance window.

```
aws ssm describe-maintenance-window-targets \
```
Example 2: To list all targets for a maintenance window matching a specific owner information value

This describe-maintenance-window-targets example lists all of the targets for a maintenance window with a specific value.
aws ssm describe-maintenance-window-targets \
  --window-id "mw-0ecb1226ddEXAMPLE" \
  --filters "Key=OwnerInformation,Values=CostCenter1"

Output:

```json
{
    "Targets": [
        {
            "WindowId": "mw-0ecb1226ddEXAMPLE",
            "WindowTargetId": "da89dcc3-7f9c-481d-ba2b-edcb7d0057f9",
            "ResourceType": "INSTANCE",
            "Targets": [
                {
                    "Key": "tag:Environment",
                    "Values": [
                        "Prod"
                    ]
                }
            ],
            "OwnerInformation": "CostCenter1",
            "Name": "ProdTarget1"
        }
    ]
}
```

For more information, see View Information About Maintenance Windows (AWS CLI) in the AWS Systems Manager User Guide.

- For API details, see DescribeMaintenanceWindowTargets in AWS CLI Command Reference.

**describe-maintenance-window-tasks**

The following code example shows how to use describe-maintenance-window-tasks.

**AWS CLI**

**Example 1: To list all tasks for a maintenance window**

The following describe-maintenance-window-tasks example lists all of the tasks for the specified maintenance window.
aws ssm describe-maintenance-window-tasks \
--window-id "mw-06cf17cbeEXAMPLE"

Output:

```json
{
  "Tasks": [
  {
    "WindowId": "mw-06cf17cbeEXAMPLE",
    "WindowTaskId": "018b31c3-2d77-4b9e-bd48-c91edEXAMPLE",
    "TaskArn": "AWS-RestartEC2Instance",
    "TaskParameters": {},
    "Type": "AUTOMATION",
    "Description": "Restarting EC2 Instance for maintenance",
    "MaxConcurrency": "1",
    "MaxErrors": "1",
    "Name": "My-Automation-Example-Task",
    "Priority": 0,
    "ServiceRoleArn": "arn:aws:iam::111222333444:role/aws-service-role/ssm.amazonaws.com/AWSServiceRoleForAmazonSSM",
    "Targets": [
      {
        "Key": "WindowTargetIds",
        "Values": [
          "da89dccc-7f9c-481d-ba2b-edcb7EXAMPLE"
        ]
      }
    ]
  },
  {
    "WindowId": "mw-06cf17cbeEXAMPLE",
    "WindowTaskId": "1943dee0-0a17-4978-9bf4-3cc2fEXAMPLE",
    "TaskArn": "AWS-DisableS3BucketPublicReadWrite",
    "TaskParameters": {},
    "Type": "AUTOMATION",
    "Description": "Automation task to disable read/write access on public S3 buckets",
    "MaxConcurrency": "10",
    "MaxErrors": "5",
    "Name": "My-Disable-S3-Public-Read-Write-Access-Automation-Task",
    "Priority": 0,
    "ServiceRoleArn": "arn:aws:iam::111222333444:role/aws-service-role/ssm.amazonaws.com/AWSServiceRoleForAmazonSSM",
  }
}
Example 2: To list all tasks for a maintenance window that invokes the AWS-RunPowerShellScript command document

The following describe-maintenance-window-tasks example lists all of the tasks for the specified maintenance window that invokes the AWS-RunPowerShellScript command document.

```
aws ssm describe-maintenance-window-tasks \
   --window-id "mw-ab12cd34eEXAMPLE" \
   --filters "Key=TaskArn,Values=AWS-RunPowerShellScript"
```

Output:

```
{
   "Tasks": [
      {
         "WindowId": "mw-ab12cd34eEXAMPLE",
         "WindowTaskId": "0d36e6b4-3a4f-411e-adcb-3558eEXAMPLE",
         "TaskArn": "AWS-RunPowerShellScript",
         "Type": "RUN_COMMAND",
         "Targets": [
            {
               "Key": "WindowTargetIds",
               "Values": [
                  "da89dcc3-7f9c-481d-ba2b-edcb7EXAMPLE"
               ]
            }
         ],
         "TaskParameters": {},
         "Priority": 1,
      },
      {
         "WindowId": "mw-ab12cd34eEXAMPLE",
         "WindowTaskId": "0d36e6b4-3a4f-411e-adcb-3558eEXAMPLE",
         "TaskArn": "AWS-RunPowerShellScript",
         "Type": "RUN_COMMAND",
         "Targets": [
            {
               "Key": "WindowTargetIds",
               "Values": [
                  "da89dcc3-7f9c-481d-ba2b-edcb7EXAMPLE"
               ]
            }
         ],
         "TaskParameters": {},
         "Priority": 1,
      }
   ]
}
```
Example 3: To list all tasks for a maintenance window that have a Priority of 3

The following describe-maintenance-window-tasks example lists all of the tasks for the specified maintenance window that have a Priority of 3.

```bash
aws ssm describe-maintenance-window-tasks \
--window-id "mw-ab12cd34eEXAMPLE" \
--filters "Key=Priority,Values=3"
```

Output:

```json
{
   "Tasks": [
      {
         "WindowId": "mw-ab12cd34eEXAMPLE",
         "WindowTaskId": "0d36e6b4-3a4f-411e-adcb-3558eEXAMPLE",
         "TaskArn": "AWS-RunPowerShellScript",
         "Type": "RUN_COMMAND",
         "Targets": [
            {
               "Key": "WindowTargetIds",
               "Values": ["da89dcc3-7f9c-481d-ba2b-edcb7EXAMPLE"]
            }
         ],
         "TaskParameters": {},
         "Priority": 3,
         "ServiceRoleArn": "arn:aws:iam::111222333444:role/aws-service-role/ssm.amazonaws.com/AWSServiceRoleForAmazonSSM",
         "MaxConcurrency": "1",
         "MaxErrors": "1",
         "Name": "MyRunCommandTask"
      }
   ]
}
```
Example 4: To list all tasks for a maintenance window that have a Priority of 1 and use Run Command

This `describe-maintenance-window-tasks` example lists all of the tasks for the specified maintenance window that have a Priority of 1 and use Run Command.

```
aws ssm describe-maintenance-window-tasks \
--window-id "mw-ab12cd34eEXAMPLE" \
--filters "Key=Priority,Values=1" "Key=TaskType,Values=RUN_COMMAND"
```

Output:

```
{
  "Tasks": [
    {
      "WindowId": "mw-ab12cd34eEXAMPLE",
      "WindowTaskId": "0d36e6b4-3a4f-411e-adcb-3558eEXAMPLE",
      "TaskArn": "AWS-untitled-maintenance-window"
    }
  ]
}
```
For more information, see View information about maintenance windows (AWS CLI) in the AWS Systems Manager User Guide.

- For API details, see DescribeMaintenanceWindowTasks in AWS CLI Command Reference.

describe-maintenance-windows

The following code example shows how to use describe-maintenance-windows.

AWS CLI

Example 1: To list all maintenance windows

The following describe-maintenance-windows example lists all maintenance windows in your AWS account in the current Region.

```bash
aws ssm describe-maintenance-windows
```

Output:

```json
{

```
Example 2: To list all enabled maintenance windows

The following describe-maintenance-windows example lists all enabled maintenance windows.

```
aws ssm describe-maintenance-windows \
    --filters "Key=Enabled,Values=true"
```

Example 3: To list maintenance windows matching a specific name

This describe-maintenance-windows example lists all maintenance windows with the specified name.

```
aws ssm describe-maintenance-windows \
    --filters "Key=Name,Values=MyMaintenanceWindow"
```

For more information, see View Information About Maintenance Windows (AWS CLI) in the AWS Systems Manager User Guide.

- For API details, see DescribeMaintenanceWindows in AWS CLI Command Reference.
**describe-maintenance-windows-for-target**

The following code example shows how to use `describe-maintenance-windows-for-target`.

**AWS CLI**

To list all maintenance windows associated with a specific instance

The following `describe-maintenance-windows-for-target` example lists the maintenance windows that have targets or tasks associated with the specified instance.

```bash
aws ssm describe-maintenance-windows-for-target \
  --targets Key=InstanceIds,Values=i-1234567890EXAMPLE \
  --resource-type INSTANCE
```

Output:

```json
{
  "WindowIdentities": [
    {
      "WindowId": "mw-0c5ed765acEXAMPLE",
      "Name": "My-First-Maintenance-Window"
    }
  ]
}
```

For more information, see [View Information About Maintenance Windows (AWS CLI)](https://docs.aws.amazon.com/SSM/latest/ug/maintenance-windows-ssm.html) in the AWS Systems Manager User Guide.

- For API details, see [DescribeMaintenanceWindowsForTarget](https://docs.aws.amazon.com/cli/latest/reference/ssm/describe-maintenance-windows-for-target.html) in AWS CLI Command Reference.

**describe-patch-baselines**

The following code example shows how to use `describe-patch-baselines`.

**AWS CLI**

**Example 1: To list all patch baselines**

The following `describe-patch-baselines` example retrieves details for all patch baselines in your account in the current Region.
aws ssm describe-patch-baselines

Output:

```json
{
    "BaselineIdentities": [
        {
            "BaselineName": "AWS-SuseDefaultPatchBaseline",
            "DefaultBaseline": true,
            "BaselineDescription": "Default Patch Baseline for Suse Provided by AWS."
        },
        {
            "BaselineName": "AWS-DefaultPatchBaseline",
            "DefaultBaseline": false,
            "BaselineDescription": "Default Patch Baseline Provided by AWS."
        },
        {
            "BaselineName": "MyWindowsPatchBaseline",
            "DefaultBaseline": true,
            "BaselineDescription": "My patch baseline for EC2 instances for Windows Server"
        }
    ]
}
```

**Example 2: To list all patch baselines provided by AWS**

The following `describe-patch-baselines` example lists all patch baselines provided by AWS.

```bash
aws ssm describe-patch-baselines \
   --filters "Key=OWNER,Values=[AWS]"
```
Example 3: To list all patch baselines that you own

The following describe-patch-baselines example lists all custom patch baselines created in your account in the current Region.

```
aws ssm describe-patch-baselines \
   --filters "Key=OWNER,Values=[Self]"
```

For more information, see About Predefined and Custom Patch Baselines in the AWS Systems Manager User Guide.

- For API details, see DescribePatchBaseline in AWS CLI Command Reference.

describe-patch-group-state

The following code example shows how to use describe-patch-group-state.

AWS CLI

To get the state of a patch group

The following describe-patch-group-state example retrieves the high-level patch compliance summary for a patch group.

```
aws ssm describe-patch-group-state \
   --patch-group "Production"
```

Output:

```
{
   "Instances": 21,
   "InstancesWithCriticalNonCompliantPatches": 1,
   "InstancesWithFailedPatches": 2,
   "InstancesWithInstalledOtherPatches": 3,
   "InstancesWithInstalledPatches": 21,
   "InstancesWithInstalledPendingRebootPatches": 2,
   "InstancesWithInstalledRejectedPatches": 1,
   "InstancesWithMissingPatches": 3,
   "InstancesWithNotApplicablePatches": 4,
   "InstancesWithOtherNonCompliantPatches": 1,
   "InstancesWithSecurityNonCompliantPatches": 1,
}
```
"InstancesWithUnreportedNotApplicablePatches": 2
}

For more information, see About patch groups <https://docs.aws.amazon.com/systems-manager/latest/userguide/sysman-patch-patchgroups.html>__ and Understanding patch compliance state values in the AWS Systems Manager User Guide.

- For API details, see DescribePatchGroupState in AWS CLI Command Reference.

describe-patch-groups

The following code example shows how to use describe-patch-groups.

AWS CLI

To display patch group registrations

The following describe-patch-groups example lists the patch group registrations.

aws ssm describe-patch-groups

Output:

```json
{
  "Mappings": [
    {
      "PatchGroup": "Production",
      "BaselineIdentity": {
        "BaselineId": "pb-0123456789abcdef0",
        "BaselineName": "ProdPatching",
        "OperatingSystem": "WINDOWS",
        "BaselineDescription": "Patches for Production",
        "DefaultBaseline": false
      }
    },
    {
      "PatchGroup": "Development",
      "BaselineIdentity": {
        "BaselineId": "pb-0713accee01234567",
        "BaselineName": "DevPatching",
        "OperatingSystem": "WINDOWS",
        "BaselineDescription": "Patches for Development",
        "DefaultBaseline": false
      }
    }
  ]
}
```
For more information, see Create a Patch Group <https://docs.aws.amazon.com/systems-manager/latest/userguide/sysman-patch-group-tagging.html>__ and Add a Patch Group to a Patch Baseline in the AWS Systems Manager User Guide.

- For API details, see DescribePatchGroups in AWS CLI Command Reference.

**describe-patch-properties**

The following code example shows how to use describe-patch-properties.

**AWS CLI**

**To list the Amazon Linux patch availability**

The following describe-patch-properties example displays a list of the Amazon Linux products for which patches are available in your AWS account.

```bash
aws ssm describe-patch-properties \
   --operating-system AMAZON_LINUX \
   --property PRODUCT
```

**Output:**

```json
{
   "Properties": [
      {
         "Name": "AmazonLinux2012.03"
      },
      {
         "Name": "AmazonLinux2012.09"
      },
      {
         "Name": "AmazonLinux2013.03"
      },
      {
```
For more information, see About Patch Baselines in the AWS Systems Manager User Guide.

- For API details, see DescribePatchProperties in AWS CLI Command Reference.

**describe-sessions**

The following code example shows how to use describe-sessions.

**AWS CLI**

**Example 1: To list all active Session Manager sessions**
This `describe-sessions` example retrieves a list of the active sessions created most recently (both connected and disconnected sessions) over the past 30 days that were started by the specified user. This command returns only results for connections to targets initiated using Session Manager. It does not list connections made through other means, such as Remote Desktop Connections or SSH.

```
aws ssm describe-sessions \
  --state "Active" \
  --filters "key=Owner,value=arn:aws:sts::123456789012:assumed-role/Administrator/Shirley-Rodriguez"
```

Output:

```json
{
  "Sessions": [
    {
      "SessionId": "John-07a16060613c408b5",
      "Target": "i-1234567890abcdef0",
      "Status": "Connected",
      "StartDate": 1550676938.352,
      "Owner": "arn:aws:sts::123456789012:assumed-role/Administrator/Shirley-Rodriguez",
      "OutputUrl": {}
    },
    {
      "SessionId": "John-01edf534b8b56e8eb",
      "Target": "i-9876543210abcdef0",
      "Status": "Connected",
      "StartDate": 1550676938.352,
      "Owner": "arn:aws:sts::123456789012:assumed-role/Administrator/Shirley-Rodriguez",
      "OutputUrl": {}
    }
  ]
}
```

**Example 2: To list all terminated Session Manager sessions**

This `describe-sessions` example retrieves a list of the most recently terminated sessions from the past 30 days for all users.

```
aws ssm describe-sessions \
```

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Output:

```json
{
   "Sessions": [
      {
         "SessionId": "Mary-Major-0022b1eb2b0d9e3bd",
         "Target": "i-1234567890abcdef0",
         "Status": "Terminated",
         "StartDate": 1550520701.256,
         "EndDate": 1550521931.563,
         "Owner": "arn:aws:sts::123456789012:assumed-role/Administrator/Mary-Major"
      },
      {
         "SessionId": "Jane-Roe-0db53f487931ed9d4",
         "Target": "i-9876543210abcdef0",
         "Status": "Terminated",
         "StartDate": 1550161369.149,
         "EndDate": 1550162580.329,
         "Owner": "arn:aws:sts::123456789012:assumed-role/Administrator/Jane-Roe"
      },
      ...
   ],
   "NextToken": "--token string truncated--"
}
```

For more information, see [View Session History](https://docs.aws.amazon.com/systems-manager/latest/userguide/session-history-list-view.html) in the *AWS Systems Manager User Guide*.

- For API details, see [DescribeSessions](https://docs.aws.amazon.com/cli/latest/reference/systems-manager/describe-sessions.html) in *AWS CLI Command Reference*.

### disassociate-ops-item-related-item

The following code example shows how to use disassociate-ops-item-related-item.

**AWS CLI**

**To delete a related item association**

The following disassociate-ops-item-related-item example deletes the association between the OpsItem and a related item.
aws ssm disassociate-ops-item-related-item
  --ops-item-id "oi-f99f2EXAMPLE"
  --association-id "e2036148-cccb-490e-ac2a-390e5EXAMPLE"

This command produces no output.

For more information, see Working with Incident Manager incidents in OpsCenter in the AWS Systems Manager User Guide.

- For API details, see DisassociateOpsItemRelatedItem in AWS CLI Command Reference.

get-automation-execution

The following code example shows how to use get-automation-execution.

AWS CLI

To display details about an automation execution

The following get-automation-execution example displays detailed information about an Automation execution.

aws ssm get-automation-execution
  --automation-execution-id 73c8eef8-f4ee-4a05-820c-e354fEXAMPLE

Output:

```json
{
  "AutomationExecution": {
    "AutomationExecutionId": "73c8eef8-f4ee-4a05-820c-e354fEXAMPLE",
    "DocumentName": "AWS-StartEC2Instance",
    "DocumentVersion": "1",
    "ExecutionStartTime": 1583737233.748,
    "ExecutionEndTime": 1583737234.719,
    "AutomationExecutionStatus": "Success",
    "StepExecutions": [
      {
        "StepName": "startInstances",
        "Action": "aws:changeInstanceState",
        "ExecutionStartTime": 1583737234.134,
        "ExecutionEndTime": 1583737234.672,
      }
    ]
  }
}```
"StepStatus": "Success",
"Inputs": {
   "DesiredState": "running",
   "InstanceIds": ["i-0cb99161f6EXAMPLE"]
 },
"Outputs": {
   "InstanceStates": [
      "running"
   ]
 },
"StepExecutionId": "95e70479-cf20-4d80-8fob-7e4e2EXAMPLE",
"Outputs": {}
}
],
"StepExecutionsTruncated": false,
"Parameters": {
   "AutomationAssumeRole": [],
   "InstanceId": ["i-0cb99161f6EXAMPLE"
]
},
"Outputs": {},
"Mode": "Auto",
"ExecutedBy": "arn:aws:sts::29884EXAMPLE:assumed-role/mw_service_role/OrchestrationService",
"Targets": [],
"ResolvedTargets": {
   "ParameterValues": [],
   "Truncated": false
}
}
}


- For API details, see [GetAutomationExecution](https://aws.amazon.com) in AWS CLI Command Reference.

**get-calendar-state**

The following code example shows how to use get-calendar-state.
Example 1: To get the current state of a change calendar

This `get-calendar-state` example returns the state of a calendar at the current time. Because the example doesn't specify a time, the current state of the calendar is reported.

```
aws ssm get-calendar-state
   --calendar-names "MyCalendar"
```

Output:

```
{
   "State": "OPEN",
   "AtTime": "2020-02-19T22:28:51Z",
   "NextTransitionTime": "2020-02-24T21:15:19Z"
}
```

Example 2: To get the state of a change calendar at a specified time

This `get-calendar-state` example returns the state of a calendar at the specified time.

```
aws ssm get-calendar-state
   --calendar-names "MyCalendar"
   --at-time "2020-07-19T21:15:19Z"
```

Output:

```
{
   "State": "CLOSED",
   "AtTime": "2020-07-19T21:15:19Z"
}
```

For more information, see [Get the State of the Change Calendar](https://docs.aws.amazon.com/systems-manager/latest/userguide/get-state-change-calendar.html) in the AWS Systems Manager User Guide.

- For API details, see [GetCalendarState](https://docs.aws.amazon.com/cli/latest/reference/ssm/get-calendar-state.html) in AWS CLI Command Reference.

get-command-invocation

The following code example shows how to use get-command-invocation.
AWS CLI

To display the details of a command invocation

The following `get-command-invocation` example lists all the invocations of the specified command on the specified instance.

```
aws ssm get-command-invocation \
   --command-id "ef7fdfd8-9b57-4151-a15c-db9a12345678" \
   --instance-id "i-1234567890abcdef0"
```

Output:

```
{
   "CommandId": "ef7fdfd8-9b57-4151-a15c-db9a12345678",
   "InstanceId": "i-1234567890abcdef0",
   "Comment": "b48291dd-ba76-43e0-b9df-13e11ddaac26:6960febb-2907-4b59-8e1ad6ce8EXAMPLE",
   "DocumentName": "AWS-UpdateSSMAgent",
   "DocumentVersion": "",
   "PluginName": "aws:updateSsmAgent",
   "ResponseCode": 0,
   "ExecutionStartDateTime": "2020-02-19T18:18:03.419Z",
   "ExecutionElapsedTime": "PT0.091S",
   "ExecutionEndDateTime": "2020-02-19T18:18:03.419Z",
   "Status": "Success",
   "StatusDetails": "Success",
   "StandardOutputContent": "Updating amazon-ssm-agent from 2.3.842.0 to latest
amazon-ssm-agent 2.3.842.0 has already been installed, update skipped"
   "StandardOutputUrl": "",
   "StandardErrorContent": "",
   "StandardErrorUrl": "",
   "CloudWatchOutputConfig": {
      "CloudWatchLogGroupName": "",
      "CloudWatchOutputEnabled": false
   }
}
```

For more information, see [Understanding Command Statuses](#) in the [AWS Systems Manager User Guide](#).
• For API details, see [GetCommandInvocation](#) in [AWS CLI Command Reference](#).

**get-connection-status**

The following code example shows how to use **get-connection-status**.

**AWS CLI**

**To display the connection status of a managed instance**

This **get-connection-status** example returns the connection status of the specified managed instance.

```bash
aws ssm get-connection-status \
   --target i-1234567890abcdef0
```

**Output:**

```json
{
   "Target": "i-1234567890abcdef0",
   "Status": "connected"
}
```

• For API details, see [GetConnectionStatus](#) in [AWS CLI Command Reference](#).

**get-default-patch-baseline**

The following code example shows how to use **get-default-patch-baseline**.

**AWS CLI**

**Example 1: To display the default Windows patch baseline**

The following **get-default-patch-baseline** example retrieves details for the default patch baseline for Windows Server.

```bash
aws ssm get-default-patch-baseline
```

**Output:**
Example 2: To display the default patch baseline for Amazon Linux

The following `get-default-patch-baseline` example retrieves details for the default patch baseline for Amazon Linux.

```bash/aws ssm get-default-patch-baseline \
   --operating-system AMAZON_LINUX
```

Output:

```json
{
   "BaselineId": "pb-047c6eb9c8fc12345",
   "OperatingSystem": "AMAZON_LINUX"
}
```

For more information, see About Predefined and Custom Patch Baselines <https://docs.aws.amazon.com/systems-manager/latest/userguide/sysman-patch-baselines.html> and Set an Existing Patch Baseline as the Default in the AWS Systems Manager User Guide.

- For API details, see `GetDefaultPatchBaseline` in AWS CLI Command Reference.

get-deployable-patch-snapshot-for-instance

The following code example shows how to use `get-deployable-patch-snapshot-for-instance`.

AWS CLI

To retrieve the current snapshot for the patch baseline an instance uses

The following `get-deployable-patch-snapshot-for-instance` example retrieves details for the current snapshot for the specified patch baseline used by an instance. This command must be run from the instance using the instance credentials. To ensure it uses the instance credentials, run `aws configure` and specify only the Region of your instance. Leave the Access Key and Secret Key fields empty.
Tip: Use `uuidgen` to generate a snapshot-id.

```bash
aws ssm get-deployable-patch-snapshot-for-instance \
   --instance-id "i-1234567890abcdef0" \
   --snapshot-id "521c3536-930c-4aa9-950e-01234567abcd"
```

Output:

```json
{
   "InstanceId": "i-1234567890abcdef0",
   "SnapshotId": "521c3536-930c-4aa9-950e-01234567abcd",
   "Product": "AmazonLinux2018.03",
   "SnapshotDownloadUrl": "https://patch-baseline-snapshot-us-east-1.s3.amazonaws.com/ed85194ef27214f5984f28b4d664d14f7313568fea7d4b6ac6c10ad1f729d7e7-773304212436/AMAZON_LINUX-521c3536-930c-4aa9-950e-01234567abcd?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Date=20190215T164031Z&X-Amz-SignedHeaders=host&X-Amz-Expires=86400&X-Amz-Credential=AKIAJ5C56P35AEBRX2QQ%2F20190215%2Fus-east-1%2Fs3%2Faws4_request&X-Amz-Signature=efaaaf6e3878e77f48a6697e015efdbda9c426b09c5822055075c062f6ad2149"
}
```

For more information, see Parameter name: Snapshot ID in the AWS Systems Manager User Guide.

- For API details, see GetDeployablePatchSnapshotForInstance in AWS CLI Command Reference.

get-document

The following code example shows how to use get-document.

**AWS CLI**

**To get document content**

The following get-document example displays the content of a Systems Manager document.

```bash
aws ssm get-document \
   --name "AWS-RunShellScript"
```

Output:
For more information, see AWS Systems Manager Documents in the AWS Systems Manager User Guide.

- For API details, see GetDocument in AWS CLI Command Reference.

get-inventory

The following code example shows how to use get-inventory.

AWS CLI

To view your inventory

This example gets the custom metadata for your inventory.

Command:
aws ssm get-inventory

Output:

```json
{
   "Entities": [
      {
         "Data": {
            "AWS:InstanceInformation": {
               "Content": [
                  {
                     "ComputerName": "ip-172-31-44-222.us-west-2.compute.internal",
                     "InstanceId": "i-0cb2b964d3e14fd9f",
                     "IpAddress": "172.31.44.222",
                     "AgentType": "amazon-ssm-agent",
                     "ResourceType": "EC2Instance",
                     "AgentVersion": "2.0.672.0",
                     "PlatformVersion": "2016.09",
                     "PlatformName": "Amazon Linux AMI",
                     "PlatformType": "Linux"
                  }
               ],
               "TypeName": "AWS:InstanceInformation",
               "SchemaVersion": "1.0",
               "CaptureTime": "2017-02-20T18:03:58Z"
            }
         },
         "Id": "i-0cb2b964d3e14fd9f"
      }
   }
}
```

- For API details, see [GetInventory](#) in *AWS CLI Command Reference*.

**get-inventory-schema**

The following code example shows how to use `get-inventory-schema`.

**AWS CLI**

*To view your inventory schema*
This example returns a list of inventory type names for the account.

Command:

```
aws ssm get-inventory-schema
```

Output:

```
{
  "Schemas": [
    {
      "TypeName": "AWS:AWSComponent",
      "Version": "1.0",
      "Attributes": [
        {
          "Name": "Name",
          "DataType": "STRING"
        },
        {
          "Name": "ApplicationType",
          "DataType": "STRING"
        },
        {
          "Name": "Publisher",
          "DataType": "STRING"
        },
        {
          "Name": "Version",
          "DataType": "STRING"
        },
        {
          "Name": "InstalledTime",
          "DataType": "STRING"
        },
        {
          "Name": "Architecture",
          "DataType": "STRING"
        },
        {
          "Name": "URL",
          "DataType": "STRING"
        }
      ]
    }
  ]
}```
To view the inventory schema for a specific inventory type

This example returns the inventory schema for a specific inventory type.

Command:

```
aws ssm get-inventory-schema --type-name "AWS:AWSComponent"
```

- For API details, see [GetInventorySchema](#) in AWS CLI Command Reference.

get-maintenance-window

The following code example shows how to use get-maintenance-window.

AWS CLI

To get information about a maintenance window

The following get-maintenance-window example retrieves details about the specified maintenance window.

```
aws ssm get-maintenance-window \
--window-id "mw-03eb9db428EXAMPLE"
```

Output:

```
{
  "AllowUnassociatedTargets": true,
  "CreatedDate": 1515006912.957,
  "Cutoff": 1,
  "Duration": 6,
  "Enabled": true,
  "ModifiedDate": 2020-01-01T10:04:04.099Z,
  "Name": "My-Maintenance-Window",
  "Schedule": "rate(3 days)",
  "WindowId": "mw-03eb9db428EXAMPLE",
```
"NextExecutionTime": "2020-02-25T00:08:15.099Z"
}

For more information, see View information about maintenance windows (AWS CLI) in the AWS Systems Manager User Guide.

- For API details, see GetMaintenanceWindow in AWS CLI Command Reference.

get-maintenance-window-execution

The following code example shows how to use get-maintenance-window-execution.

AWS CLI

To get information about a maintenance window task execution

The following get-maintenance-window-execution example lists information about a task executed as part of the specified maintenance window execution.

```bash
aws ssm get-maintenance-window-execution \
   --window-execution-id "518d5565-5969-4cca-8f0e-da3b2EXAMPLE"
```

Output:

```
{
   "Status": "SUCCESS",
   "TaskIds": [
      "ac0c6ae1-daa3-4a89-832e-d3845EXAMPLE"
   ],
   "StartTime": 1487692834.595,
   "EndTime": 1487692835.051,
   "WindowExecutionId": "518d5565-5969-4cca-8f0e-da3b2EXAMPLE",
}
```

For more information, see View Information About Tasks and Task Executions (AWS CLI) in the AWS Systems Manager User Guide.

- For API details, see GetMaintenanceWindowExecution in AWS CLI Command Reference.

get-maintenance-window-execution-task

The following code example shows how to use get-maintenance-window-execution-task.
**AWS CLI**

**To get information about a maintenance window task execution**

The following `get-maintenance-window-execution-task` example lists information about a task that is part of the specified maintenance window execution.

```bash
aws ssm get-maintenance-window-execution-task \
  --window-execution-id "518d5565-5969-4cca-8f0e-da3b2EXAMPLE" \
  --task-id "ac0c6ae1-daa3-4a89-832e-d3845EXAMPLE"
```

**Output:**

```json
{
  "WindowExecutionId": "518d5565-5969-4cca-8f0e-da3b2EXAMPLE",
  "TaskExecutionId": "ac0c6ae1-daa3-4a89-832e-d3845EXAMPLE",
  "TaskArn": "AWS-RunPatchBaseline",
  "ServiceRole": "arn:aws:iam::111222333444:role/aws-service-role/ssm.amazonaws.com/AWSServiceRoleForAmazonSSM",
  "Type": "RUN_COMMAND",
  "TaskParameters": [
    {
      "BaselineOverride": {
        "Values": [
          ""
        ]
      },
      "InstallOverrideList": {
        "Values": [
          ""
        ]
      },
      "Operation": {
        "Values": [
          "Scan"
        ]
      },
      "RebootOption": {
        "Values": [
          "RebootIfNeeded"
        ]
      },
      "SnapshotId": {
```
For more information, see View information about tasks and task executions (AWS CLI) in the AWS Systems Manager User Guide.

- For API details, see GetMaintenanceWindowExecutionTask in AWS CLI Command Reference.

get-maintenance-window-execution-task-invocation

The following code example shows how to use get-maintenance-window-execution-task-invocation.

AWS CLI

To get information about a maintenance window task invocation

The following get-maintenance-window-execution-task-invocation example lists information about the specified task invocation that is part of the specified maintenance window execution.

```bash
aws ssm get-maintenance-window-execution-task-invocation
   --window-execution-id "bc494bfa-e63b-49f6-8ad1-aa9f2EXAMPLE" \\
   --task-id "96f2ad59-97e3-461d-a63d-40c8aEXAMPLE"
```
Output:

```json
{
    "Status": "SUCCESS",
    "Parameters": {
        "comment": "",
        "documentName": "AWS-RunPowerShellScript",
        "instanceIds": ["i-1234567890EXAMPLE"],
        "maxConcurrency": "1",
        "maxErrors": "1",
        "parameters": {
            "executionTimeout": ["3600"],
            "workingDirectory": [""],
            "commands": ["echo Hello"],
            "timeoutSeconds": 600
        },
        "ExecutionId": "03b6baa0-5460-4e15-83f2-ea685EXAMPLE",
        "InvocationId": "a5273e2c-d2c6-4880-b3e1-5e550EXAMPLE",
        "StartTime": 1549998326.421,
        "TaskType": "RUN_COMMAND",
        "EndTime": 1550001931.784,
        "WindowExecutionId": "bc494bfa-e63b-49f6-8ad1-aa9f2EXAMPLE",
        "StatusDetails": "Failed",
        "TaskExecutionId": "96f2ad59-97e3-461d-40c8aEXAMPLE"
    }
}
```


get-maintenance-window-task

The following code example shows how to use `get-maintenance-window-task`.

**AWS CLI**

To get information about a maintenance window task

The following `get-maintenance-window-task` example retrieves details about the specified maintenance window task.

```bash
aws ssm get-maintenance-window-task \
   --window-id mw-0c5ed765acEXAMPLE \
   --window-task-id 0e842a8d-2d44-4886-bb62-af8dcEXAMPLE
```

Output:
For more information, see View Information About Maintenance Windows (AWS CLI) in the AWS Systems Manager User Guide.

- For API details, see GetMaintenanceWindowTask in AWS CLI Command Reference.
get-ops-item

The following code example shows how to use get-ops-item.

AWS CLI

To view information about an OpsItem

The following get-ops-item example displays details about the specified OpsItem.

```bash
aws ssm get-ops-item \
  --ops-item-id oi-0b725EXAMPLE
```

Output:

```json
{
  "OpsItem": {
    "CreatedBy": "arn:aws:sts::111222333444:assumed-role/OpsItem-CWE-Role/fbf77cbe264a33509569f23e4EXAMPLE",
    "CreatedTime": "2019-12-04T15:52:16.793000-08:00",
    "Description": "CloudWatch Event Rule SSMOpsItems-EC2-instance-terminated was triggered. Your EC2 instance has terminated. See below for more details.",
    "LastModifiedBy": "arn:aws:sts::111222333444:assumed-role/OpsItem-CWE-Role/fbf77cbe264a33509569f23e4EXAMPLE",
    "LastModifiedTime": "2019-12-04T15:52:16.793000-08:00",
    "Notifications": [],
    "RelatedOpsItems": [],
    "Status": "Open",
    "OpsItemId": "oi-0b725EXAMPLE",
    "Title": "EC2 instance terminated",
    "Source": "EC2",
    "OperationalData": {
      "/aws/automations": {
        "Value": "[ { "automationType": "AWS:SSM:Automation", "automationId": "AWS-CreateManagedWindowsInstance" }, { "automationType": "AWS:SSM:Automation", "automationId": "AWS-CreateManagedLinuxInstance" } ]",
        "Type": "SearchableString"
      },
      "/aws/dedup": {
        "Value": "SSMOpsItems-EC2-instance-terminated"
      },
      "/aws/resources": {
        "Value": "ec2-terminated"
      }
    }
  }
}
```
For more information, see Working with OpsItems in the AWS Systems Manager User Guide.

- For API details, see GetOpsItem in AWS CLI Command Reference.

get-ops-summary

The following code example shows how to use get-ops-summary.

AWS CLI

To view a summary of all OpsItems

The following get-ops-summary example displays a summary of all OpsItems in your AWS account.

```bash
aws ssm get-ops-summary
```

Output:

```json
{
    "Entities": [
    {
        "Id": "oi-4309fEXAMPLE",
        "Data": {
            "AWS:OpsItem": {
```
"CaptureTime": "2020-02-26T18:58:32.918Z",
"Content": [
    {
        "AccountId": "111222333444",
        "Category": "Availability",
        "CreatedBy": "arn:aws:sts::111222333444:assumed-role/OpsItem-CWE-Role/fbf77cbe264a33509569f23e4EXAMPLE",
        "CreatedTime": "2020-02-26T19:10:44.149Z",
        "Description": "CloudWatch Event Rule SSMOpsItems-EC2-instance-terminated was triggered. Your EC2 instance has terminated. See below for more details."
    },
    {
        "Id": "oi-bb2a0e6a4541",
        "Data": {
            "AWS:OpsItem": {
                "CaptureTime": "2019-11-26T19:20:06.161Z",
                "Content": [
                    {
                        "AccountId": "111222333444",
                        "Category": "Availability",
                        "CreatedBy": "arn:aws:sts::111222333444:assumed-role/OpsItem-CWE-Role/fbf77cbe264a33509569f23e4EXAMPLE",
                        "CreatedTime": "2020-02-26T19:10:44.149Z",
                        "Description": "CloudWatch Event Rule SSMOpsItems-EC2-instance-terminated was triggered. Your EC2 instance has terminated. See below for more details."
                    }
                ]
            }
        }
    }]
}
For more information, see Working with OpsItems in the AWS Systems Manager User Guide.

- For API details, see GetOpsSummary in AWS CLI Command Reference.

**get-parameter**

The following code example shows how to use get-parameter.

**AWS CLI**

**Example 1: To display the value of a parameter**

The following get-parameter example lists the value for the specified single parameter.
--name "MyStringParameter"

Output:

```
{
  "Parameter": {
    "Name": "MyStringParameter",
    "Type": "String",
    "Value": "Veni",
    "Version": 1,
    "LastModifiedDate": 1530018761.888,
    "ARN": "arn:aws:ssm:us-east-2:111222333444:parameter/MyStringParameter"
  }
}
```

For more information, see [Working with Parameter Store](https://docs.aws.amazon.com/systemsmanager/latest/userguide/parameter-store-working.html) in the *AWS Systems Manager User Guide*.

**Example 2: To decrypt the value of a SecureString parameter**

The following `get-parameter` example decrypts the value of the specified `SecureString` parameter.

```
aws ssm get-parameter \
  --name "MySecureStringParameter" \
  --with-decryption
```

Output:

```
{
  "Parameter": {
    "Name": "MySecureStringParameter",
    "Type": "SecureString",
    "Value": "16679b88-310b-4895-a943-e0764EXAMPLE",
    "Version": 2,
    "LastModifiedDate": 1582155479.205,
    "ARN": "arn:aws:ssm:us-east-2:111222333444:parameter/MySecureStringParameter"
  }
}
```
For more information, see Working with Parameter Store in the AWS Systems Manager User Guide.

Example 3: To display the value of a parameter using labels

The following `get-parameter` example lists the value for the specified single parameter with a specified label.

```bash
aws ssm get-parameter \
   --name "MyParameter:label"
```

Output:

```json
{
   "Parameter": {
      "Name": "MyParameter",
      "Type": "String",
      "Value": "parameter version 2",
      "Version": 2,
      "Selector": ":label",
      "LastModifiedDate": "2021-07-12T09:49:15.865000-07:00",
      "DataType": "text"
   }
}
```

For more information, see Working with parameter labels in the AWS Systems Manager User Guide.

Example 4: To display the value of a parameter using versions

The following `get-parameter` example lists the value for the specified single parameter version.

```bash
aws ssm get-parameter \
   --name "MyParameter:2"
```

Output:

```json
{
   "Parameter": {
      "Name": "MyParameter",
      "Type": "String",
      "Value": "parameter version 2",
      "Version": 2,
      "Selector": ":label",
      "LastModifiedDate": "2021-07-12T09:49:15.865000-07:00",
      "DataType": "text"
   }
}
```
"Type": "String",
"Value": "parameter version 2",
"Version": 2,
"Selector": ":2",
"LastModifiedDate": "2021-07-12T09:49:15.865000-07:00",
"DataType": "text"
}

For more information, see [Working with parameter labels](#) in the *AWS Systems Manager User Guide*.

- For API details, see [GetParameter](#) in *AWS CLI Command Reference*.

### get-parameter-history

The following code example shows how to use `get-parameter-history`.

#### AWS CLI

**To get a value history for a parameter**

The following `get-parameter-history` example lists the history of changes for the specified parameter, including its value.

```bash
aws ssm get-parameter-history \
   --name "MyStringParameter"
```

Output:

```json
{
   "Parameters": [
      {
         "Name": "MyStringParameter",
         "Type": "String",
         "LastModifiedDate": 1582154711.976,
         "LastModifiedUser": "arn:aws:iam::111222333444:user/Mary-Major",
         "Description": "This is the first version of my String parameter",
         "Value": "Veni",
         "Version": 1,
         "Labels": [],
         "Tier": "Standard",
      }
   ]
}
```
For more information, see Working with parameter versions in the AWS Systems Manager User Guide.

- For API details, see GetParameterHistory in AWS CLI Command Reference.

get-parameters

The following code example shows how to use get-parameters.

AWS CLI

Example 1: To list the values for a parameter

The following get-parameters example lists the values for the three specified parameters.
aws ssm get-parameters \
   --names "MyStringParameter" "MyStringListParameter" "MyInvalidParameterName"

Output:

{
   "Parameters": [
   {
      "Name": "MyStringListParameter",
      "Type": "StringList",
      "Value": "alpha,beta,\gamma",
      "Version": 1,
      "LastModifiedDate": 1582154764.222,
      "ARN": "arn:aws:ssm:us-east-2:111222333444:parameter/MyStringListParameter"
      "DataType": "text"
   },
   {
      "Name": "MyStringParameter",
      "Type": "String",
      "Value": "Vici",
      "Version": 3,
      "LastModifiedDate": 1582156117.545,
      "ARN": "arn:aws:ssm:us-east-2:111222333444:parameter/MyStringParameter"
      "DataType": "text"
   }
   ],
   "InvalidParameters": ["MyInvalidParameterName"
   ]
}

For more information, see Working with Parameter Store in the AWS Systems Manager User Guide.

**Example 2: To list names and values of multiple parameters using the `--query` option**

The following `get-parameters` example lists the names and values for the specified parameters.

aws ssm get-parameters \
   --names MyStringParameter MyStringListParameter \
--query "Parameters[*].{Name:Name,Value:Value}"

Output:

```
[
  {
    "Name": "MyStringListParameter",
    "Value": "alpha,beta,gamma"
  },
  {
    "Name": "MyStringParameter",
    "Value": "Vidi"
  }
]
```

For more information, see [Working with Parameter Store](#) in the [AWS Systems Manager User Guide](#).

**Example 3: To display the value of a parameter using labels**

The following `get-parameter` example lists the value for the specified single parameter with a specified label.

```
aws ssm get-parameter \
  --name "MyParameter:label"
```

Output:

```
{
  "Parameters": [
    {
      "Name": "MyLabelParameter",
      "Type": "String",
      "Value": "parameter by label",
      "Version": 1,
      "Selector": ":label",
      "LastModifiedDate": "2021-07-12T09:49:15.865000-07:00",
      "DataType": "text"
    },
    {
      "Name": "MyVersionParameter",
```
For more information, see [Working with parameter labels](https://docs.aws.amazon.com/systems-manager/latest/userguide/working-with-parameter-labels.html) in the *AWS Systems Manager User Guide*.

- For API details, see [GetParameters](https://docs.aws.amazon.com/cli/latest/reference/ssm/get-parameters.html) in *AWS CLI Command Reference*.

### get-parameters-by-path

The following code example shows how to use `get-parameters-by-path`.

**AWS CLI**

**To list parameters in a specific path**

The following `get-parameters-by-path` example lists the parameters within the specified hierarchy.

```
aws ssm get-parameters-by-path \
    --path "/site/newyork/department/"
```

**Output:**

```json
{
   "Parameters": [
   {
      "Name": "/site/newyork/department/marketing",
      "Type": "String",
      "Value": "Floor 2",
      "Version": 1,
      "LastModifiedDate": 1530018761.888,
      "ARN": "arn:aws:ssm:us-east-1:111222333444:parameter/site/newyork/department/marketing"
   }
   ]
}
```
For more information, see Working with parameter hierarchies in the AWS Systems Manager User Guide.

- For API details, see GetParametersByPath in AWS CLI Command Reference.

**get-patch-baseline**

The following code example shows how to use get-patch-baseline.

**AWS CLI**

**To display a patch baseline**

The following get-patch-baseline example retrieves the details for the specified patch baseline.

```bash
aws ssm get-patch-baseline \
    --baseline-id "pb-0123456789abcdef0"
```

**Output:**

```json
{
    "BaselineId": "pb-0123456789abcdef0",
    "Name": "WindowsPatching",
    "OperatingSystem": "WINDOWS",
    "GlobalFilters": {
        "PatchFilters": []
    },
    "ApprovalRules": {
```
For more information, see About Patch Baselines in the AWS Systems Manager User Guide.

- For API details, see GetPatchBaseline in AWS CLI Command Reference.

**get-patch-baseline-for-patch-group**

The following code example shows how to use `get-patch-baseline-for-patch-group`.

**AWS CLI**

To display the patch baseline for a patch group
The following `get-patch-baseline-for-patch-group` example retrieves details about the patch baseline for the specified patch group.

```bash
aws ssm get-patch-baseline-for-patch-group \
   --patch-group "DEV"
```

**Output:**

```json
{
   "PatchGroup": "DEV",
   "BaselineId": "pb-0123456789abcdef0",
   "OperatingSystem": "WINDOWS"
}
```

For more information, see Create a Patch Group [https://docs.aws.amazon.com/systems-manager/latest/userguide/sysman-patch-group-tagging.html](https://docs.aws.amazon.com/systems-manager/latest/userguide/sysman-patch-group-tagging.html) and Add a Patch Group to a Patch Baseline in the AWS Systems Manager User Guide.

- For API details, see `GetPatchBaselineForPatchGroup` in AWS CLI Command Reference.

**get-service-setting**

The following code example shows how to use `get-service-setting`.

**AWS CLI**

**To retrieve the service setting for Parameter Store throughput**

The following `get-service-setting` example retrieves the current service setting for Parameter Store throughput in the specified region.

```bash
aws ssm get-service-setting \
   --setting-id arn:aws:ssm:us-east-1:123456789012:servicesetting/ssm/parameter-store/high-throughput-enabled
```

**Output:**

```json
{
   "ServiceSetting": {
      "SettingId": "/ssm/parameter-store/high-throughput-enabled",
      " SettingValue": "false",
```
label-parameter-version

The following code example shows how to use label-parameter-version.

AWS CLI

Example 1: To add a label to latest version of a parameter

The following label-parameter-version example adds a label to the latest version of the specified parameter.

```bash
aws ssm label-parameter-version
   --name "MyStringParameter" \
   --labels "ProductionReady"
```

Output:

```json
{
   "InvalidLabels": [],
   "ParameterVersion": 3
}
```

For more information, see Working with parameter labels in the AWS Systems Manager User Guide.

Example 2: To add a label to a specific version of a parameter

The following label-parameter-version example adds a label to the specified version of a parameter.
aws ssm label-parameter-version \
   --name "MyStringParameter" \
   --labels "ProductionReady" \
   --parameter-version "2" --labels "DevelopmentReady"

For more information, see [Working with parameter labels](#) in the AWS Systems Manager User Guide.

- For API details, see [LabelParameterVersion](#) in AWS CLI Command Reference.

**list-association-versions**

The following code example shows how to use `list-association-versions`.

**AWS CLI**

**To list all versions of an association for a specific association ID**

The following `list-association-versions` example lists all versions of the specified associations.

aws ssm list-association-versions \
   --association-id "8dfe3659-4309-493a-8755-0123456789ab"

Output:

```json
{
   "AssociationVersions": [
      {
         "AssociationId": "8dfe3659-4309-493a-8755-0123456789ab",
         "AssociationVersion": "1",
         "CreatedDate": 1550505536.726,
         "Name": "AWS-UpdateSSMAgent",
         "Parameters": {
            "allowDowngrade": [false],
            "version": [""
            ]
         }
      }
   ]
}
```
"Targets": [
    {
        "Key": "InstanceIds",
        "Values": [
            "i-1234567890abcdef0"
        ]
    },
    {
        "ScheduleExpression": "cron(0 00 12 ? * SUN *)",
        "AssociationName": "UpdateSSMAgent"
    }
],

For more information, see Working with associations in Systems Manager in the AWS Systems Manager User Guide.

- For API details, see ListAssociationVersions in AWS CLI Command Reference.

**list-associations**

The following code example shows how to use list-associations.

**AWS CLI**

**Example 1: To list your associations for a specific instance**

The following list-associations example lists all associations with the AssociationName, UpdateSSMAgent.

```bash
aws ssm list-associations /
    --association-filter-list "key=AssociationName,value=UpdateSSMAgent"
```

Output:

```json
{
    "Associations": [
        {
            "Name": "AWS-UpdateSSMAgent",
            "InstanceId": "i-1234567890abcdef0",
            "AssociationId": "8dfe3659-4309-493a-8755-0123456789ab",
            "AssociationVersion": "1",
```
"Targets": [  
  {  
    "Key": "InstanceIds",  
    "Values": [  
      "i-016648b75dd622dab"  
    ]  
  }  
],  
"Overview": {  
  "Status": "Pending",  
  "DetailedStatus": "Associated",  
  "AssociationStatusAggregatedCount": {  
    "Pending": 1  
  }  
},  
"ScheduleExpression": "cron(0 00 12 ? * SUN *)",  
"AssociationName": "UpdateSSMAgent"  
}  
]  
}  

For more information, see Working with associations in Systems Manager in the Systems Manager User Guide.

Example 2: To list your associations for a specific document

The following list-associations example lists all associations for the specified document.

```bash  
aws ssm list-associations /  
  --association-filter-list "key=Name,value=AWS-UpdateSSMAgent"  
```

Output:

```json  
{  
  "Associations": [  
    {  
      "Name": "AWS-UpdateSSMAgent",  
      "InstanceId": "i-1234567890abcdef0",  
      "AssociationId": "8dfe3659-4309-493a-8755-0123456789ab",  
      "AssociationVersion": "1",  
      "Targets": [  
        {  
          "Key": "InstanceIds",  
        }  
      ]  
    }  
  ]  
}  
```
"Values": [
  "i-1234567890abcdef0"
],
"LastExecutionDate": 1550505828.548,
"Overview": {
  "Status": "Success",
  "DetailedStatus": "Success",
  "AssociationStatusAggregatedCount": {
    "Success": 1
  }
},
"ScheduleExpression": "cron(0 00 12 ? * SUN *)",
"AssociationName": "UpdateSSMAgent"
},
{
  "Name": "AWS-UpdateSSMAgent",
  "InstanceId": "i-9876543210abcdef0",
  "AssociationId": "fbc07ef7-b985-4684-b82b-0123456789ab",
  "AssociationVersion": "1",
  "Targets": [
    {
      "Key": "InstanceIds",
      "Values": [
        "i-9876543210abcdef0"
      ]
    }
  ],
  "LastExecutionDate": 1550507531.0,
  "Overview": {
    "Status": "Success",
    "AssociationStatusAggregatedCount": {
      "Success": 1
    }
  }
}

For more information, see [Working with associations in Systems Manager](https://aws.amazon.com/systems-manager/) in the [Systems Manager User Guide](https://aws.amazon.com/systems-manager/).

- For API details, see [ListAssociations](https://aws.amazon.com/cli/) in [AWS CLI Command Reference](https://aws.amazon.com/cli/).
list-command-invocations

The following code example shows how to use list-command-invocations.

AWS CLI

To list the invocations of a specific command

The following list-command-invocations example lists all the invocations of a command.

```
aws ssm list-command-invocations \
  --command-id "ef7fd8-9b57-4151-a15c-db9a12345678" \
  --details
```

Output:

```
{
  "CommandInvocations": [
  {
    "CommandId": "ef7fd8-9b57-4151-a15c-db9a12345678",
    "InstanceId": "i-02573caf67EXAMPLE",
    "InstanceName": ",",
    "Comment": "b48291dd-ba76-43e0-b9df-13e11d5a26:6960f7bb-2907-4b59-8e1ad6c8eEXAMPLE",
    "DocumentName": "AWS-UpdateSSMAgent",
    "DocumentVersion": ",",
    "RequestedDateTime": 1582136283.089,
    "Status": "Success",
    "StatusDetails": "Success",
    "StandardOutputUrl": ",",
    "StandardErrorUrl": ",",
    "CommandPlugins": [
    {
      "Name": "aws:updateSsmAgent",
      "Status": "Success",
      "StatusDetails": "Success",
      "ResponseCode": 0,
      "ResponseStartDateTime": 1582136283.419,
      "ResponseFinishDateTime": 1582136283.51,
      "Output": "Updating amazon-ssm-agent from 2.3.842.0 to latest
amazon-ssm-agent 2.3.842.0 has already been installed, update skipped\n",
      "StandardOutputUrl": ",",
```
"StandardErrorUrl": "",
"OutputS3Region": "us-east-2",
"OutputS3BucketName": "",
"OutputS3KeyPrefix": ""
}
],
"ServiceRole": "",
"NotificationConfig": {
  "NotificationArn": "",
  "NotificationEvents": [],
  "NotificationType": ""
},
"CloudWatchOutputConfig": {
  "CloudWatchLogGroupName": "",
  "CloudWatchOutputEnabled": false
}
},
{
  "CommandId": "ef7fd8-9b57-4151-a15c-db9a12345678",
  "InstanceId": "i-0471e04240EXAMPLE",
  "InstanceName": "",
  "Comment": "b48291dd-ba76-43e0-b9df-13e11ddac26:6960febb-2907-4b59-8e1a-d6ce8EXAMPLE",
  "DocumentName": "AWS-UpdateSSMAgent",
  "DocumentVersion": "",
  "RequestedDateTime": 1582136283.02,
  "Status": "Success",
  "StatusDetails": "Success",
  "StandardOutputUrl": "",
  "StandardErrorUrl": "",
  "CommandPlugins": [
  {
    "Name": "aws:updateSsmAgent",
    "Status": "Success",
    "StatusDetails": "Success",
    "ResponseCode": 0,
    "ResponseStartDateTime": 1582136283.812,
    "ResponseFinishDateTime": 1582136295.031,
    "Output": "Updating amazon-ssm-agent from 2.3.672.0 to latest
    Successfully downloaded https://s3.us-east-2.amazonaws.com/amazon-ssm-us-east-2/amazon-ssm-agent-updater/2.3.842.0/amazon-ssm-agent-updater-snap-amd64.tar.gz
    Successfully downloaded https://s3.us-east-2.amazonaws.com/amazon-ssm-us-east-2/amazon-ssm-agent/2.3.672.0/amazon-ssm-agent-snap-amd64.tar.gz

Actions and scenarios
5898
Successfully downloaded https://s3.us-east-2.amazonaws.com/amazon-ssm-us-east-2/amazon-ssm-agent/2.3.842.0/amazon-ssm-agent-snap-amd64.tar.gz
Initiating amazon-ssm-agent update to 2.3.842.0
amazon-ssm-agent updated successfully to 2.3.842.0

For more information, see Understanding Command Statuses in the AWS Systems Manager User Guide.

- For API details, see ListCommandInvocations in AWS CLI Command Reference.

**list-commands**

The following code example shows how to use list-commands.

**AWS CLI**

**Example 1: To get the status of a specific command**

The following list-commands example retrieves and displays the status of the specified command.

```
aws ssm list-commands \
  --command-id "0831e1a8-a1ac-4257-a1fd-c831bEXAMPLE"
```
Example 2: To get the status of commands requested after a specific date

The following `list-commands` example retrieves the details of commands requested after the specified date.

```
aws ssm list-commands \
   --filter "key=InvokedAfter,value=2020-02-01T00:00:00Z"
```

Example 3: To list all commands requested in an AWS account

The following `list-commands` example lists all commands requested by users in the current AWS account and Region.

```
aws ssm list-commands
```

Output:

```
{
   "Commands": [
      {
         "CommandId": "8bee3135-398c-4d31-99b6-e42d2EXAMPLE",
         "DocumentName": "AWS-UpdateSSMAgent",
         "DocumentVersion": ",",
         "Comment": "b48291dd-ba76-43e0-b9df-13e11ddaac26:6960febb-2907-4b59-8e1a-d6ce8EXAMPLE",
         "ExpiresAfter": "2020-02-19T11:28:02.500000-08:00",
         "Parameters": {},
         "InstanceIds": ["i-028ea792daEXAMPLE", "i-02feef8c46EXAMPLE", "i-038613f3f0EXAMPLE", "i-03a530a2d4EXAMPLE", "i-083b678d37EXAMPLE", "i-0dee81debaEXAMPLE"],
         "Targets": [],
         "RequestedDateTime": "2020-02-19T11:28:02.500000-08:00",
         "Status": "Success",
         "StatusDetails": "Success",
         "OutputS3BucketName": ",",
         "OutputS3KeyPrefix": ",",
         "MaxConcurrency": "50",
         "MaxErrors": "100%",
      }
   ]
}```
"TargetCount": 6,
"CompletedCount": 6,
"ErrorCount": 0,
"DeliveryTimedOutCount": 0,
"ServiceRole": "",
"NotificationConfig": {
    "NotificationArn": "",
    "NotificationEvents": [],
    "NotificationType": ""
},
"CloudWatchOutputConfig": {
    "CloudWatchLogGroupName": "",
    "CloudWatchOutputEnabled": false
}

{
    "CommandId": "e9ade581-c03d-476b-9b07-26667EXAMPLE",
    "DocumentName": "AWS-FindWindowsUpdates",
    "DocumentVersion": "1",
    "Comment": "",
    "ExpiresAfter": "2020-01-24T12:37:31.874000-08:00",
    "Parameters": {  
        "KbArticleIds": [ 
            ""
        ],
        "UpdateLevel": [  
            "All"
        ],
        "InstanceIds": [],
        "Targets": [
            {
                "Key": "InstanceIds",
                "Values": [  
                    "i-00ec29b21eEXAMPLE",
                    "i-09911ddd90EXAMPLE"
                ]
            }
        ],
        "RequestedDateTime": "2020-01-24T11:27:31.874000-08:00",
        "Status": "Success",
        "StatusDetails": "Success",
        "OutputS3BucketName": "my-us-east-2-bucket",
        "OutputS3KeyPrefix": "my-rc-output",
    }
}
"MaxConcurrency": "50",
"MaxErrors": "0",
"TargetCount": 2,
"CompletedCount": 2,
"ErrorCount": 0,
"DeliveryTimedOutCount": 0,
"ServiceRole": "arn:aws:iam::111222333444:role/aws-service-role/ssm.amazonaws.com/AWSServiceRoleForAmazonSSM",
"NotificationConfig": {
  "NotificationEvents": ["All"],
  "NotificationType": "Invocation"
},
"CloudWatchOutputConfig": {
  "CloudWatchLogGroupName": "",
  "CloudWatchOutputEnabled": false
}
}

{
"CommandId": "d539b6c3-70e8-4853-80e5-0ce4fEXAMPLE",
"DocumentName": "AWS-RunPatchBaseline",
"DocumentVersion": "1",
"Comment": "",
"ExpiresAfter": "2020-01-24T12:21:04.350000-08:00",
"Parameters": {
  "InstallOverrideList": [""],
  "Operation": ["Install"],
  "RebootOption": ["RebootIfNeeded"],
  "SnapshotId": [""],
},
"InstanceIds": [],
"Targets": [
  {
}]}
For more information, see Running Commands Using Systems Manager Run Command in the
AWS Systems Manager User Guide.

- For API details, see ListCommands in AWS CLI Command Reference.
list-compliance-items

The following code example shows how to use list-compliance-items.

AWS CLI

To list compliance items for a specific instance

This example lists all compliance items for the specified instance.

Command:

```
aws ssm list-compliance-items --resource-ids "i-1234567890abcdef0" --resource-types "ManagedInstance"
```

Output:

```
{
  "ComplianceItems": [
    {
      "ComplianceType": "Association",
      "ResourceType": "ManagedInstance",
      "ResourceId": "i-1234567890abcdef0",
      "Id": "8dfe3659-4309-493a-8755-0123456789ab",
      "Title": "",
      "Status": "COMPLIANT",
      "Severity": "UNSPECIFIED",
      "ExecutionSummary": {
        "ExecutionTime": 1550408470.0
      },
      "Details": {
        "DocumentName": "AWS-GatherSoftwareInventory",
        "DocumentVersion": "1"
      }
    },
    {
      "ComplianceType": "Association",
      "ResourceType": "ManagedInstance",
      "ResourceId": "i-1234567890abcdef0",
      "Id": "e4c2ed6d-516f-41aa-aa2a-0123456789ab",
      "Title": "",
      "Status": "COMPLIANT",
      "Severity": "UNSPECIFIED",
      "ExecutionSummary": {
        "ExecutionTime": 1550408470.0
      },
      "Details": {
        "DocumentName": "AWS-GatherSoftwareInventory",
        "DocumentVersion": "1"
      }
    }
  ]
}
```
To list compliance items for a specific instance and association ID

This example lists all compliance items for the specified instance and association ID.

Command:

```bash
aws ssm list-compliance-items --resource-ids "i-1234567890abcdef0" --resource-types "ManagedInstance" --filters "Key=ComplianceType,Values=Association,Type=EQUAL" "Key=Id,Values=e4c2ed6d-516f-41aa-aa2a-0123456789ab,Type=EQUAL"
```

To list compliance items for a instance after a specific date and time

This example lists all compliance items for an instance after the specified date and time.

Command:

```bash
aws ssm list-compliance-items --resource-ids "i-1234567890abcdef0" --resource-types "ManagedInstance" --filters "Key=ExecutionTime,Values=2019-02-18T16:00:00Z,Type=GREATER_THAN"
```

- For API details, see [ListComplianceItems](https://docs.aws.amazon.com/cli/latest/APIReference/API_ListComplianceItems.html) in [AWS CLI Command Reference](https://aws.amazon.com/cli/).

**list-compliance-summaries**

The following code example shows how to use `list-compliance-summaries`.

**AWS CLI**

To list compliance summaries for all compliance types
This example lists compliance summaries for all compliance types in your account.

Command:

```bash
aws ssm list-compliance-summaries
```

Output:

```json
{
   "ComplianceSummaryItems": [
      {
         "ComplianceType": "Association",
         "CompliantSummary": {
            "CompliantCount": 2,
            "SeveritySummary": {
               "CriticalCount": 0,
               "HighCount": 0,
               "MediumCount": 0,
               "LowCount": 0,
               "InformationalCount": 0,
               "UnspecifiedCount": 2
            }
         },
         "NonCompliantSummary": {
            "NonCompliantCount": 0,
            "SeveritySummary": {
               "CriticalCount": 0,
               "HighCount": 0,
               "MediumCount": 0,
               "LowCount": 0,
               "InformationalCount": 0,
               "UnspecifiedCount": 0
            }
         }
      },
      {
         "ComplianceType": "Patch",
         "CompliantSummary": {
            "CompliantCount": 1,
            "SeveritySummary": {
               "CriticalCount": 0,
               "HighCount": 0,
               "MediumCount": 0,
               "UnspecifiedCount": 0
            }
         }
      }
   ]
}
```
"LowCount": 0,
"InformationalCount": 0,
"UnspecifiedCount": 1
},
},
"NonCompliantSummary": {
"NonCompliantCount": 1,
"SeveritySummary": {
"CriticalCount": 1,
"HighCount": 0,
"MediumCount": 0,
"LowCount": 0,
"InformationalCount": 0,
"UnspecifiedCount": 0
}
},
},
...,
],
"NextToken": "eyJOZXh0VG9rZW4iOiBudWxsLCAiYm90b190cnVuY2F0ZV9hbW91bnQiOiyfQ=="
}

To list compliance summaries for a specific compliance type

This example lists the compliance summary for the Patch compliance type.

Command:

aws ssm list-compliance-summaries --filters
"Key=ComplianceType,Values=Patch,Type=EQUAL"

- For API details, see ListComplianceSummaries in AWS CLI Command Reference.

list-document-metadata-history

The following code example shows how to use list-document-metadata-history.

AWS CLI

Example: To view approval history and status for a change template

The following list-document-metadata-history example returns the approval history for the specified Change Manager change template.
aws ssm list-document-metadata-history \
--name MyChangeManagerTemplate \
--metadata DocumentReviews

Output:

```
{
   "Name": "MyChangeManagerTemplate",
   "DocumentVersion": "1",
   "Author": "arn:aws:iam::111222333444;:user/JohnDoe",
   "Metadata": {
      "ReviewerResponse": [ 
         {
            "CreateTime": "2021-07-30T11:58:28.025000-07:00",
            "UpdatedTime": "2021-07-30T12:01:19.274000-07:00",
            "ReviewStatus": "APPROVED",
            "Comment": [
               { 
                  "Type": "COMMENT",
                  "Content": "I approve this template version"
               }
            ],
            "Reviewer": "arn:aws:iam::111222333444;:user/ShirleyRodriguez"
         },
         {
            "CreateTime": "2021-07-30T11:58:28.025000-07:00",
            "UpdatedTime": "2021-07-30T11:58:28.025000-07:00",
            "ReviewStatus": "PENDING"
         }
      ]
   }
}
```

For more information, see [Reviewing and approving or rejecting change templates](https://docs.aws.amazon.com/systemsmanger/latest/userguide/notes-rejecting-change-template.html) in the AWS Systems Manager User Guide.


### list-document-versions

The following code example shows how to use `list-document-versions`.

AWS CLI

To list document versions

The following `list-document-versions` example lists all versions for a Systems Manager document.

```bash/aws ssm list-document-versions \
   --name "Example"
```

Output:

```json
{
   "DocumentVersions": [
   {
      "Name": "Example",
      "DocumentVersion": "1",
      "CreatedDate": 1583257938.266,
      "IsDefaultVersion": true,
      "DocumentFormat": "YAML",
      "Status": "Active"
   }
   ]
}
```

For more information, see Sending Commands that Use the Document Version Parameter in the AWS Systems Manager User Guide.

- For API details, see `ListDocumentVersions` in AWS CLI Command Reference.

list-documents

The following code example shows how to use `list-documents`.

AWS CLI

**Example 1: To list documents**

The following `list-documents` example lists documents owned by the requesting account tagged with the custom tag.

```bash
/aws ssm list-documents \
```

```bash
```
Output:

```
{
    "DocumentIdentifiers": [
        {
            "Name": "Example",
            "Owner": "29884EXAMPLE",
            "PlatformTypes": [
                "Windows",
                "Linux"
            ],
            "DocumentVersion": "1",
            "DocumentType": "Automation",
            "SchemaVersion": "0.3",
            "DocumentFormat": "YAML",
            "Tags": [
                {
                    "Key": "DocUse",
                    "Value": "Testing"
                }
            ]
        }
    ]
}
```

For more information, see [AWS Systems Manager Documents](https://docs.aws.amazon.com/systems-manager/latest/userguide/) in the *AWS Systems Manager User Guide*.

**Example 2: To list shared documents**

The following `list-documents` example lists shared documents, including private shared documents not owned by AWS.

```
aws ssm list-documents \
    --filters Key=Name,Values=sharedDocNamePrefix   Key=Owner,Values=Private
```

Output:

```
{
    "DocumentIdentifiers": [
```
For more information, see AWS Systems Manager Documents in the AWS Systems Manager User Guide.

- For API details, see ListDocuments in AWS CLI Command Reference.

list-inventory-entries

The following code example shows how to use list-inventory-entries.

AWS CLI

Example 1: To view specific inventory type entries for an instance

This following list-inventory-entries example lists the inventory entries for the AWS:Application inventory type on a specific instance.

```bash
aws ssm list-inventory-entries \\   --instance-id "i-1234567890abcdef0" \\
   --type-name "AWS:Application"
```

Output:

```json
{
   "TypeName": "AWS:Application",
   "InstanceId": "i-1234567890abcdef0",
   "SchemaVersion": "1.1",
}
```
Example 2: To view custom inventory entries assigned to an instance

The following `list-inventory-entries` example lists a custom inventory entry assigned to an instance.

```bash
aws ssm list-inventory-entries
   --instance-id "i-1234567890abcdef0"
   --type-name "Custom:RackInfo"
```

Output:

```json
{
   "TypeName": "Custom:RackInfo",
   "InstanceID": "i-1234567890abcdef0",
   "SchemaVersion": "1.0",
   "CaptureTime": "2021-05-22T10:01:01Z",
   "Entries": [
      {
         "RackLocation": "Bay B/Row C/Rack D/Shelf E"
      }
   ]
}
```

- For API details, see [ListInventoryEntries](https://docs.aws.amazon.com/cli/latest/reference/ssm/list-inventory-entries.html) in *AWS CLI Command Reference*.
list-ops-item-related-items

The following code example shows how to use list-ops-item-related-items.

**AWS CLI**

**To list the related-item resources of an OpsItem**

The following list-ops-item-related-items example lists the related-item resources of an OpsItem.

```bash
aws ssm list-ops-item-related-items \
    --ops-item-id "oi-f99f2EXAMPLE"
```

Output:

```json
{
    "Summaries": [
        {
            "OpsItemId": "oi-f99f2EXAMPLE",
            "AssociationId": "e2036148-cccb-490e-ac2a-390e5EXAMPLE",
            "ResourceType": "AWS::SSMIncidents::IncidentRecord",
            "AssociationType": "IsParentOf",
            "ResourceUri": "arn:aws:ssm-incidents::111122223333:incident-record/example-response/64bd9b45-1d0e-2622-840d-03a87a1451fa",
            "CreatedBy": {
                "Arn": "arn:aws:sts::111122223333:assumed-role/AWSServiceRoleForIncidentManager/IncidentResponse"
            },
            "CreateTime": "2021-08-11T18:47:14.994000+00:00",
            "LastModifiedBy": {
                "Arn": "arn:aws:sts::111122223333:assumed-role/AWSServiceRoleForIncidentManager/IncidentResponse"
            },
            "LastModifiedTime": "2021-08-11T18:47:14.994000+00:00"
        }
    ]
}
```

For more information, see [Working with Incident Manager incidents in OpsCenter](https://docs.aws.amazon.com/systems-manager/latest/userguide/working-with-incident-manager-opscenter.html) in the *AWS Systems Manager User Guide*.

- For API details, see [ListOpsItemRelatedItems](https://docs.aws.amazon.com/cli/latest/reference/ssm/list-ops-item-related-items.html) in *AWS CLI Command Reference*. 
list-resource-compliance-summaries

The following code example shows how to use `list-resource-compliance-summaries`.

**AWS CLI**

**To list resource-level compliance summary counts**

This example lists resource-level compliance summary counts.

Command:

```
aws ssm list-resource-compliance-summaries
```

Output:

```
{
    "ResourceComplianceSummaryItems": [
        {
            "ComplianceType": "Association",
            "ResourceType": "ManagedInstance",
            "ResourceId": "i-1234567890abcdef0",
            "Status": "COMPLIANT",
            "OverallSeverity": "UNSPECIFIED",
            "ExecutionSummary": {
                "ExecutionTime": 1550509273.0,
            },
            "CompliantSummary": {
                "CompliantCount": 2,
                "SeveritySummary": {
                    "CriticalCount": 0,
                    "HighCount": 0,
                    "MediumCount": 0,
                    "LowCount": 0,
                    "InformationalCount": 0,
                    "UnspecifiedCount": 2
                }
            },
            "NonCompliantSummary": {
                "NonCompliantCount": 0,
                "SeveritySummary": {
                    "CriticalCount": 0,
                    "HighCount": 0,
                    "MediumCount": 0,
                }
            }
        }
    ]
}
```
To list resource-level compliance summaries for a specific compliance type

This example lists resource-level compliance summaries for the Patch compliance type.

Command:

```
aws ssm list-resource-compliance-summaries --filters
"Key=ComplianceType,Values=Patch,Type=EQUAL"
```

- For API details, see `ListResourceComplianceSummaries` in *AWS CLI Command Reference*.

list-resource-data-sync

The following code example shows how to use `list-resource-data-sync`.

AWS CLI

To list your resource data sync configurations

This example retrieves information about your resource data sync configurations.

```
aws ssm list-resource-data-sync
```

Output:

```
{
   "ResourceDataSyncItems": [
      {
         "SyncName": "MyResourceDataSync",
         "S3Destination": {
            "BucketName": "ssm-resource-data-sync",
            "SyncFormat": "JsonSerDe",
            "Region": "us-east-1"
         },
         "LastSyncTime": 1550261472.003,
         "LastSuccessfulSyncTime": 1550261472.003,
         "LastStatus": "Successful",
         "SyncCreatedTime": 1543235736.72,
         "LastSyncStatusMessage": "The sync was successfully completed"
      }
   ]
}
```
list-tags-for-resource

The following code example shows how to use list-tags-for-resource.

**AWS CLI**

To list the tags applied to a patch baseline

The following list-tags-for-resource example lists the tags for a patch baseline.

```
aws ssm list-tags-for-resource \
   --resource-type "PatchBaseline" \
   --resource-id "pb-0123456789abcdef0"
```

Output:

```
{
   "TagList": [
      {
         "Key": "Environment",
         "Value": "Production"
      },
      {
         "Key": "Region",
         "Value": "EMEA"
      }
   ]
}
```

For more information, see Tagging AWS Resources in the AWS General Reference.

- For API details, see ListTagsForResource in AWS CLI Command Reference.

modify-document-permission

The following code example shows how to use modify-document-permission.
AWS CLI

To modify document permissions

The following `modify-document-permission` example shares a Systems Manager document publicly.

```bash
aws ssm modify-document-permission \
  --name "Example" \
  --permission-type "Share" \
  --account-ids-to-add "All"
```

This command produces no output.

For more information, see [Share a Systems Manager Document](https://docs.aws.amazon.com/systems-manager/latest/userguide/) in the *AWS Systems Manager User Guide*.


put-compliance-items

The following code example shows how to use `put-compliance-items`.

AWS CLI

To register a compliance type and compliance details to a designated instance

This example registers the compliance type `Custom:AVCheck` to the specified managed instance. There is no output if the command succeeds.

Command:

```bash
aws ssm put-compliance-items --resource-id "i-1234567890abcdef0" --resource-type "ManagedInstance" --compliance-type "Custom:AVCheck" --execution-summary "ExecutionTime=2019-02-18T16:00:00Z" --items "Id=Version2.0,Title=ScanHost,Severity=CRITICAL,Status=COMPLIANT"
```

- For API details, see [PutComplianceItems](https://docs.aws.amazon.com/cli/latest/reference/ssm/put-compliance-items.html) in *AWS CLI Command Reference*.

put-inventory

The following code example shows how to use `put-inventory`.
**AWS CLI**

**To assign customer metadata to an instance**

This example assigns rack location information to an instance. There is no output if the command succeeds.

Command (Linux):

```bash
aws ssm put-inventory --instance-id "i-016648b75dd622dab" --items
'[{"TypeName": "Custom:RackInfo","SchemaVersion": "1.0","CaptureTime": "2019-01-22T10:01:01Z","Content": [{"RackLocation": "Bay B/Row C/Rack D/Shelf E"}]}
```

Command (Windows):

```bash
aws ssm put-inventory --instance-id "i-016648b75dd622dab" --items
"TypeName=Custom:RackInfo,SchemaVersion=1.0,CaptureTime=2019-01-22T10:01:01Z,Content=[{RackLocation='Bay B/Row C/Rack D/Shelf F'}"]
```

- For API details, see [PutInventory](https://docs.aws.amazon.com/cli/latest/reference/ssm/put-inventory.html) in *AWS CLI Command Reference*.

**register-default-patch-baseline**

The following code example shows how to use `register-default-patch-baseline`.

AWS CLI

**To set the default patch baseline**

The following `register-default-patch-baseline` example registers the specified custom patch baseline as the default patch baseline for the operating system type that it supports.

```bash
aws ssm register-default-patch-baseline --baseline-id "pb-abc123cf9bEXAMPLE"
```

Output:

```json
{
  "BaselineId": "pb-abc123cf9bEXAMPLE"
}
```
The following `register-default-patch-baseline` example registers the default patch baseline provided by AWS for CentOS as the default patch baseline.

```bash
aws ssm register-default-patch-baseline \
    --baseline-id "arn:aws:ssm:us-east-2:733109147000:patchbaseline/pb-0574b43a65ea646ed"
```

Output:

```json
{
    "BaselineId": "pb-abc123cf9bEXAMPLE"
}
```

For more information, see [About Predefined and Custom Patch Baselines](#) in the [AWS Systems Manager User Guide](#).

- For API details, see [RegisterDefaultPatchBaseline](#) in [AWS CLI Command Reference](#).

### register-patch-baseline-for-patch-group

The following code example shows how to use `register-patch-baseline-for-patch-group`.

**AWS CLI**

**To register a patch baseline for a patch group**

The following `register-patch-baseline-for-patch-group` example registers a patch baseline for a patch group.

```bash
aws ssm register-patch-baseline-for-patch-group \
    --baseline-id "pb-045f10b4f382baeda" \
    --patch-group "Production"
```

Output:

```json
{
    "BaselineId": "pb-045f10b4f382baeda",
    "PatchGroup": "Production"
}
```
For more information, see Create a Patch Group <https://docs.aws.amazon.com/systems-manager/latest/userguide/sysman-patch-group-tagging.html> and Add a Patch Group to a Patch Baseline in the AWS Systems Manager User Guide.

- For API details, see RegisterPatchBaselineForPatchGroup in AWS CLI Command Reference.

register-target-with-maintenance-window

The following code example shows how to use register-target-with-maintenance-window.

AWS CLI

**Example 1: To register a single target with a maintenance window**

The following register-target-with-maintenance-window example registers an instance with a maintenance window.

```bash
aws ssm register-target-with-maintenance-window \
  --window-id "mw-ab12cd34ef56gh78" \
  --target "Key=InstanceIds,Values=i-0000293ff8c57862" \
  --owner-information "Single instance" \
  --resource-type "INSTANCE"
```

Output:

```json
{
  "WindowTargetId":"1a2b3c4d-1a2b-1a2b-1a2b-1a2b3c4d-1a2"
}
```

**Example 2: To register multiple targets with a maintenance window using instance IDs**

The following register-target-with-maintenance-window example registers two instances with a maintenance window by specifying their instance IDs.

```bash
aws ssm register-target-with-maintenance-window \
  --window-id "mw-ab12cd34ef56gh78" \
  --target "Key=InstanceIds,Values=i-0000293ff8c57862,i-0cb2b964d3e14fd9f" \
  --owner-information "Two instances in a list" \
```

Actions and scenarios
Example 3: To register targets with a maintenance window using resource tags

The following register-target-with-maintenance-window example registers instances with a maintenance window by specifying resource tags that have been applied to the instances.

```
aws ssm register-target-with-maintenance-window \
  --window-id "mw-06cf17cbefcb4bf4f" \
  --targets "Key=tag:Environment,Values=Prod" "Key=Role,Values=Web" \
  --owner-information "Production Web Servers" \
  --resource-type "INSTANCE"
```

Output:

```
{
  "WindowTargetId":"1a2b3c4d-1a2b-1a2b-1a2b-1a2b3c4d-1a2"
}
```

Example 4: To register targets using a group of tag keys

The following register-target-with-maintenance-window example registers instances that all have one or more tag keys assigned to them, regardless of their key values.

```
aws ssm register-target-with-maintenance-window \
  --window-id "mw-0c50858d01EXAMPLE" \
  --resource-type "INSTANCE" \
  --target "Key=tag-key,Values=Name,Instance-Type,CostCenter"
```

Output:

```
{
  "WindowTargetId":"1a2b3c4d-1a2b-1a2b-1a2b-1a2b3c4d-1a2"
}
Example 5: To register targets using a resource group name

The following register-target-with-maintenance-window example register a specified resource group, regardless of the type of resources it contains.

```bash
aws ssm register-target-with-maintenance-window
   --window-id "mw-0c50858d01EXAMPLE"
   --resource-type "RESOURCE_GROUP"
   --target "Key=resource-groups:Name,Values=MyResourceGroup"
```

Output:

```json
{
    "WindowTargetId":"1a2b3c4d-1a2b-1a2b-1a2b-1a2b3c4d-1a2"
}
```

For more information, see [Register a Target Instance with the Maintenance Window (AWS CLI)](https://docs.aws.amazon.com/systems-manager/latest/userguide/register-target-instance-with-maintenance-window-cli-example-aws.html) in the AWS Systems Manager User Guide.


register-task-with-maintenance-window

The following code example shows how to use register-task-with-maintenance-window.

AWS CLI

Example 1: To register an Automation task with a maintenance window

The following register-task-with-maintenance-window example registers an Automation task with a maintenance window that is targeted at an instance.

```bash
aws ssm register-task-with-maintenance-window
   --window-id "mw-082dcd7649EXAMPLE"
   --targets Key=InstanceIds,Values=i-1234520122EXAMPLE
   --task-arn AWS-RestartEC2Instance
   --service-role-arn arn:aws:iam::111222333444:role/SSM
   --task-type AUTOMATION
   --task-invocation-parameters "{"Automation":["DocumentVersion":"$LATEST","Parameters":{"InstanceId":"{{RESOURCE_ID}}"}}""
   --priority 0
```
--max-concurrency 1 \
--max-errors 1 \
--name "AutomationExample" \
--description "Restarting EC2 Instance for maintenance"

Output:

```
{
  "WindowTaskId": "11144444-5555-6666-7777-88888888"
}
```

For more information, see Register a Task with the Maintenance Window (AWS CLI) in the AWS Systems Manager User Guide.

**Example 2: To register a Lambda task with a Maintenance Window**

The following register-task-with-maintenance-window example registers a Lambda task with a Maintenance Window that is targeted at an instance.

```
aws ssm register-task-with-maintenance-window \
  --window-id "mw-082dcd7649dee04e4" \
  --targets Key=InstanceIds,Values=i-12344d305eEXAMPLE \
  --task-arn arn:aws:lambda:us-east-1:111222333444:function:SSMTestLAMBDA \
  --service-role-arn arn:aws:iam::111222333444:role/SSM \
  --task-type LAMBDA \
  --task-invocation-parameters '{"Lambda":{"Payload":{"InstanceId": "{{RESOURCE_ID}}","targetType":"{{TARGET_TYPE}}"} ','Qualifier":"$LATEST"}'} \
  --priority 0 \
  --max-concurrency 10 \
  --max-errors 5 \
  --name "Lambda_Example" \
  --description "My Lambda Example"
```

Output:

```
{
  "WindowTaskId": "22244444-5555-6666-7777-88888888"
}
```

For more information, see Register a Task with the Maintenance Window (AWS CLI) in the AWS Systems Manager User Guide.
Example 3: To register a Run Command task with a maintenance window

The following register-task-with-maintenance-window example registers a Run Command task with a maintenance window that is targeted at an instance.

```
aws ssm register-task-with-maintenance-window \
  --window-id "mw-082dcd7649dee04e4" \
  --targets "Key=InstanceIds,Values=i-12344d305eEXAMPLE" \
  --service-role-arn "arn:aws:iam::11122333444:role/SSM" \
  --task-type "RUN_COMMAND" \
  --name "SSMInstallPowerShellModule" \
  --task-arn "AWS-InstallPowerShellModule" \
  --task-invocation-parameters "{"RunCommand":{"Comment":null,"OutputS3BucketName":"runcommandlogs","Parameters":{"commands":["Get-Module -ListAvailable"],"executionTimeout":3600,"source":https://\\gallery.technet.microsoft.com/EZOut-33ae0fb7\file\110351\1\EZOut.zip"],"workingDirectory":null,"TimeoutSeconds":600}}" \
  --max-concurrency 1 \
  --max-errors 1 \
  --priority 10
```

Output:

```
{
  "WindowTaskId":"33344444-5555-6666-7777-88888888"
}
```

For more information, see [Register a Task with the Maintenance Window (AWS CLI)](https://docs.aws.amazon.com/systems-manager/latest/userguide/register-task-with-maintenance-window.html) in the *AWS Systems Manager User Guide*.

Example 4: To register a Step Functions task with a maintenance window

The following register-task-with-maintenance-window example registers a Step Functions task with a maintenance window that is targeted at an instance.

```
aws ssm register-task-with-maintenance-window \
  --window-id "mw-1234d787d6EXAMPLE" \
  --targets Key=WindowTargetIds,Values=12347414-69c3-49f8-95b8-ed2dcEXAMPLE \
  --task-arn arn:aws:states:us-east-1:111222333444:stateMachine:SSMTestStateMachine \
  --service-role-arn arn:aws:iam::111222333444:role/MaintenanceWindows \
  --task-type STEP_FUNCTIONS
```
--task-invocation-parameters '{"StepFunctions":"Input":{"InstanceId":{{RESOURCE_ID}}}}' \
  --priority 0 \
  --max-concurrency 10 \
  --max-errors 5 \
  --name "Step_Functions_Example" \
  --description "My Step Functions Example"

Output:

{
  "WindowTaskId":"44444444-5555-6666-7777-88888888"
}

For more information, see Register a Task with the Maintenance Window (AWS CLI) in the AWS Systems Manager User Guide.

**Example 5: To register a task using a maintenance windows target ID**

The following register-task-with-maintenance-window example registers a task using a maintenance window target ID. The maintenance window target ID was in the output of the aws ssm register-target-with-maintenance-window command. You can also retrieve it from the output of the aws ssm describe-maintenance-window-targets command.

```bash
aws ssm register-task-with-maintenance-window \
  --targets "Key=WindowTargetIds,Values=350d44e6-28cc-44e2-951f-4b2c9EXAMPLE" \
  --task-arn "AWS-RunShellScript" \
  --service-role-arn "arn:aws:iam::111222333444:role/MaintenanceWindowsRole" \
  --window-id "mw-ab12cd34eEXAMPLE" \
  --task-type "RUN_COMMAND" \
  --task-parameters "{"commands":{"Values":{"df"}}}" \
  --max-concurrency 1 \
  --max-errors 1 \
  --priority 10
```

Output:

```json
{
  "WindowTaskId":"33344444-5555-6666-7777-88888888"
}
```
For more information, see Register a Task with the Maintenance Window (AWS CLI) in the AWS Systems Manager User Guide.

- For API details, see RegisterTaskWithMaintenanceWindow in AWS CLI Command Reference.

remove-tags-from-resource

The following code example shows how to use remove-tags-from-resource.

AWS CLI

To remove a tag from a patch baseline

The following remove-tags-from-resource example removes tags from a patch baseline.

```plaintext
aws ssm remove-tags-from-resource \
  --resource-type " PatchBaseline" \
  --resource-id "pb-0123456789abcdef0" \
  --tag-keys "Region"
```

This command produces no output.

For more information, see Tagging AWS Resources in the AWS General Reference.

- For API details, see RemoveTagsFromResource in AWS CLI Command Reference.

reset-service-setting

The following code example shows how to use reset-service-setting.

AWS CLI

To reset the service setting for Parameter Store throughput

The following reset-service-setting example resets the service setting for Parameter Store throughput in the specified region to no longer use increased throughput.

```plaintext
aws ssm reset-service-setting \
  --setting-id arn:aws:ssm:us-east-1:123456789012:servicesetting/ssm/parameter-store/high-throughput-enabled
```

Output:
For more information, see Increasing Parameter Store Throughput in the AWS Systems Manager User Guide.

- For API details, see ResetServiceSetting in AWS CLI Command Reference.

**resume-session**

The following code example shows how to use **resume-session**.

**AWS CLI**

To resume a Session Manager session

This **resume-session** example resumes a Session Manager session with an instance after it has been disconnected. Note that this interactive command requires the Session Manager plugin to be installed on the client machine making the call.

```bash
aws ssm resume-session \
   --session-id Mary-Major-07a16060613c408b5
```

Output:

```json
{
   "SessionId": "Mary-Major-07a16060613c408b5",
   "TokenValue": "AAEAAVbTGsa0nyvcoNQgifbv5r/8lgxuQ1jCuY8qVcvOnoBAAMAAAFAxt3jIXAFUUXGTJ7zF/AWJPwDvi0L5p3ddAgVqVVO6IEXhKHLz0/1gXRKEME71E6TL0pILDJMZX+kReejkZu4c5AxMkr0qjMF+ghHPlbYJKTWhQdlwjuPlex08SHl7g5R/wekrjG6sDUnEegFBfGtpAIz2GXQVFtJXXkfc5qepQ11C11D0IT2doz0qXgHwfQhfAKLErM5dWZqKwyT1Z3i7w7unQdq/
```
send-automation-signal

The following code example shows how to use send-automation-signal.

**AWS CLI**

*To send a signal to an automation execution*

The following send-automation-signal example sends an Approve signal to an Automation execution.

```bash
aws ssm send-automation-signal \
    --automation-execution-id 73c8eef8-f4ee-4a05-820c-e354fEXAMPLE \
    --signal-type "Approve"
```

This command produces no output.


- For API details, see [SendAutomationSignal](https://docs.aws.amazon.com/cli/latest/reference/ssm/send-automation-signal.html) in AWS CLI Command Reference.

send-command

The following code example shows how to use send-command.

**AWS CLI**

*Example 1: To run a command on one or more remote instances*

The following send-command example runs an echo command on a target instance.
aws ssm send-command
   --document-name "AWS-RunShellScript" \
   --parameters 'commands=['echo HelloWorld']' \
   --targets "Key=instanceids,Values=i-1234567890abcdef0" \
   --comment "echo HelloWorld"

Output:

```json
{
   "Command": {
      "CommandId": "92853adf-ba41-4cd6-9a88-142d1EXAMPLE",
      "DocumentName": "AWS-RunShellScript",
      "DocumentVersion": "",
      "Comment": "echo HelloWorld",
      "ExpiresAfter": 1550181014.717,
      "Parameters": {
         "commands": [
            "echo HelloWorld"
         ]
      },
      "InstanceIds": [
         "i-0f00f008a2dcbefe2"
      ],
      "Targets": [],
      "RequestedDateTime": 1550173814.717,
      "Status": "Pending",
      "StatusDetails": "Pending",
      "OutputS3BucketName": "",
      "OutputS3KeyPrefix": "",
      "MaxConcurrency": "50",
      "MaxErrors": "0",
      "TargetCount": 1,
      "CompletedCount": 0,
      "ErrorCount": 0,
      "DeliveryTimedOutCount": 0,
      "ServiceRole": "",
      "NotificationConfig": {
         "NotificationArn": "",
         "NotificationEvents": [],
         "NotificationType": ""
      },
      "CloudWatchOutputConfig": {
         "CloudWatchLogGroupName": ""
      }
   }
}
```
"CloudWatchOutputEnabled": false
}
}
}

For more information, see Running Commands Using Systems Manager Run Command in the AWS Systems Manager User Guide.

**Example 2: To get IP information about an instance**

The following send-command example retrieves the IP information about an instance.

```bash
aws ssm send-command \
  --instance-ids "i-1234567890abcdef0" \
  --document-name "AWS-RunShellScript" \
  --comment "IP config" \
  --parameters "commands=ifconfig"
```

See example 1 for sample output.

For more information, see Running Commands Using Systems Manager Run Command in the AWS Systems Manager User Guide.

**Example 3: To run a command on instances with specific tags**

The following send-command example runs a command on instances that have the tag key "ENV" and the value "Dev".

```bash
aws ssm send-command \
  --targets "Key=tag:ENV,Values=Dev" \
  --document-name "AWS-RunShellScript" \
  --parameters "commands=ifconfig"
```

See example 1 for sample output.

For more information, see Running Commands Using Systems Manager Run Command in the AWS Systems Manager User Guide.

**Example 4: To run a command that sends SNS notifications**

The following send-command example runs a command that sends SNS notifications for all notification events and the Command notification type.
aws ssm send-command
   --instance-ids "i-1234567890abcdef0"
   --document-name "AWS-RunShellScript"
   --comment "IP config"
   --parameters "commands=ifconfig"
   --service-role-arn "arn:aws:iam::123456789012:role/SNS_Role"
   --notification-config "NotificationArn=arn:aws:sns:us-east-1:123456789012:SNSTopicName,NotificationEvents=All,NotificationType=Command"

See example 1 for sample output.

For more information, see Running Commands Using Systems Manager Run Command in the AWS Systems Manager User Guide.

Example 5: To run a command that outputs to S3 and CloudWatch

The following send-command example runs a command that outputs command details to an S3 bucket and to a CloudWatch Logs log group.

aws ssm send-command
   --instance-ids "i-1234567890abcdef0"
   --document-name "AWS-RunShellScript"
   --comment "IP config"
   --parameters "commands=ifconfig"
   --output-s3-bucket-name "s3-bucket-name"
   --output-s3-key-prefix "runcommand"
   --cloud-watch-output-config "CloudWatchOutputEnabled=true,CloudWatchLogGroupName=CWLGroupName"

See example 1 for sample output.

For more information, see Running Commands Using Systems Manager Run Command in the AWS Systems Manager User Guide.

Example 6: To run commands on multiple instances with different tags

The following send-command example runs a command on instances with two different tag keys and values.

aws ssm send-command
   --document-name "AWS-RunPowerShellScript"
See example 1 for sample output.

For more information, see Running Commands Using Systems Manager Run Command in the AWS Systems Manager User Guide.

Example 7: To target multiple instances with the same tag key

The following send-command example runs a command on instances that have the same tag key but with different values.

```
aws ssm send-command \
   --document-name "AWS-RunPowerShellScript" \
   --parameters commands=\"echo helloWorld\" \
   --targets Key=tag:Env,Values=Dev,Test
```

See example 1 for sample output.

For more information, see Running Commands Using Systems Manager Run Command in the AWS Systems Manager User Guide.

Example 8: To run a command that uses a shared document

The following send-command example runs a shared document on a target instance.

```
aws ssm send-command \
   --targets "Key=instanceids,Values=i-1234567890abcdef0"
```

See example 1 for sample output.

For more information, see Using shared SSM documents in the AWS Systems Manager User Guide.

- For API details, see SendCommand in AWS CLI Command Reference.

start-associations-once

The following code example shows how to use start-associations-once.
To run an association immediately and only one time

The following `start-associations-once` example runs the specified association immediately and only once. There is no output if the command succeeds.

```bash/aws ssm start-associations-once \
  --association-id "8dfe3659-4309-493a-8755-0123456789ab"
```

This command produces no output.

For more information, see `Viewing association histories` in the *AWS Systems Manager User Guide*.

- For API details, see `StartAssociationsOnce` in *AWS CLI Command Reference*.

### start-automation-execution

The following code example shows how to use `start-automation-execution`.

AWS CLI

**Example 1: To execute an automation document**

The following `start-automation-execution` example runs an Automation document.

```bash/aws ssm start-automation-execution \
  --document-name "AWS-UpdateLinuxAmi" \
  --parameters "AutomationAssumeRole=arn:aws:iam::123456789012:role/SSMAutomationRole,SourceAmiId=ami-EXAMPLE,IamInstanceProfileName=EC2InstanceRole"
```

Output:

```json
{
    "AutomationExecutionId": "4105a4fc-f944-11e6-9d32-0a1b2EXAMPLE"
}
```

For more information, see `Running an Automation Workflow Manually` in the *AWS Systems Manager User Guide*.

**Example 2: To run a shared automation document**
The following `start-automation-execution` example runs a shared Automation document.

```

Output:

```
{
   "AutomationExecutionId": "4105a4fc-f944-11e6-9d32-0a1b2EXAMPLE"
}
```

For more information, see [Using shared SSM documents](#) in the [AWS Systems Manager User Guide](#).

- For API details, see [StartAutomationExecution](#) in [AWS CLI Command Reference](#).

### start-change-request-execution

The following code example shows how to use `start-change-request-execution`.

**AWS CLI**

**Example 1: To start a change request**

The following `start-change-request-execution` example starts a change request with minimal options specified.

```bash
/aws ssm start-change-request-execution \
   --change-request-name MyChangeRequest \
   --document-name AWS-HelloWorldChangeTemplate \
   --runbooks '[{"DocumentName": "AWS-HelloWorld","Parameters": 
   {"AutomationAssumeRole": ["arn:aws:iam:us-east-2:1112223233444:role/MyChangeManagerAssumeRole"]}]}' \
   --parameters
```

Output:

```
{
   "AutomationExecutionId": "9d32a4fc-f944-11e6-4105-0a1b2EXAMPLE"
}```
Example 2: To start a change request using an external JSON file

The following start-automation-execution example starts a change request with multiple options specified in a JSON file.

```bash
aws ssm start-change-request-execution \
    --cli-input-json file://MyChangeRequest.json
```

Contents of `MyChangeRequest.json`:

```json
{
    "ChangeRequestName": "MyChangeRequest",
    "DocumentName": "AWS-HelloWorldChangeTemplate",
    "DocumentVersion": "$DEFAULT",
    "ScheduledTime": "2021-12-30T03:00:00",
    "ScheduledEndTime": "2021-12-30T03:05:00",
    "Tags": [
        {
            "Key": "Purpose",
            "Value": "Testing"
        }
    ],
    "Parameters": {
        "Approver": [
            "JohnDoe"
        ],
        "ApproverType": [
            "IamUser"
        ],
        "ApproverSnsTopicArn": [
            "arn:aws:sns:us-east-2:111222333444;:MyNotificationTopic"
        ]
    },
    "Runbooks": [
        {
            "DocumentName": "AWS-HelloWorld",
            "DocumentVersion": "1",
            "MaxConcurrency": "1",
            "MaxErrors": "1",
            "Parameters": {
                "AutomationAssumeRole": [  
```
"arn:aws:iam::111222333444:role/MyChangeManagerAssumeRole"
]
}
}
]}

"ChangeDetails": "### Document Name: HelloWorldChangeTemplate

## What does this document do?
This change template demonstrates the feature set available for creating change templates for Change Manager. This template starts a Runbook workflow for the Automation document called AWS-HelloWorld.

## Input Parameters
* ApproverSnsTopicArn: (Required) Amazon Simple Notification Service ARN for approvers.
* Approver: (Required) The name of the approver to send this request to.
* ApproverType: (Required) The type of reviewer.
  * Allowed Values: IamUser, IamGroup, IamRole, SSOGroup, SSOUser

## Output Parameters
This document has no outputs
}

Output:

{  
  "AutomationExecutionId": "9d32a4fc-f944-11e6-4105-0a1b2EXAMPLE"
}

For more information, see Creating change requests in the AWS Systems Manager User Guide.

- For API details, see StartChangeRequestExecution in AWS CLI Command Reference.

**start-session**

The following code example shows how to use start-session.

**AWS CLI**

**Example 1: To start a Session Manager session**

This start-session example establishes a connection with an instance for a Session Manager session. Note that this interactive command requires the Session Manager plugin to be installed on the client machine making the call.

```bash
aws ssm start-session \
  --target "i-1234567890abcdef0"
```

Output:
Example 2: To start a Session Manager session using SSH

This start-session example establishes a connection with an instance for a Session Manager session using SSH. Note that this interactive command requires the Session Manager plugin to be installed on the client machine making the call, and that the command uses the default user on the instance, such as `ec2-user` for EC2 instances for Linux.

```bash
ssh -i /path/my-key-pair.pem ec2-user@i-02573cafcfEXAMPLE
```

Output:

```
Starting session with SessionId: ec2-user-07a16060613c408b5
```

For more information, see [Start a Session](#) and [Install the Session Manager Plugin for the AWS CLI](#) in the [AWS Systems Manager User Guide](#).

- For API details, see [StartSession](#) in [AWS CLI Command Reference](#).

---

**stop-automation-execution**

The following code example shows how to use `stop-automation-execution`.

**AWS CLI**

**To stop an automation execution**

The following `stop-automation-execution` example stops an Automation document.

```bash
aws ssm stop-automation-execution
    --automation-execution-id "4105a4fc-f944-11e6-9d32-0a1b2EXAMPLE"
```

This command produces no output.

For more information, see [Running an Automation Workflow Manually](#) in the [AWS Systems Manager User Guide](#).

- For API details, see [StopAutomationExecution](#) in [AWS CLI Command Reference](#).
terminate-session

The following code example shows how to use terminate-session.

AWS CLI

To end a Session Manager session

This terminate-session example permanently ends a session that was created by the user "Shirley-Rodriguez" and closes the data connection between the Session Manager client and SSM Agent on the instance.

```bash
aws ssm terminate-session \
   --session-id "Shirley-Rodriguez-07a16060613c408b5"
```

Output:

```
{
   "SessionId": "Shirley-Rodriguez-07a16060613c408b5"
}
```

For more information, see Terminate a Session in the AWS Systems Manager User Guide.

- For API details, see TerminateSession in AWS CLI Command Reference.

unlabel-parameter-version

The following code example shows how to use unlabel-parameter-version.

AWS CLI

To delete parameter labels

The following unlabel-parameter-version example deletes the specified labels from the given parameter version.

```bash
aws ssm unlabel-parameter-version \
   --name "parameterName" \
   --parameter-version "version" \
   --labels "label_1" "label_2" "label_3"
```

Output:
For more information, see Delete parameter labels (AWS CLI) in the AWS Systems Manager User Guide.

- For API details, see UnlabelParameterVersion in AWS CLI Command Reference.

**update-association**

The following code example shows how to use update-association.

**AWS CLI**

**Example 1: To update a document association**

The following update-association example updates an association with a new document version.

```
aws ssm update-association
   --association-id "8dfe3659-4309-493a-8755-0123456789ab" \
   --document-version "\$LATEST"
```

**Output:**

```
{
   "AssociationDescription": {
      "Name": "AWS-UpdateSSMAgent",
      "AssociationVersion": "2",
      "Date": 1550508093.293,
      "LastUpdateAssociationDate": 1550508106.596,
      "Overview": {
         "Status": "Pending",
         "DetailedStatus": "Creating"
      },
      "DocumentVersion": "$LATEST",
   }
```

"AssociationId": "8dfe3659-4309-493a-8755-0123456789ab",
"Targets": [
  {
    "Key": "tag:Name",
    "Values": [
      "Linux"
    ]
  }
],
"LastExecutionDate": 1550508094.879,
"LastSuccessfulExecutionDate": 1550508094.879
}
}

For more information, see Editing and creating a new version of an association in the AWS Systems Manager User Guide.

**Example 2: To update the schedule expression of an association**

The following update-association example updates the schedule expression for the specified association.

```bash
aws ssm update-association \
  --association-id "8dfe3659-4309-493a-8755-0123456789ab" \
  --schedule-expression "cron(0 0 0/4 1/1 * ? *)"
```

Output:

```json
{
  "AssociationDescription": {
    "Name": "AWS-HelloWorld",
    "AssociationVersion": "2",
    "Date": "2021-02-08T13:54:19.203000-08:00",
    "LastUpdateAssociationDate": "2021-06-29T11:51:07.933000-07:00",
    "Overview": {
      "Status": "Pending",
      "DetailedStatus": "Creating"
    },
    "DocumentVersion": "$DEFAULT",
    "AssociationId": "8dfe3659-4309-493a-8755-0123456789ab",
    "Targets": [
      {
        "Key": "aws:NoOpAutomationTag",
```
For more information, see [Editing and creating a new version of an association](https://docs.aws.amazon.com/sms/latest/userguide/ssm-create-update.html) in the *AWS Systems Manager User Guide*.

- For API details, see [UpdateAssociation](https://docs.aws.amazon.com/cli/latest/reference/ssm/update-association-status.html) in *AWS CLI Command Reference*.

### update-association-status

The following code example shows how to use `update-association-status`.

**AWS CLI**

**To update the association status**

The following `update-association-status` example updates the association status of the association between an instance and a document.

```
aws ssm update-association-status \
  --name "AWS-UpdateSSMAgent" \
  --instance-id "i-1234567890abcdef0" \
  --association-status \
  "Date=1424421071.939,Name=Pending,Message=temp_status_change,AdditionalInfo=Additional-Config-Needed"
```

**Output:**

```
{
  "AssociationDescription": {
    "Name": "AWS-UpdateSSMAgent",
    "InstanceId": "i-1234567890abcdef0",
    "AssociationVersion": "1",
    "Date": 1550507529.604,
  }
}
```
The following code example shows how to use update-document.

**AWS CLI**

**To create a new version of a document**

The following update-document example creates a new version of a document when run on a Windows computer. The document specified by `--document` must be in JSON format. Note
that file:// must be referenced followed by the path of the content file. Because of the $ at the beginning of the --document-version parameter, On Windows you must surround the value with double quotes. On Linux, MacOS, or at a PowerShell prompt, you must surround the value with single quotes.

**Windows version:**

```bash
aws ssm update-document \
  --name "RunShellScript" \
  --content "file://RunShellScript.json" \
  --document-version "$LATEST"
```

**Linux/Mac version:**

```bash
aws ssm update-document \
  --name "RunShellScript" \
  --content "file://RunShellScript.json" \
  --document-version '$LATEST'
```

**Output:**

```json
{
  "DocumentDescription": {
    "Status": "Updating",
    "Hash": "f775e5df4904c6fa46686c4722fae9de1950dace25cd9608ff8d622046b68d9b",
    "Name": "RunShellScript",
    "Parameters": [
      {
        "Type": "StringList",
        "Name": "commands",
        "Description": "(Required) Specify a shell script or a command to run."
      }
    ],
    "DocumentType": "Command",
    "PlatformTypes": [
      "Linux"
    ],
    "DocumentVersion": "2",
    "HashType": "Sha256",
    "CreatedDate": 1487899655.152,
    "Owner": "809632081692",
  }
}```
update-document-default-version

The following code example shows how to use update-document-default-version.

AWS CLI

To update the default version of a document

The following update-document-default-version example updates the default version of a Systems Manager document.

```bash
aws ssm update-document-default-version \
   --name "Example" \
   --document-version "2"
```

Output:

```json
{
   "Description": {
      "Name": "Example",
      "DefaultVersion": "2"
   }
}
```

For more information, see Writing SSM Document Content in the AWS Systems Manager User Guide.

- For API details, see UpdateDocumentDefaultVersion in AWS CLI Command Reference.

update-document-metadata

The following code example shows how to use update-document-metadata.

For API details, see UpdateDocumentMetadata in AWS CLI Command Reference.
AWS CLI

Example: To approve the latest version of a change template

The following update-document-metadata provides an approval for the latest version of a change template that has been submitted for review.

```bash
aws ssm update-document-metadata \
   --name MyChangeManagerTemplate \
   --document-reviews 'Action=Approve,Comment=[{Type=Comment,Content=Approved!}]'
```

This command produces no output.

For more information, see Reviewing and approving or rejecting change templates in the AWS Systems Manager User Guide.

- For API details, see UpdateDocumentMetadata in AWS CLI Command Reference.

update-maintenance-window

The following code example shows how to use update-maintenance-window.

AWS CLI

Example 1: To update a maintenance window

The following update-maintenance-window example updates the name of a maintenance window.

```bash
aws ssm update-maintenance-window \
   --window-id "mw-1a2b3c4d5e6f7g8h9" \
   --name "My-Renamed-MW"
```

Output:

```json
{
   "Cutoff": 1,
   "Name": "My-Renamed-MW",
   "Schedule": "cron(0 16 ? * TUE *)",
   "Enabled": true,
   "AllowUnassociatedTargets": true,
   "WindowId": "mw-1a2b3c4d5e6f7g8h9",
```
Example 2: To disable a maintenance window

The following update-maintenance-window example disables a maintenance window.

```bash
aws ssm update-maintenance-window \
   --window-id "mw-1a2b3c4d5e6f7g8h9" \
   --no-enabled
```

Example 3: To enable a maintenance window

The following update-maintenance-window example enables a maintenance window.

```bash
aws ssm update-maintenance-window \
   --window-id "mw-1a2b3c4d5e6f7g8h9" \
   --enabled
```

For more information, see [Update a Maintenance Window (AWS CLI)](https://docs.aws.amazon.com/systems-manager/latest/userguide/ssm-update-maintenance-window.html) in the *AWS Systems Manager User Guide*.

- For API details, see [UpdateMaintenanceWindow](https://docs.aws.amazon.com/cli/latest/reference/ssm/update-maintenance-window.html) in *AWS CLI Command Reference*.

update-maintenance-window-target

The following code example shows how to use update-maintenance-window-target.

**AWS CLI**

To update a maintenance window target

The following update-maintenance-window-target example updates only the name of a maintenance window target.

```bash
aws ssm update-maintenance-window-target \
   --window-id "mw-0c5ed765acEXAMPLE" \
   --window-target-id "57e8344e-fe64-4023-8191-6bf05EXAMPLE" \
   --name "NewName" \
   --no-replace
```

Output:
update-maintenance-window-task

The following code example shows how to use update-maintenance-window-task.

AWS CLI

To update a maintenance window task

The following update-maintenance-window-task example updates the service role for a maintenance window task.

```
aws ssm update-maintenance-window-task \
  --window-id "mw-0c5ed765acEXAMPLE" \
  --window-task-id "23d3809e-9fbe-4ddf-b41a-b49d7EXAMPLE" \
  --service-role-arn "arn:aws:iam::11122333444:role/aws-service-role/ssm.amazonaws.com/AWSServiceRoleForAmazonSSM"
```

Output:

```json
{
  "Name": "NewName"
}
```
"ServiceRoleArn": "arn:aws:iam::111222333444:role/aws-service-role/ssm.amazonaws.com/AWSServiceRoleForAmazonSSM",
"MaxErrors": "1",
"TaskArn": "AWS-UpdateEC2Config",
"MaxConcurrency": "1",
"WindowTaskId": "23d3809e-9fbe-4ddf-b41a-b49d7EXAMPLE",
"TaskParameters": {},
"Priority": 1,
"TaskInvocationParameters": {
  "RunCommand": {
    "TimeoutSeconds": 600,
    "Parameters": {
      "allowDowngrade": ["false"
    ]
  }
},
"WindowId": "mw-0c5ed765acEXAMPLE",
"Description": "UpdateEC2Config",
"Targets": [
  {
    "Values": [
      "57e8344e-fe64-4023-8191-6bf05EXAMPLE"
    ],
    "Key": "WindowTargetIds"
  }
],
"Name": "UpdateEC2Config"

For more information, see [Update a Maintenance Window (AWS CLI)](https://docs.aws.amazon.com/systemsmanager/latest/userguide/aws-cli-update-maintenance-window.html) in the *AWS Systems Manager User Guide*.

- For API details, see [UpdateMaintenanceWindowTask](https://docs.aws.amazon.com/cli/latest/reference/ssm/update-maintenance-window-task.html) in *AWS CLI Command Reference*.

**update-managed-instance-role**

The following code example shows how to use update-managed-instance-role.

**AWS CLI**

To update the IAM role of a managed instance
The following update-managed-instance-role example updates the IAM instance profile of a managed instance.

```bash
aws ssm update-managed-instance-role \\   --instance-id "mi-08ab247cdfEXAMPLE" \\   --iam-role "ExampleRole"
```

This command produces no output.

For more information, see Step 4: Create an IAM Instance Profile for Systems Manager in the AWS Systems Manager User Guide.

- For API details, see UpdateManagedInstanceRole in AWS CLI Command Reference.

**update-patch-baseline**

The following code example shows how to use update-patch-baseline.

**AWS CLI**

**Example 1: To update a patch baseline**

The following update-patch-baseline example adds the specified two patches as rejected and one patch as approved to the specified patch baseline.

```bash
aws ssm update-patch-baseline \\   --baseline-id "pb-0123456789abcdef0" \\   --rejected-patches "KB2032276" "MS10-048" \\   --approved-patches "KB2124261"
```

Output:

```json
{
   "BaselineId": "pb-0123456789abcdef0",
   "Name": "WindowsPatching",
   "OperatingSystem": "WINDOWS",
   "GlobalFilters": {
      "PatchFilters": []
   },
   "ApprovalRules": {
      "PatchRules": [
      
```
Example 2: To rename a patch baseline

The following update-patch-baseline example renames the specified patch baseline.

```bash
aws ssm update-patch-baseline \
  --baseline-id "pb-0713accee01234567" \
  --name "Windows-Server-2012-R2-Important-and-Critical-Security-Updates"
```

For more information, see Update or Delete a Patch Baseline <https://docs.aws.amazon.com/systems-manager/latest/userguide/patch-baseline-update-or-delete.html> in the AWS Systems Manager User Guide.
For API details, see UpdatePatchBaseline in AWS CLI Command Reference.

update-resource-data-sync

The following code example shows how to use update-resource-data-sync.

AWS CLI

To update a resource data sync

The following update-resource-data-sync example updates a SyncFromSource resource data sync.

```
aws ssm update-resource-data-sync
    --sync-name exampleSync
    --sync-type SyncFromSource
    --sync-source '{"SourceType":"SingleAccountMultiRegions", "SourceRegions":["us-east-1", "us-west-2"]}'
```

This command produces no output.

For more information, see Setting Up Systems Manager Explorer to Display Data from Multiple Accounts and Regions in the AWS Systems Manager User Guide.

For API details, see UpdateResourceDataSync in AWS CLI Command Reference.

update-service-setting

The following code example shows how to use update-service-setting.

AWS CLI

To update the service setting for Parameter Store throughput

The following update-service-setting example updates the current service setting for Parameter Store throughput in the specified region to use increased throughput.

```
aws ssm update-service-setting
    --setting-id arn:aws:ssm:us-east-1:123456789012:servicesetting/ssm/parameter-store/high-throughput-enabled
    --setting-value true
```
This command produces no output.

For more information, see Increasing Parameter Store Throughput in the AWS Systems Manager User Guide.

- For API details, see UpdateServiceSetting in AWS CLI Command Reference.

Amazon Textract examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon Textract.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- **Actions**

**Actions**

**Analyze a document**

The following code example shows how to analyze a document using Amazon Textract.

**AWS CLI**

To analyze text in a document

The following analyze-document example shows how to analyze text in a document.

Linux/macOS:

```
aws textract analyze-document \
   --document '{"S3Object":{"Bucket":"bucket","Name":"document"}}' \
```
Windows:

```
aws textract analyze-document \
  --document "{\"S3Object\":{\"Bucket\":\"bucket\",\"Name\":\"document\"}}" \
  --feature-types "{\"TABLES\",\"FORMS\"}" \
  --region-name
```

Output:

```
{
  "Blocks": [
    {
      "Geometry": {
        "BoundingBox": {
          "Width": 1.0,
          "Top": 0.0,
          "Left": 0.0,
          "Height": 1.0
        },
        "Polygon": [
          {
            "Y": 0.0,
            "X": 0.0
          },
          {
            "Y": 0.0,
            "X": 1.0
          },
          {
            "Y": 1.0,
            "X": 1.0
          },
          {
            "Y": 1.0,
            "X": 0.0
          }
        ]
      },
      "Relationships": [
        {
          "Type": "CHILD",
          "Actions and scenarios": 5954
        }
      ]
    }
  ]
```
Detect text in a document

The following code example shows how to detect text in a document using Amazon Textract.

**AWS CLI**

**To detect text in a document**

The following `detect-document-text` The following example shows how to detect text in a document.

Linux/macOS:

```bash
aws textract detect-document-text \
  --document '{"S3Object":{"Bucket":"bucket","Name":"document"}}'
```

Windows:

```bash
aws textract detect-document-text \
  --document "{"S3Object":{"Bucket":"bucket","Name":"document"}}" \
  --region region-name
```
Output:

```json
{
    "Blocks": [
        {
            "Geometry": {
                "BoundingBox": {
                    "Width": 1.0,
                    "Top": 0.0,
                    "Left": 0.0,
                    "Height": 1.0
                },
                "Polygon": [
                    {
                        "Y": 0.0,
                        "X": 0.0
                    },
                    {
                        "Y": 0.0,
                        "X": 1.0
                    },
                    {
                        "Y": 1.0,
                        "X": 1.0
                    },
                    {
                        "Y": 1.0,
                        "X": 0.0
                    }
                ]
            },
            "Relationships": [
                {
                    "Type": "CHILD",
                    "Ids": [
                        "896a9f10-9e70-4412-81ce-49ead73ed881",
                        "0da18623-dc4c-463d-a3d1-9ac050e9e720",
                        "167338d7-d38c-4760-91f1-79a8ec457bb2"
                    ]
                }
            ],
            "BlockType": "PAGE",
            "Id": "21f0535e-60d5-4bc7-adf2-c05dd851fa25"
        }
    ]
}
```
{

"Relationships": [
{

"Type": "CHILD",
"Ids": [

"62490c26-37ea-49fa-8034-7a9ff9369c9c",
"1e4f3f21-05bd-4da9-ba10-15d01e66604c"

]
}
],

"Confidence": 89.11581420898438,

"Geometry": {

"BoundingBox": {

"Width": 0.33642634749412537,
"Top": 0.17169663310050964,
"Left": 0.13885067403316498,
"Height": 0.49159330129623413

}
,

"Polygon": [

{

"Y": 0.17169663310050964,
"X": 0.13885067403316498

}
,

{

"Y": 0.17169663310050964,
"X": 0.47527703642845154

}
,

{

"Y": 0.6632899641990662,
"X": 0.47527703642845154

}
,

{

"Y": 0.6632899641990662,
"X": 0.13885067403316498

}

]

}
,

"Text": "He llo,",

"BlockType": "LINE",

"Id": "896a9f10-9e70-4412-81ce-49ead73ed881"

}
,

{

"Relationships": [

}
Actions and scenarios
For more information, see Detecting Document Text with Amazon Textract in the *Amazon Textract Developers Guide*.

- For API details, see [DetectDocumentText](#) in *AWS CLI Command Reference*.

### Get data about a document analysis job

The following code example shows how to get data about an Amazon Textract document analysis job.

**AWS CLI**

**To get the results of asynchronous text analysis of a multi-page document**

The following `get-document-analysis` example shows how to get the results of asynchronous text analysis of a multi-page document.

```bash
aws textract get-document-analysis
   --job-id df7cf32ebbd2a5de113535fcf4d921926a701b09b4e7d089f3aebadb41e0712b
   --max-results 1000
```

**Output:**

```json
{
   "Blocks": [
      {
         "Geometry": {
            "BoundingBox": {
               "Width": 1.0,
               "Top": 0.0,
               "Left": 0.0,
               "Height": 1.0
            },
            "Polygon": [
               {
                  "Y": 0.0,
                  "X": 0.0
               },
               {
                  "Y": 0.0,
                  "X": 1.0
               }
            ]
         }
      }
   }
}
```
For more information, see Detecting and Analyzing Text in Multi-Page Documents in the Amazon Textract Developers Guide

- For API details, see GetDocumentAnalysis in AWS CLI Command Reference.

**Start asynchronous analysis of a document**

The following code example shows how to start asynchronous analysis of a document using Amazon Textract.
AWS CLI

To start analyzing text in a multi-page document

The following start-document-analysis example shows how to start asynchronous analysis of text in a multi-page document.

Linux/macOS:

```bash
aws textract start-document-analysis \
   --document-location '{"S3Object":{"Bucket":"bucket","Name":"document"}}' \
   --feature-types ['"TABLES","FORMS"]' \
   --notification-channel "SNSTopicArn=arn:snsTopic,RoleArn=roleArn"
```

Windows:

```bash
aws textract start-document-analysis \
   --document-location "{"S3Object":\"Bucket\":\"bucket\",\"Name\":\"document\"\}" \
   --feature-types "[\"TABLES\", \"FORMS\"]" \
   --region region-name \
   --notification-channel "SNSTopicArn=arn:snsTopic,RoleArn=roleArn"
```

Output:

```
{
   "JobId": "df7cf32ebbd2a5de113535fcf4d921926a701b09b4e7d089f3aebadb41e0712b"
}
```

For more information, see Detecting and Analyzing Text in Multi-Page Documents in the Amazon Textract Developers Guide

- For API details, see StartDocumentAnalysis in AWS CLI Command Reference.

Start asynchronous text detection

The following code example shows how to start asynchronous text detection in a document using Amazon Textract.

AWS CLI

To start detecting text in a multi-page document
The following `start-document-text-detection` example shows how to start asynchronous detection of text in a multi-page document.

**Linux/macOS:**

```bash
aws textract start-document-text-detection \
    --document-location '{"S3Object":{"Bucket":"bucket","Name":"document"}}' \
    --notification-channel "SNSTopicArn=arn:snsTopic,RoleArn=roleARN"
```

**Windows:**

```bash
aws textract start-document-text-detection \
    --document-location "{"S3Object":{"Bucket":"bucket","Name":"document"}}" \
    --region region-name \
    --notification-channel "SNSTopicArn=arn:snsTopic,RoleArn=roleARN"
```

**Output:**

```json
{
    "JobId": "57849a3dc627d4df74123dca269d69f7b89329c870c65bb16c9fd63409d200b9"
}
```

For more information, see Detecting and Analyzing Text in Multi-Page Documents in the *Amazon Textract Developers Guide*

- For API details, see [StartDocumentTextDetection](#) in *AWS CLI Command Reference*.

### get-document-text-detection

The following code example shows how to use `get-document-text-detection`.

**AWS CLI**

**To get the results of asynchronous text detection in a multi-page document**

The following `get-document-text-detection` example shows how to get the results of asynchronous text detection in a multi-page document.

```bash
aws textract get-document-text-detection \
    --job-id 57849a3dc627d4df74123dca269d69f7b89329c870c65bb16c9fd63409d200b9 \
```
Output

```
{
    "Blocks": [
        {
            "Geometry": {
                "BoundingBox": {
                    "Width": 1.0,
                    "Top": 0.0,
                    "Left": 0.0,
                    "Height": 1.0
                },
                "Polygon": [
                    {
                        "Y": 0.0,
                        "X": 0.0
                    },
                    {
                        "Y": 0.0,
                        "X": 1.0
                    },
                    {
                        "Y": 1.0,
                        "X": 1.0
                    },
                    {
                        "Y": 1.0,
                        "X": 0.0
                    }
                ]
            },
            "Relationships": [
                {
                    "Type": "CHILD",
                    "Ids": [
                        "1b926a34-0357-407b-ac8f-ec473160c6a9",
                        "0c35dc17-3605-4c9d-afla-d9451059df51",
                        "dea3db8a-52c2-41c0-b50c-81f66f4aa758"
                    ]
                }
            ]
        }
    ]
}
```
For more information, see Detecting and Analyzing Text in Multi-Page Documents in the Amazon Textract Developers Guide

- For API details, see [GetDocumentTextDetection](#) in [AWS CLI Command Reference](#).

### Amazon Transcribe examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon Transcribe.

**Actions** are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

**Scenarios** are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- **Actions**

**Actions**

**Create a custom vocabulary**

The following code example shows how to create a custom Amazon Transcribe vocabulary.
AWS CLI

To create a custom vocabulary

The following `create-vocabulary` example creates a custom vocabulary. To create a custom vocabulary, you must have created a text file with all the terms that you want to transcribe more accurately. For `vocabulary-file-uri`, specify the Amazon Simple Storage Service (Amazon S3) URI of that text file. For `language-code`, specify a language code corresponding to the language of your custom vocabulary. For `vocabulary-name`, specify what you want to call your custom vocabulary.

```
aws transcribe create-vocabulary \
    --language-code language-code \
    --vocabulary-name cli-vocab-example \
    --vocabulary-file-uri s3://DOC-EXAMPLE-BUCKET/Amazon-S3-prefix/the-text-file-for-the-custom-vocabulary.txt
```

Output:

```
{
    "VocabularyName": "cli-vocab-example",
    "LanguageCode": "language-code",
    "VocabularyState": "PENDING"
}
```

For more information, see Custom Vocabularies in the Amazon Transcribe Developer Guide.

- For API details, see CreateVocabulary in AWS CLI Command Reference.

Delete a custom vocabulary

The following code example shows how to delete a custom Amazon Transcribe vocabulary.

AWS CLI

To delete a custom vocabulary

The following `delete-vocabulary` example deletes a custom vocabulary.

```
aws transcribe delete-vocabulary \
    --vocabulary-name vocabulary-name
```
This command produces no output.

For more information, see Custom Vocabularies in the Amazon Transcribe Developer Guide.

- For API details, see DeleteVocabulary in AWS CLI Command Reference.

Delete a medical transcription job

The following code example shows how to delete an Amazon Transcribe Medical transcription job.

AWS CLI

To delete a medical transcription job

The following delete-medical-transcription-job example deletes a medical transcription job.

```
aws transcribe delete-medical-transcription-job \
   --medical-transcription-job-name medical-transcription-job-name
```

This command produces no output.

For more information, see DeleteMedicalTranscriptionJob in the Amazon Transcribe Developer Guide.

- For API details, see DeleteMedicalTranscriptionJob in AWS CLI Command Reference.

Delete a transcription job

The following code example shows how to delete an Amazon Transcribe transcription job.

AWS CLI

To delete one of your transcription jobs

The following delete-transcription-job example deletes one of your transcription jobs.

```
aws transcribe delete-transcription-job \
   --transcription-job-name your-transcription-job
```

This command produces no output.

For more information, see DeleteTranscriptionJob in the Amazon Transcribe Developer Guide.
Get a custom vocabulary

The following code example shows how to get a custom Amazon Transcribe vocabulary.

AWS CLI

To get information about a custom vocabulary

The following `get-vocabulary` example gets information on a previously created custom vocabulary.

```
aws transcribe get-vocabulary \
   --vocabulary-name cli-vocab-1
```

Output:

```
{
   "VocabularyName": "cli-vocab-1",
   "LanguageCode": "language-code",
   "VocabularyState": "READY",
   "LastModifiedTime": "2020-09-19T23:22:32.836000+00:00",
   "DownloadUri": "https://link-to-download-the-text-file-used-to-create-your-
   custom-vocabulary"
}
```

For more information, see Custom Vocabularies in the Amazon Transcribe Developer Guide.

- For API details, see GetVocabulary in AWS CLI Command Reference.

Get a transcription job

The following code example shows how to get an Amazon Transcribe transcription job.

AWS CLI

To get information about a specific transcription job

The following `get-transcription-job` example gets information about a specific transcription job. To access the transcription results, use the TranscriptFileUri parameter. Use
the MediaFileUri parameter to see which audio file you transcribed with this job. You can use the Settings object to see the optional features you've enabled in the transcription job.

```bash
aws transcribe get-transcription-job \
  --transcription-job-name your-transcription-job
```

Output:

```json
{
    "TranscriptionJob": {
        "TranscriptionJobName": "your-transcription-job",
        "TranscriptionJobStatus": "COMPLETED",
        "LanguageCode": "language-code",
        "MediaSampleRateHertz": 48000,
        "MediaFormat": "mp4",
        "Media": {
            "MediaFileUri": "s3://DOC-EXAMPLE-BUCKET/your-audio-file.file-extension"
        },
        "Transcript": {
            "TranscriptFileUri": "https://Amazon-S3-file-location-of-transcription-output"
        },
        "StartTime": "2020-09-18T22:27:23.970000+00:00",
        "CreationTime": "2020-09-18T22:27:23.948000+00:00",
        "CompletionTime": "2020-09-18T22:28:21.197000+00:00",
        "Settings": {
            "ChannelIdentification": false,
            "ShowAlternatives": false
        },
        "IdentifyLanguage": true,
        "IdentifiedLanguageScore": 0.8672199249267578
    }
}
```

For more information, see [Getting Started (AWS Command Line Interface)](https://docs.aws.amazon.com/cli/latest/userguide/getting-started.html) in the Amazon Transcribe Developer Guide.


**List custom vocabularies**

The following code example shows how to list custom Amazon Transcribe vocabularies.
AWS CLI

To list your custom vocabularies

The following `list-vocabularies` example lists the custom vocabularies associated with your AWS account and Region.

```
aws transcribe list-vocabularies
```

Output:

```
{
    "NextToken": "NextToken",
    "Vocabularies": [
        {
            "VocabularyName": "ards-test-1",
            "LanguageCode": "language-code",
            "LastModifiedTime": "2020-04-27T22:00:27.330000+00:00",
            "VocabularyState": "READY"
        },
        {
            "VocabularyName": "sample-test",
            "LanguageCode": "language-code",
            "LastModifiedTime": "2020-04-24T23:04:11.044000+00:00",
            "VocabularyState": "READY"
        },
        {
            "VocabularyName": "CRLF-to-LF-test-3-1",
            "LanguageCode": "language-code",
            "LastModifiedTime": "2020-04-24T22:12:22.277000+00:00",
            "VocabularyState": "READY"
        },
        {
            "VocabularyName": "CRLF-to-LF-test-2",
            "LanguageCode": "language-code",
            "LastModifiedTime": "2020-04-24T21:53:50.455000+00:00",
            "VocabularyState": "READY"
        },
        {
            "VocabularyName": "CRLF-to-LF-1-1",
            "LanguageCode": "language-code",
            "LastModifiedTime": "2020-04-24T21:39:33.356000+00:00",
            "VocabularyState": "READY"
        }
    ]
}
```
For more information, see Custom Vocabularies in the Amazon Transcribe Developer Guide.

- For API details, see ListVocabularies in AWS CLI Command Reference.

List medical transcription jobs

The following code example shows how to list Amazon Transcribe Medical transcription jobs.

AWS CLI

To list your medical transcription jobs

The following list-medical-transcription-jobs example lists the medical transcription jobs associated with your AWS account and Region. To get more information about a particular transcription job, copy the value of a MedicalTranscriptionJobName parameter in the transcription output, and specify that value for the MedicalTranscriptionJobName option of the get-medical-transcription-job command. To see more of your transcription jobs, copy the value of the NextToken parameter, run the list-medical-transcription-jobs command again, and specify that value in the --next-token option.

```bash
aws transcribe list-medical-transcription-jobs
```

Output:

```json
{
    "NextToken": "3/PblzkiGhzjER3KHuQt2fmbPLF7cDYafjFMeoGn440N/gsuUSTIkGyanvRE6WmXfd/ztece2EziJ+p9eii/z102Fdy116RL0WoRX4RwMisVrh9G0Kie0Y8ikBCdtqlZB10Wa9Mcc+ebo1+LaDzPC4u6tt0HLRIefzqStHXSgapXg3tEBtm9pI1aPb6M0s5BB6t86+qtmocTR/qoteHBudhTfbCwhsxaqujHiiJVfDm3BQbKkWI0gV9b+4f38oD21Vian+vfUs3gBYA15VTdMXXzQPBQ0HPjtwmFI+iWX15nSUjWuN3TUlHgPWzDaYT8qBtu0Z+3UG4V6b+K2CC0XszXg5rBq9hYgNzy4XoFh/6s5DoSnq49Q9xHgHdT2yBADFmVFK7myZB75+2vQZ0SVpWUPy3WT/32zFAcoEL+mFyfUjtT8n/jq7aQEjQ42A+x/7K6Jg0cdVptEqg8P1Dr5kgYyG3q30mYXX37U3F2u3nnM60v0t4p00Nq9ukzgSbjxqj84ZD5n+S0Egy9ZUYBJRccGeyUN3Q4DbSfUwSaqFdlWzdp8qIREMQIBW7Blw5dyqsQo2vRid53hm5aWM75Vf6Pq6X/IXR5+1eU00D8/coaTT4ES2derbV6RkV4o0VT1d0SdVX/MmtkNG8nYj8PqU07w7988quh1ZP6D80veJS1q73tUUR9MjnGernW2tAnvnLNhdefBcD+s2VfYq3iBMFY7wTy1P1G6NqW9GjYDYoX3tTPW1D7phpbV5yKrh/
```
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```json
"MedicalTranscriptionJobSummaries": [  
  {  
    "MedicalTranscriptionJobName": "vocabulary-dictation-medical-transcription-job",  
    "CreationTime": "2020-09-21T21:17:27.016000+00:00",  
    "StartTime": "2020-09-21T21:17:27.045000+00:00",  
    "CompletionTime": "2020-09-21T21:17:59.561000+00:00",  
    "LanguageCode": "en-US",  
    "TranscriptionJobStatus": "COMPLETED",  
    "OutputLocationType": "CUSTOMER_BUCKET",  
    "Specialty": "PRIMARYCARE",  
    "Type": "DICTATION"  
  },  
  {  
    "MedicalTranscriptionJobName": "alternatives-dictation-medical-transcription-job",  
    "CreationTime": "2020-09-21T21:01:14.569000+00:00",  
    "StartTime": "2020-09-21T21:01:14.592000+00:00",  
    "CompletionTime": "2020-09-21T21:01:43.606000+00:00",  
    "LanguageCode": "en-US",  
    "TranscriptionJobStatus": "COMPLETED",  
    "OutputLocationType": "CUSTOMER_BUCKET",  
    "Specialty": "PRIMARYCARE",  
    "Type": "DICTATION"  
  },  
  {  
    "MedicalTranscriptionJobName": "alternatives-conversation-medical-transcription-job",  
    "CreationTime": "2020-09-21T19:09:18.171000+00:00",  
    "StartTime": "2020-09-21T19:09:18.199000+00:00",  
    "CompletionTime": "2020-09-21T19:10:22.516000+00:00",  
    "LanguageCode": "en-US",  
    "TranscriptionJobStatus": "COMPLETED",  
    "OutputLocationType": "CUSTOMER_BUCKET",  
    "Specialty": "PRIMARYCARE",  
    "Type": "CONVERSATION"  
  },  
  {  
    "MedicalTranscriptionJobName": "speaker-id-conversation-medical-transcription-job",  
    "CreationTime": "2020-09-21T18:43:37.157000+00:00",  
  }
]"
For more information, see https://docs.aws.amazon.com/transcribe/latest/dg/batch-med-transcription.html> in the Amazon Transcribe Developer Guide.

- For API details, see ListMedicalTranscriptionJobs in AWS CLI Command Reference.

### List transcription jobs

The following code example shows how to list Amazon Transcribe transcription jobs.

#### AWS CLI

**To list your transcription jobs**

The following list-transcription-jobs example lists the transcription jobs associated with your AWS account and Region.

```
aws transcribe list-transcription-jobs
```

**Output:**
For more information, see Getting Started (AWS Command Line Interface) in the Amazon Transcribe Developer Guide.

- For API details, see ListTranscriptionJobs in AWS CLI Command Reference.

## Start a medical transcription job

The following code example shows how to start an Amazon Transcribe Medical transcription job.

### AWS CLI

**Example 1: To transcribe a medical dictation stored as an audio file**

The following start-medical-transcription-job example transcribes an audio file. You specify the location of the transcription output in the OutputBucketName parameter.

```bash
aws transcribe start-medical-transcription-job \
  --cli-input-json file://myfile.json
```

Contents of `myfile.json`:

```json
{
  "MedicalTranscriptionJobName": "simple-dictation-medical-transcription-job",
  "LanguageCode": "language-code",
  "Specialty": "PRIMARYCARE",
  "Type": "DICTATION",
  "OutputBucketName": "DOC-EXAMPLE-BUCKET",
  "Media": {
    "MediaFileUri": "s3://DOC-EXAMPLE-BUCKET/your-audio-file.extension"
  }
}
```

Output:
For more information, see [Batch Transcription Overview](#) in the *Amazon Transcribe Developer Guide*.

**Example 2: To transcribe a clinician-patient dialogue stored as an audio file**

The following `start-medical-transcription-job` example transcribes an audio file containing a clinician-patient dialogue. You specify the location of the transcription output in the `OutputBucketName` parameter.

```bash
aws transcribe start-medical-transcription-job \
--cli-input-json file://mysecondfile.json
```

**Contents of mysecondfile.json:**

```json
{
    "MedicalTranscriptionJobName": "simple-dictation-medical-transcription-job",
    "LanguageCode": "language-code",
    "Specialty": "PRIMARYCARE",
    "Type": "CONVERSATION",
    "OutputBucketName": "DOC-EXAMPLE-BUCKET",
    "Media": {
        "MediaFileUri": "s3://DOC-EXAMPLE-BUCKET/your-audio-file.extension"
    }
}
```

**Output:**

---

Actions and scenarios

---

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For more information, see [Batch Transcription Overview](#) in the Amazon Transcribe Developer Guide.

**Example 3: To transcribe a multichannel audio file of a clinician-patient dialogue**

The following `start-medical-transcription-job` example transcribes the audio from each channel in the audio file and merges the separate transcriptions from each channel into a single transcription output. You specify the location of the transcription output in the `OutputBucketName` parameter.

```bash
aws transcribe start-medical-transcription-job \
  --cli-input-json file://mythirdfile.json
```

**Contents of `mythirdfile.json`:**

```json
{
  "MedicalTranscriptionJobName": "multichannel-conversation-medical-transcription-job",
  "LanguageCode": "language-code",
  "Specialty": "PRIMARYCARE",
  "Type": "CONVERSATION",
  "OutputBucketName": "DOC-EXAMPLE-BUCKET",
  "Media": {
    "MediaFileUri": "s3://DOC-EXAMPLE-BUCKET/your-audio-file.extension"
  },
  "Settings":{
```
Output:

```
{
    "MedicalTranscriptionJob": {
        "MedicalTranscriptionJobName": "multichannel-conversation-medical-transcription-job",
        "TranscriptionJobStatus": "IN_PROGRESS",
        "LanguageCode": "language-code",
        "Media": {
            "MediaFileUri": "s3://DOC-EXAMPLE-BUCKET/your-audio-file.extension"
        },
        "StartTime": "2020-09-20T23:46:44.081000+00:00",
        "CreationTime": "2020-09-20T23:46:44.053000+00:00",
        "Settings": {
            "ChannelIdentification": true
        },
        "Specialty": "PRIMARYCARE",
        "Type": "CONVERSATION"
    }
}
```

For more information, see [Channel Identification](#) in the *Amazon Transcribe Developer Guide*.

**Example 4: To transcribe an audio file of a clinician-patient dialogue and identify the speakers in the transcription output**

The following `start-medical-transcription-job` example transcribes an audio file and labels the speech of each speaker in the transcription output. You specify the location of the transcription output in the `OutputBucketName` parameter.

```
aws transcribe start-medical-transcription-job \
    --cli-input-json file://myfourthfile.json
```

**Contents of myfourthfile.json:**

```
{
    "MedicalTranscriptionJobName": "speaker-id-conversation-medical-transcription-job",
```
Output:

```
{
    "MedicalTranscriptionJob": {
        "MedicalTranscriptionJobName": "speaker-id-conversation-medical-transcription-job",
        "TranscriptionJobStatus": "IN_PROGRESS",
        "LanguageCode": "language-code",
        "Media": {
            "MediaFileUri": "s3://DOC-EXAMPLE-BUCKET/your-audio-file.extension"
        },
        "StartTime": "2020-09-21T18:43:37.265000+00:00",
        "CreationTime": "2020-09-21T18:43:37.157000+00:00",
        "Settings": {
            "ShowSpeakerLabels": true,
            "MaxSpeakerLabels": 2
        },
        "Specialty": "PRIMARYCARE",
        "Type": "CONVERSATION"
    }
}
```

For more information, see [Identifying Speakers](#) in the *Amazon Transcribe Developer Guide*.

**Example 5: To transcribe a medical conversation stored as an audio file with up to two transcription alternatives**

The following `start-medical-transcription-job` example creates up to two alternative transcriptions from a single audio file. Every transcription has a level of confidence associated with it. By default, Amazon Transcribe returns the transcription with the highest
confidence level. You can specify that Amazon Transcribe return additional transcriptions with lower confidence levels. You specify the location of the transcription output in the `OutputBucketName` parameter.

```
aws transcribe start-medical-transcription-job \
   --cli-input-json file://myfifthfile.json
```

Contents of `myfifthfile.json`:

```json
{
   "MedicalTranscriptionJobName": "alternatives-conversation-medical-transcription-job",
   "LanguageCode": "language-code",
   "Specialty": "PRIMARYCARE",
   "Type": "CONVERSATION",
   "OutputBucketName": "DOC-EXAMPLE-BUCKET",
   "Media": {
      "MediaFileUri": "s3://DOC-EXAMPLE-BUCKET/your-audio-file.extension"
   },
   "Settings":{
      "ShowAlternatives": true,
      "MaxAlternatives": 2
   }
}
```

Output:

```json
{
   "MedicalTranscriptionJob": {
      "MedicalTranscriptionJobName": "alternatives-conversation-medical-transcription-job",
      "TranscriptionJobStatus": "IN_PROGRESS",
      "LanguageCode": "language-code",
      "Media": {
         "MediaFileUri": "s3://DOC-EXAMPLE-BUCKET/your-audio-file.extension"
      },
      "StartTime": "2020-09-21T19:09:18.199000+00:00",
      "CreationTime": "2020-09-21T19:09:18.171000+00:00",
      "Settings": {
         "ShowAlternatives": true,
         "MaxAlternatives": 2
      }
   }
}
```
Example 6: To transcribe an audio file of a medical dictation with up to two alternative transcriptions

The following `start-medical-transcription-job` example transcribes an audio file and uses a vocabulary filter to mask any unwanted words. You specify the location of the transcription output in the `OutputBucketName` parameter.

```
aws transcribe start-medical-transcription-job \
   --cli-input-json file://mysixthfile.json
```

Contents of `mysixthfile.json`:

```
{
   "MedicalTranscriptionJobName": "alternatives-conversation-medical-transcription-job",
   "LanguageCode": "language-code",
   "Specialty": "PRIMARYCARE",
   "Type": "DICTATION",
   "OutputBucketName": "DOC-EXAMPLE-BUCKET",
   "Media": {
      "MediaFileUri": "s3://DOC-EXAMPLE-BUCKET/your-audio-file.extension"
   },
   "Settings":{
      "ShowAlternatives": true,
      "MaxAlternatives": 2
   }
}
```

Output:

```
{
   "MedicalTranscriptionJob": {
      "MedicalTranscriptionJobName": "alternatives-dictation-medical-transcription-job",
```
For more information, see Alternative Transcriptions in the Amazon Transcribe Developer Guide.

**Example 7: To transcribe an audio file of a medical dictation with increased accuracy by using a custom vocabulary**

The following start-medical-transcription-job example transcribes an audio file and uses a medical custom vocabulary you've previously created to increase the transcription accuracy. You specify the location of the transcription output in the `OutputBucketName` parameter.

```
aws transcribe start-transcription-job \
  --cli-input-json file://myseventhfile.json
```

**Contents of mysixthfile.json:**

```json
{
  "MedicalTranscriptionJobName": "vocabulary-dictation-medical-transcription-job",
  "LanguageCode": "language-code",
  "Specialty": "PRIMARYCARE",
  "Type": "DICTATION",
  "OutputBucketName": "DOC-EXAMPLE-BUCKET",
  "Media": {
    "MediaFileUri": "s3://DOC-EXAMPLE-BUCKET/your-audio-file.extension"
  },
  "Settings": {
    "VocabularyName": "cli-medical-vocab-1"
  }
}
```
Output:

```json
{
   "MedicalTranscriptionJob": {
      "MedicalTranscriptionJobName": "vocabulary-dictation-medical-transcription-job",
      "TranscriptionJobStatus": "IN_PROGRESS",
      "LanguageCode": "language-code",
      "Media": {
         "MediaFileUri": "s3://DOC-EXAMPLE-BUCKET/your-audio-file.extension"
      },
      "StartTime": "2020-09-21T21:17:27.045000+00:00",
      "CreationTime": "2020-09-21T21:17:27.016000+00:00",
      "Settings": {
         "VocabularyName": "cli-medical-vocab-1"
      },
      "Specialty": "PRIMARYCARE",
      "Type": "DICTATION"
   }
}
```

For more information, see [Medical Custom Vocabularies](https://docs.aws.amazon.com/AmazonTranscribe/latest/developerguide/medical-custom-vocab.html) in the Amazon Transcribe Developer Guide.

- For API details, see [StartMedicalTranscriptionJob](https://docs.aws.amazon.com/cli/latest/reference/stepfunctions/start-medical-transcription-job.html) in AWS CLI Command Reference.

**Start a transcription job**

The following code example shows how to start an Amazon Transcribe transcription job.

**AWS CLI**

**Example 1: To transcribe an audio file**

The following start-transcription-job example transcribes your audio file.

```bash
aws transcribe start-transcription-job  
   --cli-input-json file://myfile.json
```
Contents of myfile.json:

```json
{
    "TranscriptionJobName": "cli-simple-transcription-job",
    "LanguageCode": "the-language-of-your-transcription-job",
    "Media": {
        "MediaFileUri": "s3://DOC-EXAMPLE-BUCKET/Amazon-S3-prefix/your-media-file-name.file-extension"
    }
}
```

For more information, see [Getting Started (AWS Command Line Interface)](https://docs.aws.amazon.com/cli/latest/userguide/) in the *Amazon Transcribe Developer Guide*.

**Example 2: To transcribe a multi-channel audio file**

The following start-transcription-job example transcribes your multi-channel audio file.

```bash
aws transcribe start-transcription-job \
    --cli-input-json file://mysecondfile.json
```

Contents of mysecondfile.json:

```json
{
    "TranscriptionJobName": "cli-channelid-job",
    "LanguageCode": "the-language-of-your-transcription-job",
    "Media": {
        "MediaFileUri": "s3://DOC-EXAMPLE-BUCKET/Amazon-S3-prefix/your-media-file-name.file-extension"
    },
    "Settings":{
        "ChannelIdentification":true
    }
}
```

Output:

```json
{
    "TranscriptionJob": {
        "TranscriptionJobName": "cli-channelid-job",
        "TranscriptionJobStatus": "IN_PROGRESS",
        
```
For more information, see Transcribing Multi-Channel Audio in the Amazon Transcribe Developer Guide.

Example 3: To transcribe an audio file and identify the different speakers

The following start-transcription-job example transcribes your audio file and identifies the speakers in the transcription output.

aws transcribe start-transcription-job \
    --cli-input-json file://mythirdfile.json

Contents of mythirdfile.json:

```
{
    "TranscriptionJobName": "cli-speakerid-job",
    "LanguageCode": "the-language-of-your-transcription-job",
    "Media": {
        "MediaFileUri": "s3://DOC-EXAMPLE-BUCKET/Amazon-S3-prefix/your-media-file-name.file-extension"
    },
    "Settings": {
        "ShowSpeakerLabels": true,
        "MaxSpeakerLabels": 2
    }
}
```

Output:

```
{
```
"TranscriptionJob": {
  "TranscriptionJobName": "cli-speakerid-job",
  "TranscriptionJobStatus": "IN_PROGRESS",
  "LanguageCode": "the-language-of-your-transcription-job",
  "Media": {
    "MediaFileUri": "s3://DOC-EXAMPLE-BUCKET/Amazon-S3-prefix/your-media-file-name.file-extension"
  },
  "StartTime": "2020-09-17T16:22:59.696000+00:00",
  "CreationTime": "2020-09-17T16:22:59.676000+00:00",
  "Settings": {
    "ShowSpeakerLabels": true,
    "MaxSpeakerLabels": 2
  }
}

For more information, see Identify Speaker Labels in the Amazon Transcribe Developer Guide.

Example 4: To transcribe an audio file and mask any unwanted words in the transcription output

The following start-transcription-job example transcribes your audio file and uses a vocabulary filter you’ve previously created to mask any unwanted words.

aws transcribe start-transcription-job \
 --cli-input-json file://myfourthfile.json

Contents of myfourthfile.json:

```json
{
  "TranscriptionJobName": "cli-filter-mask-job",
  "LanguageCode": "the-language-of-your-transcription-job",
  "Media": {
    "MediaFileUri": "s3://DOC-EXAMPLE-BUCKET/Amazon-S3-prefix/your-media-file-name.file-extension"
  },
  "Settings": {
    "VocabularyFilterName": "your-vocabulary-filter",
    "VocabularyFilterMethod": "mask"
  }
}
```
For more information, see [Filtering Transcriptions](#) in the *Amazon Transcribe Developer Guide*.

**Example 5: To transcribe an audio file and remove any unwanted words in the transcription output**

The following `start-transcription-job` example transcribes your audio file and uses a vocabulary filter you've previously created to mask any unwanted words.

```bash
aws transcribe start-transcription-job \
   --cli-input-json file://myfifthfile.json
```

**Contents of myfifthfile.json:**

```json
{
   "TranscriptionJobName": "cli-filter-remove-job",
   "LanguageCode": "the-language-of-your-transcription-job",
   "Media": {
      "MediaFileUri": "s3://DOC-EXAMPLE-BUCKET/Amazon-S3-prefix/your-media-file-
      name.file-extension"
   },
   "Settings": {
      "VocabularyFilterName": "your-vocabulary-filter",
      "VocabularyFilterMethod": "remove"
   }
}
```
For more information, see Filtering Transcriptions in the Amazon Transcribe Developer Guide.

Example 6: To transcribe an audio file with increased accuracy using a custom vocabulary

The following start-transcription-job example transcribes your audio file and uses a vocabulary filter you've previously created to mask any unwanted words.

```bash
aws transcribe start-transcription-job \
   --cli-input-json file://mysixthfile.json
```

Contents of mysixthfile.json:

```json
{
   "TranscriptionJobName": "cli-vocab-job",
   "LanguageCode": "the-language-of-your-transcription-job",
   "Media": {
      "MediaFileUri": "s3://DOC-EXAMPLE-BUCKET/Amazon-S3-prefix/your-media-file-name.file-extension"
   }
}
```
Output:

```
{
    "TranscriptionJob": {
        "TranscriptionJobName": "cli-vocab-job",
        "TranscriptionJobStatus": "IN_PROGRESS",
        "LanguageCode": "the-language-of-your-transcription-job",
        "Media": {
            "MediaFileUri": "s3://DOC-EXAMPLE-BUCKET/Amazon-S3-prefix/your-media-file-name.file-extension"
        },
        "StartTime": "2020-09-18T16:36:18.568000+00:00",
        "CreationTime": "2020-09-18T16:36:18.547000+00:00",
        "Settings": {
            "VocabularyName": "your-vocabulary"
        }
    }
}
```

For more information, see Filtering Transcriptions in the Amazon Transcribe Developer Guide.

**Example 7: To identify the language of an audio file and transcribe it**

The following `start-transcription-job` example transcribes your audio file and uses a vocabulary filter you’ve previously created to mask any unwanted words.

```
aws transcribe start-transcription-job \
    --cli-input-json file://myseventhfile.json
```

Contents of `myseventhfile.json`:

```
{
    "TranscriptionJobName": "cli-identify-language-transcription-job",
    "IdentifyLanguage": true,
    "Media": {
        "MediaFileUri": "s3://DOC-EXAMPLE-BUCKET/Amazon-S3-prefix/your-media-file-name.file-extension"
    }
}
```
Output:

```json
{
  "TranscriptionJob": {
    "TranscriptionJobName": "cli-identify-language-transcription-job",
    "TranscriptionJobStatus": "IN_PROGRESS",
    "Media": {
      "MediaFileUri": "s3://DOC-EXAMPLE-BUCKET/Amazon-S3-prefix/your-media-file-name.file-extension"
    },
    "StartTime": "2020-09-18T22:27:23.970000+00:00",
    "CreationTime": "2020-09-18T22:27:23.948000+00:00",
    "IdentifyLanguage": true
  }
}
```

For more information, see [Identifying the Language](#) in the *Amazon Transcribe Developer Guide*.

**Example 8: To transcribe an audio file with personally identifiable information redacted**

The following `start-transcription-job` example transcribes your audio file and redacts any personally identifiable information in the transcription output.

```bash
aws transcribe start-transcription-job \  
--cli-input-json file://myeighthfile.json
```

**Contents of myeighthfile.json:**

```json
{
  "TranscriptionJobName": "cli-redaction-job",
  "LanguageCode": "language-code",
  "Media": {
    "MediaFileUri": "s3://Amazon-S3-Prefix/your-media-file.file-extension"
  },
  "ContentRedaction": {
    "RedactionOutput": "redacted",
    "RedactionType": "PII"
  }
}
```
Example 9: To generate a transcript with personally identifiable information (PII) redacted and an unredacted transcript

The following `start-transcription-job` example generates two transcriptions of your audio file, one with the personally identifiable information redacted, and the other without any redactions.

```bash
aws transcribe start-transcription-job \
  --cli-input-json file://myninthfile.json
```

Contents of `myninthfile.json`:

```json
{
  "TranscriptionJob": {
    "TranscriptionJobName": "cli-redaction-job-with-unredacted-transcript",
    "LanguageCode": "language-code",
    "Media": {
      "MediaFileUri": "s3://Amazon-S3-Prefix/your-media-file.file-extension"
    },
    "ContentRedaction": {
      "RedactionType": "PII",
      "RedactionOutput": "redacted"
    }
  }
}
```
For more information, see [Automatic Content Redaction](https://docs.aws.amazon.com/transcribe/latest/dg/automatic-content-redaction.html) in the *Amazon Transcribe Developer Guide*.

**Example 10: To use a custom language model you've previously created to transcribe an audio file.**

The following `start-transcription-job` example transcribes your audio file with a custom language model you've previously created.

```
aws transcribe start-transcription-job \
   --cli-input-json file://mytenthfile.json
```

Contents of `mytenthfile.json`:

```json
{
   "TranscriptionJobName": "cli-clm-2-job-1",
   "LanguageCode": "language-code",
   "Media": {
      "MediaFileUri": "s3://Amazon-S3-Prefix/your-media-file.file-extension"
   },
   "StartTime": "2020-09-25T23:59:59.677000+00:00",
   "CreationTime": "2020-09-25T23:59:59.653000+00:00",
   "ContentRedaction": {
      "RedactionType": "PII",
      "RedactionOutput": "redacted_and_unredacted"
   }
}
```
"Media": {
    "MediaFileUri": "s3://DOC-EXAMPLE-BUCKET/your-audio-file.file-extension"
},
"ModelSettings": {
    "LanguageModelName": "cli-clm-2"
}
}

Output:

{
    "TranscriptionJob": {
        "TranscriptionJobName": "cli-clm-2-job-1",
        "TranscriptionJobStatus": "IN_PROGRESS",
        "LanguageCode": "language-code",
        "Media": {
            "MediaFileUri": "s3://DOC-EXAMPLE-BUCKET/your-audio-file.file-extension"
        },
        "StartTime": "2020-09-28T17:56:01.835000+00:00",
        "CreationTime": "2020-09-28T17:56:01.801000+00:00",
        "ModelSettings": {
            "LanguageModelName": "cli-clm-2"
        }
    }
}

For more information, see Improving Domain-Specific Transcription Accuracy with Custom Language Models in the Amazon Transcribe Developer Guide.

- For API details, see StartTranscriptionJob in AWS CLI Command Reference.

Update a custom vocabulary

The following code example shows how to update a custom Amazon Transcribe vocabulary.

AWS CLI

To update a custom vocabulary with new terms.

The following update-vocabulary example overwrites the terms used to create a custom vocabulary with the new ones that you provide. Prerequisite: to replace the terms in a custom vocabulary, you need a file with new terms.
aws transcribe update-vocabulary \
   --vocabulary-file-uri s3://DOC-EXAMPLE-BUCKET/Amazon-S3-Prefix/custom-vocabulary.txt \
   --vocabulary-name custom-vocabulary \
   --language-code language-code

Output:

{
   "VocabularyName": "custom-vocabulary",
   "LanguageCode": "language",
   "VocabularyState": "PENDING"
}

For more information, see Custom Vocabularies in the Amazon Transcribe Developer Guide.

- For API details, see UpdateVocabulary in AWS CLI Command Reference.

create-language-model

The following code example shows how to use create-language-model.

AWS CLI

**Example 1: To create a custom language model using both training and tuning data.**

The following create-language-model example creates a custom language model. You can use a custom language model to improve transcription performance for domains such as legal, hospitality, finance, and insurance. For language-code, enter a valid language code. For base-model-name, specify a base model that is best suited for the sample rate of the audio that you want to transcribe with your custom language model. For model-name, specify the name that you want to call the custom language model.

aws transcribe create-language-model \
   --language-code language-code \
   --base-model-name base-model-name \
   --model-name cli-clm-example \
   --input-data-config S3Uri="s3://DOC-EXAMPLE-BUCKET/Amazon-S3-Prefix-for-training-data",TuningDataS3Uri="s3://DOC-EXAMPLE-BUCKET/Amazon-S3-Prefix-for-tuning-data",DataAccessRoleArn="arn:aws:iam::AWS-account-number:role/IAM-role-with-permissions-to-create-a-custom-language-model"
Example 2: To create a custom language model using only training data.

The following `create-language-model` example transcribes your audio file. You can use a custom language model to improve transcription performance for domains such as legal, hospitality, finance, and insurance. For language-code, enter a valid language code. For base-model-name, specify a base model that is best suited for the sample rate of the audio that you want to transcribe with your custom language model. For model-name, specify the name that you want to call the custom language model.

```
aws transcribe create-language-model \
  --language-code en-US \
  --base-model-name base-model-name \n  --model-name cli-clm-example \n  --input-data-config S3Uri="s3://DOC-EXAMPLE-BUCKET/Amazon-S3-Prefix-For-Training-Data",DataAccessRoleArn="arn:aws:iam::AWS-account-number:role/IAM-role-with-permissions-to-create-a-custom-language-model"
```

Output:

```json
{
  "LanguageCode": "en-US",
  "BaseModelName": "base-model-name",
  "ModelName": "cli-clm-example",
  "ModelStatus": "IN_PROGRESS"
}
```
"InputDataConfig": {
    "S3Uri": "s3://DOC-EXAMPLE-BUCKET/Amazon-S3-Prefix-For-Training-Data/",
    "DataAccessRoleArn": "arn:aws:iam::your-AWS-account-number:role/IAM-role-
    with-permissions-to-create-a-custom-language-model"
},
    "ModelStatus": "IN_PROGRESS"
}

For more information, see Improving Domain-Specific Transcription Accuracy with Custom Language Models in the Amazon Transcribe Developer Guide.

- For API details, see CreateLanguageModel in AWS CLI Command Reference.

create-medical-vocabulary

The following code example shows how to use create-medical-vocabulary.

AWS CLI

To create a medical custom vocabulary

The following create-medical-vocabulary example creates a custom vocabulary. To create a custom vocabulary, you must have created a text file with all the terms that you want to transcribe more accurately. For vocabulary-file-uri, specify the Amazon Simple Storage Service (Amazon S3) URI of that text file. For language-code, specify a language code corresponding to the language of your custom vocabulary. For vocabulary-name, specify what you want to call your custom vocabulary.

```
aws transcribe create-medical-vocabulary \
    --vocabulary-name cli-medical-vocab-example \
    --language-code language-code \
    --vocabulary-file-uri https://DOC-EXAMPLE-BUCKET.AWS-Region.amazonaws.com/the-
text-file-for-the-medical-custom-vocabulary.txt
```

Output:

```
{
    "VocabularyName": "cli-medical-vocab-example",
    "LanguageCode": "language-code",
    "VocabularyState": "PENDING"
}
```
For more information, see Medical Custom Vocabularies in the Amazon Transcribe Developer Guide.

- For API details, see CreateMedicalVocabulary in AWS CLI Command Reference.

create-vocabulary-filter

The following code example shows how to use create-vocabulary-filter.

**AWS CLI**

To create a vocabulary filter

The following create-vocabulary-filter example creates a vocabulary filter that uses a text file that contains a list of words that you wouldn't want to appear in a transcription. For language-code, specify the language code corresponding to the language of your vocabulary filter. For vocabulary-filter-file-uri, specify the Amazon Simple Storage Service (Amazon S3) URI of the text file. For vocabulary-filter-name, specify the name of your vocabulary filter.

```
aws transcribe create-vocabulary-filter \
  --language-code language-code \
  --vocabulary-filter-file-uri s3://DOC-EXAMPLE-BUCKET/vocabulary-filter.txt \
  --vocabulary-filter-name cli-vocabulary-filter-example
```

Output:

```
{
  "VocabularyFilterName": "cli-vocabulary-filter-example",
  "LanguageCode": "language-code"
}
```

For more information, see Filtering Unwanted Words in the Amazon Transcribe Developer Guide.

- For API details, see CreateVocabularyFilter in AWS CLI Command Reference.

delete-language-model

The following code example shows how to use delete-language-model.

**AWS CLI**

To delete a custom language model
The following `delete-language-model` example deletes a custom language model.

```
aws transcribe delete-language-model \
   --model-name model-name
```

This command produces no output.

For more information, see [Improving Domain-Specific Transcription Accuracy with Custom Language Models](https://docs.aws.amazon.com/transcribe/latest/dg/improving-accuracy.html) in the *Amazon Transcribe Developer Guide*.

- For API details, see [DeleteLanguageModel](https://docs.aws.amazon.com/cli/latest/reference/transcribe/delete-language-model.html) in *AWS CLI Command Reference*.

### delete-medical-vocabulary

The following code example shows how to use `delete-medical-vocabulary`.

**AWS CLI**

**To delete a medical custom vocabulary**

The following `delete-medical-vocabulary` example deletes a medical custom vocabulary. For `vocabulary-name`, specify the name of the medical custom vocabulary.

```
aws transcribe delete-vocabulary \
   --vocabulary-name medical-custom-vocabulary-name
```

This command produces no output.

For more information, see [Medical Custom Vocabularies](https://docs.aws.amazon.com/transcribe/latest/dg/medical-vocab.html) in the *Amazon Transcribe Developer Guide*.

- For API details, see [DeleteMedicalVocabulary](https://docs.aws.amazon.com/cli/latest/reference/transcribe/delete-medical-vocabulary.html) in *AWS CLI Command Reference*.

### delete-vocabulary-filter

The following code example shows how to use `delete-vocabulary-filter`.

**AWS CLI**

**To delete a vocabulary filter**

The following `delete-vocabulary-filter` example deletes a vocabulary filter.
aws transcribe delete-vocabulary-filter \
   --vocabulary-filter-name vocabulary-filter-name

This command produces no output.

For more information, see Filtering Unwanted Words in the Amazon Transcribe Developer Guide.

- For API details, see DeleteVocabularyFilter in AWS CLI Command Reference.

describe-language-model

The following code example shows how to use describe-language-model.

AWS CLI

To get information about a specific custom language model

The following describe-language-model example gets information about a specific custom language model. For example, under BaseModelName you can see whether your model is trained using a NarrowBand or WideBand model. Custom language models with a NarrowBand base model can transcribe audio with a sample rate less than 16 kHz. Language models using a WideBand base model can transcribe audio with a sample rate greater than 16 kHz. The S3Uri parameter indicates the Amazon S3 prefix you've used to access the training data to create the custom language model.

aws transcribe describe-language-model \
   --model-name cli-clm-example

Output:

```json
{
   "LanguageModel": {
      "ModelName": "cli-clm-example",
      "CreateTime": "2020-09-25T17:57:38.504000+00:00",
      "LastModifiedTime": "2020-09-25T17:57:48.585000+00:00",
      "LanguageCode": "language-code",
      "BaseModelName": "base-model-name",
      "ModelStatus": "IN_PROGRESS",
      "UpgradeAvailability": false,
      "InputDataConfig": {
         "S3Uri": "s3://DOC-EXAMPLE-BUCKET/Amazon-S3-Prefix/"
      }
   }
}```
For more information, see Improving Domain-Specific Transcription Accuracy with Custom Language Models in the Amazon Transcribe Developer Guide.

- For API details, see DescribeLanguageModel in AWS CLI Command Reference.

get-medical-transcription-job

The following code example shows how to use get-medical-transcription-job.

AWS CLI

To get information about a specific medical transcription job

The following get-medical-transcription-job example gets information about a specific medical transcription job. To access the transcription results, use the TranscriptFileUri parameter. If you’ve enabled additional features for the transcription job, you can see them in the Settings object. The Specialty parameter shows the medical specialty of the provider. The Type parameter indicates whether the speech in the transcription job is of a medical conversation, or a medical dictation.

```bash
aws transcribe get-medical-transcription-job \
  --medical-transcription-job-name vocabulary-dictation-medical-transcription-job
```

Output:

```json
{
   "MedicalTranscriptionJob": {
      "MedicalTranscriptionJobName": "vocabulary-dictation-medical-transcription-job",
      "TranscriptionJobStatus": "COMPLETED",
      "LanguageCode": "en-US",
      "MediaSampleRateHertz": 48000,
      "MediaFormat": "mp4",
      "Media": {
         "MediaFileUri": "s3://Amazon-S3-Prefix/your-audio-file.file-extension"
      }
   }
}
```
For more information, see Batch Transcription in the Amazon Transcribe Developer Guide.

- For API details, see GetMedicalTranscriptionJob in AWS CLI Command Reference.

get-medical-vocabulary

The following code example shows how to use get-medical-vocabulary.

AWS CLI

To get information about a medical custom vocabulary

The following get-medical-vocabulary example gets information on a medical custom vocabulary. You can use the VocabularyState parameter to see the processing state of the vocabulary. If it's READY, you can use it in the StartMedicalTranscriptionJob operation:

```
aws transcribe get-medical-vocabulary \
  --vocabulary-name medical-vocab-example
```

Output:

```
{
"VocabularyName": "medical-vocab-example",
"LanguageCode": "en-US",
"CreationDate": "2020-09-21T21:17:27.016000+00:00",
"CompletionDate": "2020-09-21T21:17:59.561000+00:00",
"Settings": {
  "ChannelIdentification": false,
  "ShowAlternatives": false,
  "VocabularyName": "cli-medical-vocab-example"
},
"Specialty": "PRIMARYCARE",
"Type": "DICTATION"
}
```
For more information, see [Medical Custom Vocabularies](https://aws.amazon.com/transcribe/vocabularies/) in the *Amazon Transcribe Developer Guide*.

- For API details, see [GetMedicalVocabulary](https://docs.aws.amazon.com/cli/latest/reference/transcribe/get-medical-vocabulary.html) in *AWS CLI Command Reference*.

### get-vocabulary-filter

The following code example shows how to use `get-vocabulary-filter`.

**AWS CLI**

**To get information about a vocabulary filter**

The following `get-vocabulary-filter` example gets information about a vocabulary filter. You can use the `DownloadUri` parameter to get the list of words you used to create the vocabulary filter.

```bash
aws transcribe get-vocabulary-filter \
   --vocabulary-filter-name testFilter
```

**Output:**

```
{
    "VocabularyFilterName": "testFilter",
    "LanguageCode": "language-code",
    "LastModifiedTime": "2020-05-07T22:39:32.147000+00:00",
    "DownloadUri": "https://Amazon-S3-location-to-download-your-vocabulary-filter"
}
```

For more information, see [Filter Unwanted Words](https://aws.amazon.com/transcribe/vocabulary/) in the *Amazon Transcribe Developer Guide*.

- For API details, see [GetVocabularyFilter](https://docs.aws.amazon.com/cli/latest/reference/transcribe/get-vocabulary-filter.html) in *AWS CLI Command Reference*.

### list-language-models

The following code example shows how to use `list-language-models`.

Actions and scenarios
AWS CLI

To list your custom language models

The following `list-language-models` example lists the custom language models associated with your AWS account and Region. You can use the `S3Uri` and `TuningDataS3Uri` parameters to find the Amazon S3 prefixes you've used as your training data, or your tuning data. The `BaseModelName` tells you whether you've used a NarrowBand, or WideBand model to create a custom language model. You can transcribe audio with a sample rate of less than 16 kHz with a custom language model using a NarrowBand base model. You can transcribe audio 16 kHz or greater with a custom language model using a WideBand base model. The `ModelStatus` parameter shows whether you can use the custom language model in a transcription job. If the value is `COMPLETED`, you can use it in a transcription job.

```
aws transcribe list-language-models
```

Output:

```json
{
   "Models": [
      {
         "ModelName": "cli-clm-2",
         "CreateTime": "2020-09-25T17:57:38.504000+00:00",
         "LastModifiedTime": "2020-09-25T17:57:48.585000+00:00",
         "LanguageCode": "language-code",
         "BaseModelName": "WideBand",
         "ModelStatus": "IN_PROGRESS",
         "UpgradeAvailability": false,
         "InputDataConfig": {
            "S3Uri": "s3://DOC-EXAMPLE-BUCKET/clm-training-data/",
            "TuningDataS3Uri": "s3://DOC-EXAMPLE-BUCKET/clm-tuning-data/",
            "DataAccessRoleArn": "arn:aws:iam::AWS-account-number:role/IAM-role-used-to-create-the-custom-language-model"
         }
      },
      {
         "ModelName": "cli-clm-1",
         "CreateTime": "2020-09-25T17:01.835000+00:00",
         "LastModifiedTime": "2020-09-25T17:16:15.555000+00:00",
         "LanguageCode": "language-code",
         "BaseModelName": "WideBand",
         "ModelStatus": "IN_PROGRESS",
      }
   ]
}
```
For more information, see Improving Domain-Specific Transcription Accuracy with Custom Language Models in the Amazon Transcribe Developer Guide.

- For API details, see ListLanguageModels in AWS CLI Command Reference.

list-medical-vocabularies

The following code example shows how to use list-medical-vocabularies.

AWS CLI

To list your medical custom vocabularies

The following list-medical-vocabularies example lists the medical custom vocabularies associated with your AWS account and Region. To get more information about a particular transcription job, copy the value of a MedicalTranscriptionJobName parameter in the transcription output, and specify that value for the MedicalTranscriptionJobName option of the get-medical-transcription-job command. To see more of your transcription jobs,
copy the value of the NextToken parameter, run the list-medical-transcription-jobs command again, and specify that value in the --next-token option.

aws transcribe list-medical-vocabularies

Output:

```json
{
   "Vocabularies": [
      {
         "VocabularyName": "cli-medical-vocab-2",
         "LanguageCode": "en-US",
         "LastModifiedTime": "2020-09-21T21:44:59.521000+00:00",
         "VocabularyState": "READY"
      },
      {
         "VocabularyName": "cli-medical-vocab-1",
         "LanguageCode": "en-US",
         "LastModifiedTime": "2020-09-19T23:59:04.349000+00:00",
         "VocabularyState": "READY"
      }
   ]
}
```

For more information, see [Medical Custom Vocabularies](https://docs.aws.amazon.com/AmazonTranscribe/latest/DeveloperGuide/medical-custom-vocabularies.html) in the *Amazon Transcribe Developer Guide*.

- For API details, see [ListMedicalVocabularies](https://docs.aws.amazon.com/cli/latest/reference/transcribe/list-medical-vocabularies.html) in *AWS CLI Command Reference*.

**list-vocabulary-filters**

The following code example shows how to use list-vocabulary-filters.

**AWS CLI**

To list your vocabulary filters

The following list-vocabulary-filters example lists the vocabulary filters associated with your AWS account and Region.

aws transcribe list-vocabulary-filters
Output:

```json
{
   "NextToken": "NextToken": [
       {
           "VocabularyFilterName": "testFilter",
           "LanguageCode": "language-code",
           "LastModifiedTime": "2020-05-07T22:39:32.147000+00:00"
       },
       {
           "VocabularyFilterName": "testFilter2",
           "LanguageCode": "language-code",
           "LastModifiedTime": "2020-05-21T23:29:35.174000+00:00"
       },
       {
           "VocabularyFilterName": "filter2",
           "LanguageCode": "language-code",
           "LastModifiedTime": "2020-05-08T20:18:26.426000+00:00"
       },
       {
           "VocabularyFilterName": "filter-review",
           "LanguageCode": "language-code",
           "LastModifiedTime": "2020-06-03T18:52:30.448000+00:00"
       },
       {
           "VocabularyFilterName": "crlf-filt",
           "LanguageCode": "language-code",
           "LastModifiedTime": "2020-05-22T19:42:42.737000+00:00"
       }
   ]
}
```

For more information, see Filtering Unwanted Words in the Amazon Transcribe Developer Guide.

- For API details, see ListVocabularyFilters in AWS CLI Command Reference.

update-medical-vocabulary

The following code example shows how to use update-medical-vocabulary.

AWS CLI

To update a medical custom vocabulary with new terms.
The following `update-medical-vocabulary` example replaces the terms used in a medical custom vocabulary with the new ones. Prerequisite: to replace the terms in a medical custom vocabulary, you need a file with new terms.

```bash
aws transcribe update-medical-vocabulary \
    --vocabulary-file-uri s3://DOC-EXAMPLE-BUCKET/Amazon-S3-Prefix/medical-custom-vocabulary.txt \
    --vocabulary-name medical-custom-vocabulary \
    --language-code language
```

Output:

```json
{
    "VocabularyName": "medical-custom-vocabulary",
    "LanguageCode": "en-US",
    "VocabularyState": "PENDING"
}
```

For more information, see [Medical Custom Vocabularies](#) in the *Amazon Transcribe Developer Guide*.

- For API details, see [UpdateMedicalVocabulary](#) in *AWS CLI Command Reference*.

### update-vocabulary-filter

The following code example shows how to use `update-vocabulary-filter`.

**AWS CLI**

**To replace the words in a vocabulary filter**

The following `update-vocabulary-filter` example replaces the words in a vocabulary filter with new ones. Prerequisite: To update a vocabulary filter with the new words, you must have those words saved as a text file.

```bash
aws transcribe update-vocabulary-filter \
    --vocabulary-filter-file-uri s3://DOC-EXAMPLE-BUCKET/Amazon-S3-Prefix/your-text-file-to-update-your-vocabulary-filter.txt \
    --vocabulary-filter-name vocabulary-filter-name
```

Output:
For more information, see Filtering Unwanted Words in the Amazon Transcribe Developer Guide.

- For API details, see UpdateVocabularyFilter in AWS CLI Command Reference.

**Amazon Translate examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon Translate.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**

- **Actions**

**Actions**

**import-terminology**

The following code example shows how to use import-terminology.

**AWS CLI**

**To import a custom terminology from a file**

The following import-terminology example creates a terminology called MyTestTerminology from the test-terminology.csv file:
aws translate import-terminology
   --name MyTestTerminology \
   --description "Creating a test terminology in AWS Translate" \
   --merge-strategy OVERWRITE \
   --data-file fileb://test-terminology.csv \
   --terminology-data Format=CSV

Contents of test-terminology.csv:

en,fr,es,zh Hello world!,Bonjour tout le monde!,Hola Mundo!,????
Amazon,Amazon,Amazon,Amazon

Output:

{  
   "TerminologyProperties": {  
      "SourceLanguageCode": "en",  
      "Name": "MyTestTerminology",  
      "TargetLanguageCodes": [  
         "fr",  
         "es",  
         "zh"  
      ],  
      "SizeBytes": 97,  
      "LastUpdatedAt": 1571089500.851,  
      "CreatedAt": 1571089500.851,  
      "TermCount": 6,  
      "Description": "Creating a test terminology in AWS Translate"  
   }  
}

- For API details, see ImportTerminology in AWS CLI Command Reference.

**Trusted Advisor examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Trusted Advisor.
Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics
• Actions

Actions

get-organization-recommendation

The following code example shows how to use get-organization-recommendation.

AWS CLI

To get an organization recommendation

The following get-organization-recommendation example gets an organization recommendation by its identifier.

```bash
aws trustedadvisor get-organization-recommendation \\
```

Output:

```json
{
    "organizationRecommendation": {
        "arn": "arn:aws:trustedadvisor:::organization-recommendation/9534ec9b-bf3a-44e8-8213-2ed68b39d9d5",
        "name": "Lambda Runtime Deprecation Warning",
        "description": "One or more lambdas are using a deprecated runtime",
        "awsServices": [
            "lambda"
        ],
        "checkArn": "arn:aws:trustedadvisor:::check/L4dfs2Q4C5",
```
For more information, see [Get started with the Trusted Advisor API](https://docs.aws.amazon.com/trustedadvisor/latest/userguide/using-trusted-advisor.html) in the *AWS Trusted Advisor User Guide*.


### get-recommendation

The following code example shows how to use `get-recommendation`.

**AWS CLI**

**To get a recommendation**

The following `get-recommendation` example gets a recommendation by its identifier.

```
aws trustedadvisor get-recommendation \
  --recommendation-identifier
  arn:aws:trustedadvisor::000000000000:recommendation/55fa4d2e-bbb7-491a-833b-5773e9589578
```

Output:

```
{
  "recommendation": {
    "arn": "arn:aws:trustedadvisor::000000000000:recommendation/55fa4d2e-bbb7-491a-833b-5773e9589578",
    "name": "MFA Recommendation",
  }
}
```
For more information, see [Get started with the Trusted Advisor API](https://docs.aws.amazon.com/trustedadvisor/latest/APIReference/Get started with the Trusted Advisor API) in the *AWS Trusted Advisor User Guide*.

- For API details, see [GetRecommendation](https://docs.aws.amazon.com/cli/latest/reference/trustedadvisor/get-recommendation.html) in *AWS CLI Command Reference*.

**list-checks**

The following code example shows how to use `list-checks`.

**AWS CLI**

To list Trusted Advisor checks

The following `list-checks` example lists all Trusted Advisor checks.

```
aws trustedadvisor list-checks
```
Output:

```json
{
    "checkSummaries": [
        {
            "arn": "arn:aws:trustedadvisor:::check/1iG5NDGVre",
            "awsServices": ["EC2"],
            "description": "Checks security groups for rules that allow unrestricted access to a resource. Unrestricted access increases opportunities for malicious activity (hacking, denial-of-service attacks, loss of data)",
            "id": "1iG5NDGVre",
            "metadata": {
                "0": "Region",
                "1": "Security Group Name",
                "2": "Security Group ID",
                "3": "Protocol",
                "4": "Port",
                "5": "Status",
                "6": "IP Range"
            },
            "name": "Security Groups - Unrestricted Access",
            "pillars": ["security"],
            "source": "ta_check"
        },
        {
            "arn": "arn:aws:trustedadvisor:::check/1qazXsw23e",
            "awsServices": ["RDS"],
            "description": "Checks your usage of RDS and provides recommendations on purchase of Reserved Instances to help reduce costs incurred from using RDS On-Demand. AWS generates these recommendations by analyzing your On-Demand usage for the past 30 days. We then simulate every combination of reservations in the generated category of usage in order to identify the best number of each type of Reserved Instance to purchase to maximize your savings. This check covers recommendations based on partial upfront payment option with 1-year or 3-year commitment. This check is not available to accounts linked in Consolidated Billing. Recommendations are only available for the Paying Account.",
            "id": "1qazXsw23e",
            "metadata": {
```
"0": "Region",
"1": "Family",
"2": "Instance Type",
"3": "License Model",
"4": "Database Edition",
"5": "Database Engine",
"6": "Deployment Option",
"7": "Recommended number of Reserved Instances to purchase",
"8": "Expected Average Reserved Instance Utilization",
"9": "Estimated Savings with Recommendation (monthly)"
"10": "Upfront Cost of Reserved Instances",
"11": "Estimated cost of Reserved Instances (monthly)",
"12": "Estimated On-Demand Cost Post Recommended Reserved Instance Purchase (monthly)"
"13": "Estimated Break Even (months)",
"14": "Lookback Period (days)",
"15": "Term (years)"
}

"name": "Amazon Relational Database Service (RDS) Reserved Instance Optimization",
"pillars": [
    "cost_optimizing"
],
"source": "ta_check"
}
{
"arn": "arn:aws:trustedadvisor:::check/1qw23er45t",
"awsServices": [
    "Redshift"
],
"description": "Checks your usage of Redshift and provides recommendations on purchase of Reserved Nodes to help reduce costs incurred from using Redshift On-Demand. AWS generates these recommendations by analyzing your On-Demand usage for the past 30 days. We then simulate every combination of reservations in the generated category of usage in order to identify the best number of each type of Reserved Nodes to purchase to maximize your savings. This check covers recommendations based on partial upfront payment option with 1-year or 3-year commitment. This check is not available to accounts linked in Consolidated Billing. Recommendations are only available for the Paying Account.",
"id": "1qw23er45t",
"metadata": {
    "0": "Region",
    "1": "Family",
    "2": "Node Type"
"3": "Recommended number of Reserved Nodes to purchase",
"4": "Expected Average Reserved Node Utilization",
"5": "Estimated Savings with Recommendation (monthly)",
"6": "Upfront Cost of Reserved Nodes",
"7": "Estimated cost of Reserved Nodes (monthly)",
"8": "Estimated On-Demand Cost Post Recommended Reserved Nodes Purchase (monthly)",
"9": "Estimated Break Even (months)",
"10": "Lookback Period (days)",
"11": "Term (years)",
},
"name": "Amazon Redshift Reserved Node Optimization",
"pillars": [
  "cost_optimizing"
],
"source": "ta_check"
],
"nextToken": "REDACTED"
}

For more information, see Get started with the Trusted Advisor API in the AWS Trusted Advisor User Guide.

- For API details, see ListChecks in AWS CLI Command Reference.

**list-organization-recommendation-accounts**

The following code example shows how to use `list-organization-recommendation-accounts`.

**AWS CLI**

To list organization recommendation accounts

The following list-organization-recommendation-accounts example lists all account recommendation summaries for an organization recommendation by its identifier.

```
aws trustedadvisor list-organization-recommendation-accounts \
  --organization-recommendation-identifier arn:aws:trustedadvisor::organization-recommendation/9534ec9b-bf3a-44e8-8213-2ed68b39d9d5
```

Output:
For more information, see [Get started with the Trusted Advisor API](https://docs.aws.amazon.com/trustedadvisor/latest/userguide/trusted-advisor-api.html) in the [AWS Trusted Advisor User Guide](https://docs.aws.amazon.com/trustedadvisor/latest/userguide/).


**list-organization-recommendation-resources**

The following code example shows how to use list-organization-recommendation-resources.

**AWS CLI**

To list organization recommendation resources

The following list-organization-recommendation-resources example lists all resources for an organization recommendation by its identifier.

```
aws trustedadvisor list-organization-recommendation-resources \  --organization-recommendation-identifier arn:aws:trustedadvisor::organization-recommendation/5a694939-2e54-45a2-ae72-730598fa89d0
```

Output:

```json
{
    "organizationRecommendationResourceSummaries": [
    ]
}
```
"arn": "arn:aws:trustedadvisor::000000000000:recommendation-resource/5a694939-2e54-45a2-ae72-730598fa89d0/bb38affc0ce0681d9a6cd13f30238ba03a8f63dfe7a379dc403c619119d86af",
  "awsResourceId": "database-1-instance-1",
  "id": "bb38affc0ce0681d9a6cd13f30238ba03a8f63dfe7a379dc403c619119d86af",
  "lastUpdatedAt": "2023-11-01T15:09:51.891Z",
  "metadata": {
    "0": "14",
    "1": "208.79999999999998",
    "2": "database-1-instance-1",
    "3": "db.r5.large",
    "4": "false",
    "5": "us-west-2",
    "7": "1"
  },
  "recommendationArn": "arn:aws:trustedadvisor::organization-recommendation/5a694939-2e54-45a2-ae72-730598fa89d0",
  "regionCode": "us-west-2",
  "status": "warning"
},
{
  "arn": "arn:aws:trustedadvisor::000000000000:recommendation-resource/5a694939-2e54-45a2-ae72-730598fa89d0/51fded4d7a3278818df9cfe344ff5762cec46c095a6763d1ba1ba53bd0e1b0e6",
  "awsResourceId": "database-1",
  "id": "51fded4d7a3278818df9cfe344ff5762cec46c095a6763d1ba1ba53bd0e1b0e6",
  "lastUpdatedAt": "2023-11-01T15:09:51.891Z",
  "metadata": {
    "0": "14",
    "1": "31.679999999999996",
    "2": "database-1",
    "3": "db.t3.small",
    "4": "false",
    "5": "us-west-2",
    "7": "20"
  },
  "recommendationArn": "arn:aws:trustedadvisor::organization-recommendation/5a694939-2e54-45a2-ae72-730598fa89d0",
  "regionCode": "us-west-2",
  "status": "warning"
For more information, see [Get started with the Trusted Advisor API](https://docs.aws.amazon.com/trusted-advisor/latest/userguide/get-started-api.html) in the [AWS Trusted Advisor User Guide](https://docs.aws.amazon.com/trusted-advisor/latest/userguide/).
The following `list-organization-recommendations` example lists all organization recommendations and does not include a filter.

```
aws trustedadvisor list-organization-recommendations
```

Output:

```
{
    "organizationRecommendationSummaries": [
        {
            "arn": "arn:aws:trustedadvisor:::organization-recommendation/9534ec9b-bf3a-44e8-8213-2ed68b39d9d5",
            "name": "Lambda Runtime Deprecation Warning",
            "awsServices": ["lambda"],
            "checkArn": "arn:aws:trustedadvisor:::check/L4dfs2Q4C5",
            "id": "9534ec9b-bf3a-44e8-8213-2ed68b39d9d5",
            "lifecycleStage": "resolved",
            "pillars": ["security"],
            "resourcesAggregates": {
                "errorCount": 0,
                "okCount": 0,
                "warningCount": 0
            },
            "source": "ta_check",
            "status": "warning",
            "type": "priority"
        },
        {
            "arn": "arn:aws:trustedadvisor:::organization-recommendation/4ecff4d4-1bc1-4c99-a5b8-0fff9ee500d6",
            "name": "Lambda Runtime Deprecation Warning",
            "awsServices": ["lambda"],
            "checkArn": "arn:aws:trustedadvisor:::check/L4dfs2Q4C5",
            "id": "4ecff4d4-1bc1-4c99-a5b8-0fff9ee500d6",
            "lifecycleStage": "resolved",
            "pillars": ["security"
```
For more information, see Get started with the Trusted Advisor API in the AWS Trusted Advisor User Guide.

Example 2: To list organization recommendations with a filter

The following list-organization-recommendations example filters and returns a max of one organization recommendation that is a part of the "security" pillar.

```
aws trustedadvisor list-organization-recommendations \
    --pillar security \
    --max-items 100
```

Output:

```
{
    "organizationRecommendationSummaries": [{
        "arn": "arn:aws:trustedadvisor::organization-recommendation/9534ec9b-bf3a-44e8-8213-2ed68b39d9d5",
        "name": "Lambda Runtime Deprecation Warning",
        "awsServices": [
            "lambda"
        ],
        "checkArn": "arn:aws:trustedadvisor::check/L4dfs2Q4C5",
        "id": "9534ec9b-bf3a-44e8-8213-2ed68b39d9d5",
        "lifecycleStage": "resolved",
        "pillars": [
            "security"
        ],
        "resourcesAggregates": {
```
For more information, see Get started with the Trusted Advisor API in the AWS Trusted Advisor User Guide.

Example 3: To list organization recommendations with a pagination token

The following list-organization-recommendations example uses the "nextToken" returned from a previous request to fetch the next page of organization recommendations.

```bash
aws trustedadvisor list-organization-recommendations \
    --pillar security \
    --max-items 100 \
    --starting-token <next-token>
```

Output:

```json
{
    "organizationRecommendationSummaries": [[
        "arn": "arn:aws:trustedadvisor:::organization-recommendation/4ecff4d4-1bc1-4c99-a5b8-0fff9ee500d6",
        "name": "Lambda Runtime Deprecation Warning",
        "awsServices": [
            "lambda"
        ],
        "checkArn": "arn:aws:trustedadvisor:::check/L4dfs2Q4C5",
        "id": "4ecff4d4-1bc1-4c99-a5b8-0fff9ee500d6",
        "lifecycleStage": "resolved",
        "pillars": [
            "security"
        ],
        "resourcesAggregates": {
            "errorCount": 0,
            "okCount": 0,
            "warningCount": 0
        }
    ]],
    "nextToken": "REDACTED"
}
```
list-recommendation-resources

The following code example shows how to use list-recommendation-resources.

**AWS CLI**

**To list recommendation resources**

The following list-recommendation-resources example lists all resources for a recommendation by its identifier.

```
aws trustedadvisor list-recommendation-resources \ 
  --recommendation-identifier 
  arn:aws:trustedadvisor::000000000000:recommendation/55fa4d2e-bbb7-491a-833b-5773e9589578
```

**Output:**

```
{
   "recommendationResourceSummaries": [ 
      { 
         "arn": "arn:aws:trustedadvisor::000000000000:recommendation-resource/55fa4d2e-bbb7-491a-833b-5773e9589578/18959a1f1973cffe8e706e9d9bde28bba36cd602a6b2cb86c8b61252835236010", 
         "awsResourceId": "webcms-dev-01", 
         "lastUpdatedAt": "2023-11-01T15:09:51.891Z", 
         "metadata": { 
            "0": "14", 
        ...
```

For more information, see [Get started with the Trusted Advisor API](https://docs.aws.amazon.com/trustedadvisor/latest/userguide/get-started-trusted-advisor-api.html) in the *AWS Trusted Advisor User Guide*.

- For API details, see [ListOrganizationRecommendations](https://docs.aws.amazon.com/cli/latest/reference/trustedadvisor/list-organization-recommendations.html) in *AWS CLI Command Reference*.
"1": "123.12000000000002",
"2": "webcms-dev-01",
"3": "db.m6i.large",
"4": "false",
"5": "us-east-1",
"6": "arn:aws:rds:us-east-1:000000000000:db:webcms-dev-01",
"7": "20"
},
"recommendationArn":
"arn:aws:trustedadvisor::000000000000:recommendation/55fa4d2e-bbb7-491a-833b-5773e9589578",
"regionCode": "us-east-1",
"status": "warning"
},
{
"arn": "arn:aws:trustedadvisor::000000000000:recommendation-resource/55fa4d2e-bbb7-491a-833b-5773e9589578/e6367ff500ac90db8e4adeb4892e39ee9c36bbf812dcbce4b9e4fefcec9eb63e",
"id":
"e6367ff500ac90db8e4adeb4892e39ee9c36bbf812dcbce4b9e4fefcec9eb63e",
"awsResourceId": "aws-dev-db-stack-instance-1",
"lastUpdatedAt": "2023-11-01T15:09:51.891Z",
"metadata": {
"0": "14",
"1": "29.52",
"2": "aws-dev-db-stack-instance-1",
"3": "db.t2.small",
"4": "false",
"5": "us-east-1",
"7": "1"
},
"recommendationArn":
"arn:aws:trustedadvisor::000000000000:recommendation/55fa4d2e-bbb7-491a-833b-5773e9589578",
"regionCode": "us-east-1",
"status": "warning"
},
{
"arn": "arn:aws:trustedadvisor::000000000000:recommendation-resource/55fa4d2e-bbb7-491a-833b-5773e9589578/31aa78ba050a5015d2d38cca75f1ce88f70857c4e1c3ad03f8f9fd95dad7459
For more information, see [Get started with the Trusted Advisor API](https://docs.aws.amazon.com/trustedadvisor/latest/userguide/trusted-advisor-get-started.html) in the [AWS Trusted Advisor User Guide](https://docs.aws.amazon.com/trustedadvisor/latest/userguide/).  


**list-recommendations**

The following code example shows how to use `list-recommendations`.

**AWS CLI**

**Example 1: To list recommendations**

The following `list-recommendations` example lists all recommendations and does not include a filter.

```bash
aws trustedadvisor list-recommendations
```
{  
  "recommendationSummaries": [
    {
      "arn": "arn:aws:trustedadvisor::000000000000:recommendation/55fa4d2e-bbb7-491a-833b-5773e9589578",
      "name": "MFA Recommendation",
      "awsServices": ["iam"],
      "checkArn": "arn:aws:trustedadvisor::check/7DAFEmoDos",
      "id": "55fa4d2e-bbb7-491a-833b-5773e9589578",
      "lastUpdatedAt": "2023-11-01T15:57:58.673Z",
      "pillarSpecificAggregates": {
        "costOptimizing": {
          "estimatedMonthlySavings": 0.0,
          "estimatedPercentMonthlySavings": 0.0
        }
      },
      "pillars": ["security"],
      "resourcesAggregates": {
        "errorCount": 1,
        "okCount": 0,
        "warningCount": 0
      },
      "source": "ta_check",
      "status": "error",
      "type": "standard"
    },
    {
      "arn": "arn:aws:trustedadvisor::000000000000:recommendation/8b602b6f-452d-4cb2-8a9e-c7650955d9cd",
      "name": "RDS clusters quota warning",
      "awsServices": ["rds"],
      "checkArn": "arn:aws:trustedadvisor::check/gjqMBn6pjz",
      "id": "8b602b6f-452d-4cb2-8a9e-c7650955d9cd",
      "lastUpdatedAt": "2023-11-01T15:58:17.397Z",
      "pillarSpecificAggregates": {
    
  }  
}
For more information, see Get started with the Trusted Advisor API in the AWS Trusted Advisor User Guide.

Example 2: To list recommendations with a filter

The following list-recommendations example lists recommendations and includes a filter.

```
aws trustedadvisor list-recommendations \
    --aws-service iam \
    --max-items 100
```

Output:

```
{
    "recommendationSummaries": [{
        "arn": "arn:aws:trustedadvisor::00000000000:recommendation/55fa4d2e-bbb7-491a-833b-5773e9589578",
        "name": "MFA Recommendation",
        "awsServices": ["iam"],
        "checkArn": "arn:aws:trustedadvisor::check/7DAFEmoDos",
```
For more information, see Get started with the Trusted Advisor API in the AWS Trusted Advisor User Guide.

Example 3: To list recommendations with a pagination token

The following list-recommendations example uses the "nextToken" returned from a previous request to fetch the next page of filtered Recommendations.

```bash
aws trustedadvisor list-recommendations \
    --aws-service rds \
    --max-items 100 \
    --starting-token <next-token>
```

Output:

```json
{
    "recommendationSummaries": [
        {
            "arn": "arn:aws:trustedadvisor::000000000000:recommendation/8b602b6f-452d-4cb2-8a9e-c7650955d9cd",
```
For more information, see [Get started with the Trusted Advisor API](https://docs.aws.amazon.com/trustedadvisor/latest/userguide/get-started-with-the-trusted-advisor-api.html) in the *AWS Trusted Advisor User Guide*.

- For API details, see [ListRecommendations](https://docs.aws.amazon.com/cli/latest/reference/trustedadvisor/list-recommendations.html) in *AWS CLI Command Reference*.

**update-organization-recommendation-lifecycle**

The following code example shows how to use `update-organization-recommendation-lifecycle`.

**AWS CLI**

To update an organization recommendation lifecycle

The following `update-organization-recommendation-lifecycle` example updates the lifecycle of an organization recommendation by its identifier.
aws trustedadvisor update-organization-recommendation-lifecycle \
   --organization-recommendation-identifier arn:aws:trustedadvisor::organization-
   recommendation/96b5e5ca-7930-444c-90c6-06d386128100 \
   --lifecycle-stage dismissed \
   --update-reason-code not_applicable

This command produces no output.

For more information, see Get started with the Trusted Advisor API in the AWS Trusted Advisor User Guide.

• For API details, see UpdateOrganizationRecommendationLifecycle in AWS CLI Command Reference.

update-recommendation-lifecycle

The following code example shows how to use update-recommendation-lifecycle.

AWS CLI

To update a recommendation lifecycle

The following update-recommendation-lifecycle example updates the lifecycle of a recommendation by its identifier.

aws trustedadvisor update-recommendation-lifecycle \
   --recommendation-identifier \
   arn:aws:trustedadvisor::000000000000:recommendation/861c9c6e-
   f169-405a-8b59-537a8caccd7a \
   --lifecycle-stage resolved \
   --update-reason-code valid_business_case

This command produces no output.

For more information, see Get started with the Trusted Advisor API in the AWS Trusted Advisor User Guide.

• For API details, see UpdateRecommendationLifecycle in AWS CLI Command Reference.
Verified Permissions examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Verified Permissions.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics
- Actions

Actions

create-identity-source

The following code example shows how to use create-identity-source.

AWS CLI

To create an identity source

The following create-identity-source example creates an identity source that lets you reference identities stored in the specified Amazon Cognito user pool. Those identities are available in Verified Permissions as entities of type User.

```
aws verifiedpermissions create-identity-source \
  --configuration file://config.txt \
  --principal-entity-type "User" \
  --policy-store-id PSEXAMPLEabcdefg111111
```

Contents of config.txt:

```
{
```
"cognitoUserPoolConfiguration": {
    "userPoolArn": "arn:aws:cognito-idp:us-west-2:123456789012:userpool/us-west-2_1a2b3c4d5",
    "clientIds": ["a1b2c3d4e5f6g7h8i9j0kalbmc"]
}
}

Output:

{
    "createdDate": "2023-05-19T20:30:28.214829+00:00",
    "identitySourceId": "ISEXAMPLEabcdefg111111",
    "lastUpdatedDate": "2023-05-19T20:30:28.214829+00:00",
    "policyStoreId": "PSEXAMPLEabcdefg111111"
}

For more information about identity sources, see [Using Amazon Verified Permissions with identity providers](https://docs.aws.amazon.com/awsverifiedpermissions/latest/verifypolicyguide/identity_sources.html) in the [Amazon Verified Permissions User Guide](https://docs.aws.amazon.com/awsverifiedpermissions/latest/verifypolicyguide/).


**create-policy**

The following code example shows how to use create-policy.

**AWS CLI**

**Example 1: To create a static policy**

The following `create-policy` example creates a static policy with a policy scope that specifies both a principal and a resource.

```
aws verifiedpermissions create-policy \
    --definition file://definition1.txt \
    --policy-store-id PSEXAMPLEabcdefg111111
```

Contents of file `definition1.txt`:

```
{
    "static": {
```
Example 2: To create a static policy that grants access to a resource to everyone

The following `create-policy` example creates a static policy with a policy scope that specifies only a resource.

```
aws verifiedpermissions create-policy \
  --definition file://definition2.txt \
  --policy-store-id PSEXAMPLEabcdefg111111
```

Contents of file `definition2.txt`:

```
{
  "static": {
    "description": "Grant everyone access to the publicFolder Album",
    "statement": "permit(principal, action, resource in Album::"publicFolder ");"
  }
}
```
Example 3: To create a template-linked policy that is associated with the specified template

The following `create-policy` example creates a template-linked policy using the specified policy template and associates the specified principal to use with the new template-linked policy.

```bash
aws verifiedpermissions create-policy \
    --definition file://definition.txt \n    --policy-store-id PSEXAMPLEabcdefg111111
```

Contents of `definition.txt`:

```json
{
    "templateLinked": {
        "policyTemplateId": "PSEXAMPLEabcdefg111111",
        "principal": {
            "entityType": "User",
            "entityId": "alice"
        }
    }
}
```

Output:
For more information about policies, see Amazon Verified Permissions policies in the Amazon Verified Permissions User Guide.

- For API details, see CreatePolicy in AWS CLI Command Reference.

create-policy-store

The following code example shows how to use create-policy-store.

AWS CLI

To create a policy store

The following create-policy-store example creates a policy store in the current AWS Region.

```bash
aws verifiedpermissions create-policy-store \
   --validation-settings "mode=STRICT"
```

Output:

```json
{
   "arn": "arn:aws:verifiedpermissions::123456789012:policy-store/PSEXAMPLEabcdefg111111",
   "createdDate": "2023-05-16T17:41:29.103459+00:00",
}
```
For more information about policy stores, see Amazon Verified Permissions policy stores in the Amazon Verified Permissions User Guide.

- For API details, see CreatePolicyStore in AWS CLI Command Reference.

create-policy-template

The following code example shows how to use create-policy-template.

AWS CLI

Example 1: To create a policy template

The following create-policy-template example creates a policy template with a statement that contains a placeholder for the principal.

```bash
aws verifiedpermissions create-policy-template \
   --definition file://template1.txt \
   --policy-store-id PSEXAMPLEabcdefg111111
```

Contents of file template1.txt:

```plaintext
permit(
    principal in ?principal,
    action == Action::"view",
    resource == Photo::"VacationPhoto94.jpg"
);
```

Output:

```json
{
    "createdDate": "2023-06-12T20:47:42.804511+00:00",
    "lastUpdatedDate": "2023-06-12T20:47:42.804511+00:00",
    "policyStoreId": "PSEXAMPLEabcdefg111111",
    "policyTemplateId": "PTEXAMPLEabcdefg111111"
}
```
For more information about policy templates, see Amazon Verified Permissions policy templates in the Amazon Verified Permissions User Guide.

- For API details, see CreatePolicyTemplate in AWS CLI Command Reference.

**delete-identity-source**

The following code example shows how to use delete-identity-source.

**AWS CLI**

**To delete an identity source**

The following delete-identity-source example deletes the identity source that has the specified Id.

```
aws verifiedpermissions delete-identity-source \
  --identity-source-id ISEXAMPLEabcdefg111111 \
  --policy-store-id PSEXAMPLEabcdefg111111
```

This command produces no output.

For more information about identity sources, see Using Amazon Verified Permissions with identity providers in the Amazon Verified Permissions User Guide.

- For API details, see DeleteIdentitySource in AWS CLI Command Reference.

**delete-policy**

The following code example shows how to use delete-policy.

**AWS CLI**

**To delete a static or template-linked policy**

The following delete-policy example deletes the policy that has the specified Id.

```
aws verifiedpermissions delete-policy \
  --policy-id SPEXAMPLEabcdefg111111 \
  --policy-store-id PSEXAMPLEabcdefg111111
```
This command produces no output.

For more information about policies, see Amazon Verified Permissions policies in the Amazon Verified Permissions User Guide.

- For API details, see DeletePolicy in AWS CLI Command Reference.

**delete-policy-store**

The following code example shows how to use `delete-policy-store`.

### AWS CLI

**To delete a policy store**

The following `delete-policy-store` example deletes the policy store that has the specified Id.

```
aws verifiedpermissions delete-policy-store \
  --policy-store-id PSEXAMPLEabcdefg111111
```

This command produces no output.

For more information about policy stores, see Amazon Verified Permissions policy stores in the Amazon Verified Permissions User Guide.

- For API details, see DeletePolicyStore in AWS CLI Command Reference.

**delete-policy-template**

The following code example shows how to use `delete-policy-template`.

### AWS CLI

**To delete a policy template**

The following `delete-policy-template` example deletes the policy template that has the specified Id.

```
aws verifiedpermissions delete-policy \
  --policy-template-id PTEXAMPLEabcdefg111111
```

This command produces no output.

For more information about policy templates, see Amazon Verified Permissions policy templates in the Amazon Verified Permissions User Guide.

- For API details, see DeletePolicyTemplate in AWS CLI Command Reference.

**get-identity-source**

The following code example shows how to use get-identity-source.

**AWS CLI**

To retrieve details about an identity source

The following get-identity-source example displays the details for the identity source with the specified Id.

```bash
aws verifiedpermissions get-identity-source \
  --identity-source ISEXAMPLEabcdefg111111 \
  --policy-store-id PSEXAMPLEabcdefg111111
```

Output:

```json
{
  "createdDate": "2023-06-12T22:27:49.150035+00:00",
  "details": {
    "clientIds": [ "a1b2c3d4e5f6g7h8i9j0kalbmc" ],
    "discoveryUrl": "https://cognito-idp.us-west-2.amazonaws.com/us-west-2_1a2b3c4d5",
    "openIdIssuer": "COGNITO",
    "userPoolArn": "arn:aws:cognito-idp:us-west-2:123456789012:userpool/us-west-2_1a2b3c4d5"
  },
  "identitySourceId": "ISEXAMPLEabcdefg111111",
  "lastUpdatedDate": "2023-06-12T22:27:49.150035+00:00",
  "policyStoreId": "PSEXAMPLEabcdefg111111",
  "principalEntityType": "User"
}
```
For more information about identity sources, see [Using Amazon Verified Permissions with identity providers](#) in the *Amazon Verified Permissions User Guide*.

- For API details, see [GetIdentitySource](#) in *AWS CLI Command Reference*.

### get-policy

The following code example shows how to use `get-policy`.

**AWS CLI**

**To retrieve details about a policy**

The following `get-policy` example displays the details for the policy with the specified ID.

```bash
aws verifiedpermissions get-policy \
   --policy-id PSEXAMPLEabcdefg111111 \
   --policy-store-id PSEXAMPLEabcdefg111111
```

**Output:**

```json
{
   "createdDate": "2023-06-12T20:33:37.382907+00:00",
   "definition": {
      "static": {
         "description": "Grant everyone of janeFriends UserGroup access to the vacationFolder Album",
         "statement": "permit(principal in UserGroup::"janeFriends", action, resource in Album::"vacationFolder")"
      }
   },
   "lastUpdatedDate": "2023-06-12T20:33:37.382907+00:00",
   "policyId": "SPEXAMPLEabcdefg111111",
   "policyStoreId": "PSEXAMPLEabcdefg111111",
   "policyType": "STATIC",
   "principal": {
      "entityId": "janeFriends",
      "entityType": "UserGroup"
   },
   "resource": {
      "entityId": "vacationFolder",
      "entityType": "Album"
   }
}
```
For more information about policies, see Amazon Verified Permissions policies in the Amazon Verified Permissions User Guide.

- For API details, see GetPolicy in AWS CLI Command Reference.

get-policy-store

The following code example shows how to use get-policy-store.

**AWS CLI**

**To retrieve details about a policy store**

The following get-policy-store example displays the details for the policy store with the specified Id.

```sh
aws verifiedpermissions get-policy-store \
    --policy-store-id PSEXAMPLEabcdefg111111
```

**Output:**

```json
{
    "arn": "arn:aws:verifiedpermissions::123456789012:policy-store/PSEXAMPLEabcdefg111111",
    "createdDate": "2023-06-05T20:16:46.225598+00:00",
    "lastUpdatedDate": "2023-06-08T20:40:23.173691+00:00",
    "policyStoreId": "PSEXAMPLEabcdefg111111",
    "validationSettings": { "mode": "OFF" }
}
```

For more information about policy stores, see Amazon Verified Permissions policy stores in the Amazon Verified Permissions User Guide.

- For API details, see GetPolicyStore in AWS CLI Command Reference.

get-policy-template

The following code example shows how to use get-policy-template.
**AWS CLI**

**To retrieve details about a policy template**

The following get-policy-template example displays the details for the policy template with the specified ID.

```bash
aws verifiedpermissions get-policy-template \
   --policy-template-id PTEXAMPLEabcdefg111111 \
   --policy-store-id PSEXAMPLEabcdefg111111
```

Output:

```
{
   "createdDate": "2023-06-12T20:47:42.804511+00:00",
   "lastUpdatedDate": "2023-06-12T20:47:42.804511+00:00",
   "policyStoreId": "PSEXAMPLEabcdefg111111",
   "policyTemplateId": "PTEXAMPLEabcdefg111111",
   "statement": "permit(\n    principal in ?principal,\n    action == Action::"view"),\n    resource == Photo::"VacationPhoto94.jpg"");"
}
```

For more information about policy templates, see [Amazon Verified Permissions policy templates](https://docs.aws.amazon.com/verifiedpermissions/latest/userguide/policy-templates.html) in the *Amazon Verified Permissions User Guide*.

- For API details, see [GetPolicyTemplate](https://docs.aws.amazon.com/cli/latest/reference/verifiedpermissions/get-policy-template.html) in *AWS CLI Command Reference*.

**get-schema**

The following code example shows how to use get-schema.

**AWS CLI**

**To retrieve the schema in a policy store**

The following get-schema example displays the details of the schema in the specified policy store.

```bash
aws verifiedpermissions get-schema \
   --policy-store-id PSEXAMPLEabcdefg111111
```

Output:
For more information about schema, see Policy store schema in the Amazon Verified Permissions User Guide.

- For API details, see GetSchema in AWS CLI Command Reference.

**is-authorized**

The following code example shows how to use is-authorized.

**AWS CLI**

**Example 1: To request an authorization decision for a user request (allow)**

The following is-authorized example requests an authorization decision for a principal of type User named Alice, who wants to perform the updatePhoto operation, on a resource of type Photo named VacationPhoto94.jpg.

The response shows that the request is allowed by one policy.

```
aws verifiedpermissions is-authorized \
  --principal entityType=User,entityId=alice \
  --action actionType=Action,actionId=view \
  --resource entityType=Photo,entityId=VacationPhoto94.jpg \
  --policy-store-id PSEXAMPLEabcdefg111111
```

**Output:**

```
{
"decision": "ALLOW",
"determiningPolicies": [
{
```
Example 2: To request an authorization decision for a user request (deny)

The following example is the same as the previous example, except that the principal is User::"Bob". The policy store doesn't contain any policy that allows that user access to Album::"alice_folder".

The output indicates that the Deny was implicit because the list of DeterminingPolicies is empty.

```bash
aws verifiedpermissions create-policy
   --definition file://definition2.txt
   --policy-store-id PSEXAMPLEabcdefg111111
```

Output:

```json
{
   "decision": "DENY",
   "determiningPolicies": [],
   "errors": []
}
```

For more information, see the Amazon Verified Permissions User Guide.

- For API details, see **IsAuthorized** in AWS CLI Command Reference.

is-authorized-with-token

The following code example shows how to use is-authorized-with-token.

AWS CLI

Example 1: To request an authorization decision for a user request (allow)

The following is-authorized-with-token example requests an authorization decision for a user who was authenticated by Amazon Cognito. The request uses the identity token provided
by Cognito rather than the access token. In this example, the specified information store is configured to return principals as entities of type CognitoUser.

```bash
aws verifiedpermissions is-authorized-with-token \
   --action actionId="View",actionType="Action" \
   --resource entityId="vacationPhoto94.jpg",entityType="Photo" \
   --policy-store-id PSEXAMPLEabcdefg111111 \
   --identity-token "AbCdE12345...long.string...54321EdCbA"
```

The policy store contains a policy with the following statement that accepts identities from the specified Cognito user pool and application Id.

```javascript
permit(
    principal == CognitoUser::"us-east-1_1a2b3c4d5|a1b2c3d4e5f6g7h8i9j0kalbmc",
    action,
    resource == Photo::"VacationPhoto94.jpg"
);
```

Output:

```json
{
    "decision":"Allow",
    "determiningPolicies":[
        {
            "determiningPolicyId":"SPEXAMPLEabcdefg111111"
        }
    ],
    "errors":[]
}
```

For more information about using identities from a Cognito user pool, see [Using Amazon Verified Permissions with identity providers](https://docs.aws.amazon.com/verifiedpermissions/latest/userguide/) in the Amazon Verified Permissions User Guide.

- For API details, see [IsAuthorizedWithToken](https://docs.aws.amazon.com/cli/latest/reference/awscli/index.html) in AWS CLI Command Reference.

**list-identity-sources**

The following code example shows how to use list-identity-sources.

**AWS CLI**

To list the available identity sources
The following `list-identity-sources` example lists all identity sources in the specified policy store.

```
aws verifiedpermissions list-identity-sources \
    --policy-store-id PSEXAMPLEabcdefg111111
```

Output:

```json
{
    "identitySources": [
    {
        "createdDate": "2023-06-12T22:27:49.150035+00:00",
        "details": {
            "clientIds": [ "a1b2c3d4e5f6g7h8i9j0kalbmc" ],
            "discoveryUrl": "https://cognito-idp.us-west-2.amazonaws.com/us-west-2_1a2b3c4d5",
            "openIdIssuer": "COGNITO",
            "userPoolArn": "arn:aws:cognito-idp:us-west-2:123456789012:userpool/us-west-2_1a2b3c4d5"
        },
        "identitySourceId": "ISEXAMPLEabcdefg111111",
        "lastUpdatedDate": "2023-06-12T22:27:49.150035+00:00",
        "policyStoreId": "PSEXAMPLEabcdefg111111",
        "principalEntityType": "User"
    }
    ]
}
```

For more information about identity sources, see *Using Amazon Verified Permissions with identity providers* in the *Amazon Verified Permissions User Guide*.

- For API details, see `ListIdentitySources` in *AWS CLI Command Reference*.

**list-policies**

The following code example shows how to use `list-policies`.

**AWS CLI**

**To list the available policies**

The following `list-policies` example lists all policies in the specified policy store.
aws verifiedpermissions list-policies
   --policy-store-id PSEXAMPLEabcdefg111111

Output:

```json
{
   "policies": [
      {
         "createdDate": "2023-06-12T20:33:37.382907+00:00",
         "definition": {
            "static": {
               "description": "Grant everyone of janeFriends UserGroup access to the vacationFolder Album"
            }
         },
         "lastUpdatedDate": "2023-06-12T20:33:37.382907+00:00",
         "policyId": "SPEXAMPLEabcdefg111111",
         "policyStoreId": "PSEXAMPLEabcdefg111111",
         "policyType": "STATIC",
         "principal": {
            "entityId": "janeFriends",
            "entityType": "UserGroup"
         },
         "resource": {
            "entityId": "vacationFolder",
            "entityType": "Album"
         }
      },
      {
         "createdDate": "2023-06-12T20:39:44.975897+00:00",
         "definition": {
            "static": {
               "description": "Grant everyone access to the publicFolder Album"
            }
         },
         "lastUpdatedDate": "2023-06-12T20:39:44.975897+00:00",
         "policyId": "SPEXAMPLEabcdefg222222",
         "policyStoreId": "PSEXAMPLEabcdefg111111",
         "policyType": "STATIC",
         "resource": {
            "entityId": "publicFolder",
            "entityType": "Album"
         }
      }
   ]
}
```
For more information about policies, see Amazon Verified Permissions policies in the Amazon Verified Permissions User Guide.

- For API details, see ListPolicies in AWS CLI Command Reference.

**list-policy-stores**

The following code example shows how to use list-policy-stores.

**AWS CLI**

**To list the available policy stores**

The following list-policy-stores example lists all policy stores in the AWS Region. All commands for Verified Permissions except create-policy-store and list-policy-stores require that you specify the Id of the policy store you want to work with.

```
aws verifiedpermissions list-policy-stores
```
Output:

```
{
    "policyStores": [
        {
            "arn": "arn:aws:verifiedpermissions::123456789012:policy-store/PSEXAMPLEabcdefg111111",
            "createdDate": "2023-06-05T20:16:46.225598+00:00",
            "policyStoreId": "PSEXAMPLEabcdefg111111"
        },
        {
            "arn": "arn:aws:verifiedpermissions::123456789012:policy-store/PSEXAMPLEabcdefg222222",
            "createdDate": "2023-06-08T18:09:37.364356+00:00",
            "policyStoreId": "PSEXAMPLEabcdefg222222"
        },
        {
            "arn": "arn:aws:verifiedpermissions::123456789012:policy-store/PSEXAMPLEabcdefg333333",
            "createdDate": "2023-06-08T18:09:46.920600+00:00",
            "policyStoreId": "PSEXAMPLEabcdefg333333"
        }
    ]
}
```

For more information about policy stores, see [Amazon Verified Permissions policy stores](https://docs.aws.amazon.com/verifiedpermissions/latest/userguide/policy-stores.html) in the [Amazon Verified Permissions User Guide](https://docs.aws.amazon.com/verifiedpermissions/latest/userguide/).

- For API details, see [ListPolicyStores](https://docs.aws.amazon.com/cli/latest/reference/verifiedpermissions/list-policy-templates.html) in *AWS CLI Command Reference*.

**list-policy-templates**

The following code example shows how to use `list-policy-templates`.

**AWS CLI**

**To list the available policy templates**

The following `list-policy-templates` example lists all policy templates in the specified policy store.

```
aws verifiedpermissions list-policy-templates \
```
Output:

```json
{
   "policyTemplates": [
       {
           "createdDate": "2023-06-12T20:47:42.804511+00:00",
           "lastUpdatedDate": "2023-06-12T20:47:42.804511+00:00",
           "policyStoreId": "PSEXAMPLEabcdefg111111",
           "policyTemplateId": "PTEXAMPLEabcdefg111111"
       }
   ]
}
```

For more information about policy templates, see Amazon Verified Permissions policy templates in the Amazon Verified Permissions User Guide.

- For API details, see ListPolicyTemplates in AWS CLI Command Reference.

put-schema

The following code example shows how to use put-schema.

AWS CLI

To save a schema to a policy store

The following put-schema example creates or replaces the schema in the specified policy store.

The cedarJson parameter in the input file takes a string representation of a JSON object. It contains embedded quotation marks (") within the outermost quotation mark pair. This requires you to convert the JSON to a string by preceding all embedded quotation marks with a backslash character (" ) and combining all lines into a single text line with no line breaks.

Example strings can be displayed wrapped across multiple lines here for readability, but the operation requires the parameters be submitted as single line strings.

```
aws verifiedpermissions put-schema --definition file://schema.txt --policy-store-id PSEXAMPLEabcdefg111111
```
Contents of schema.txt:

```
{
  "cedarJson": "\"MySampleNamespace\": {"actions": {"remoteAccess": {
   "appliesTo": {"principalTypes": ["Employee"]},
   "Employee": {"shape": {"attributes": {"jobLevel": {"type": "Long"}, "name": {"type": "String"}}, "type": "Record"}}}}},
  "entityTypes": {
   "Employee": {"shape": {"attributes": {"jobLevel": {"type": "Long"}, "name": {"type": "String"}}, "type": "Record"}}}}
}
```

Output:

```
{
  "policyStoreId": "PSEXAMPLEabcdefg111111",
  "namespaces": [
    "MySampleNamespace"
  ],
  "createdDate": "2023-06-14T17:47:13.999885+00:00",
  "lastUpdatedDate": "2023-06-14T17:47:13.999885+00:00"
}
```

For more information about schema, see [Policy store schema](https://aws.amazon.com/documentation/awscli/user-guide/) in the *Amazon Verified Permissions User Guide*.

- For API details, see [PutSchema](https://docs.aws.amazon.com/cli/latest/reference/awscli/put-schema.html) in *AWS CLI Command Reference*.

### update-identity-source

The following code example shows how to use `update-identity-source`.

**AWS CLI**

**To update an identity source**

The following `update-identity-source` example modifies the specified identity source by providing a new Cognito user pool configuration and changing the entity type returned by the identity source.

```
aws verifiedpermissions update-identity-source
  --identity-source-id ISEXAMPLEabcdefg111111 \
  --update-configuration file://config.txt \
  --principal-entity-type "Employee"
```
Contents of config.txt:

```json
{
    "cognitoUserPoolConfiguration": {
      "userPoolArn": "arn:aws:cognito-idp:us-west-2:123456789012:userpool/us-west-2_1a2b3c4d5",
      "clientIds": ["a1b2c3d4e5f6g7h8i9j0kalbmc"]
    }
}
```

Output:

```json
{
    "createdDate": "2023-05-19T20:30:28.214829+00:00",
    "identitySourceId": "ISEXAMPLEabcdefg111111",
    "lastUpdatedDate": "2023-05-19T20:30:28.214829+00:00",
    "policyStoreId": "PSEXAMPLEabcdefg111111"
}
```

For more information about identity sources, see Using Amazon Verified Permissions with identity providers in the Amazon Verified Permissions User Guide.

- For API details, see UpdateIdentitySource in AWS CLI Command Reference.

**update-policy**

The following code example shows how to use update-policy.

**AWS CLI**

**Example 1: To create a static policy**

The following create-policy example creates a static policy with a policy scope that specifies both a principal and a resource.

```bash
aws verifiedpermissions create-policy \\
   --definition file://definition.txt \\
   --policy-store-id PSEXAMPLEabcdefg111111
```
The statement parameter takes a string representation of a JSON object. It contains embedded quotation marks ("" within the outermost quotation mark pair. This requires you to convert the JSON to a string by preceding all embedded quotation marks with a backslash character ("" ) and combining all lines into a single text line with no line breaks.

Example strings can be displayed wrapped across multiple lines here for readability, but the operation requires the parameters be submitted as single line strings.

**Contents of file definition.txt:**

```json
{
    "static": {
        "description": "Grant everyone of janeFriends UserGroup access to the vacationFolder Album",
        "statement": "permit(principal in UserGroup::"janeFriends", action, resource in Album::"vacationFolder") ;"
    }
}
```

**Output:**

```json
{
    "createdDate": "2023-06-12T20:33:37.382907+00:00",
    "lastUpdatedDate": "2023-06-12T20:33:37.382907+00:00",
    "policyId": "SPEXAMPLEabcdefg111111",
    "policyStoreId": "PSEXAMPLEabcdefg111111",
    "policyType": "STATIC",
    "principal": {
        "entityId": "janeFriends",
        "entityType": "UserGroup"
    },
    "resource": {
        "entityId": "vacationFolder",
        "entityType": "Album"
    }
}
```

**Example 2: To create a static policy that grants access to a resource to everyone**

The following create-policy example creates a static policy with a policy scope that specifies only a resource.
aws verifiedpermissions create-policy \
   --definition file://definition2.txt \
   --policy-store-id PSEXAMPLEabcdefg111111

Contents of file definition2.txt:

```
{
   "static": {
      "description": "Grant everyone access to the publicFolder Album",
      "statement": "permit(principal, action, resource in Album::"publicFolder")";
   }
}
```

Output:

```
{
   "createdDate": "2023-06-12T20:39:44.975897+00:00",
   "lastUpdatedDate": "2023-06-12T20:39:44.975897+00:00",
   "policyId": "PbfR73F8oh5MMfr9uRtFDB",
   "policyStoreId": "PSEXAMPLEabcdefg222222",
   "policyType": "STATIC",
   "resource": {
      "entityId": "publicFolder",
      "entityType": "Album"
   }
}
```

Example 3: To create a template-linked policy that is associated with the specified template

The following create-policy example creates a template-linked policy using the specified policy template and associates the specified principal to use with the new template-linked policy.

aws verifiedpermissions create-policy \
   --definition file://definition2.txt \
   --policy-store-id PSEXAMPLEabcdefg111111

Contents of definition3.txt:

```
{
}
```
"templateLinked": {
    "policyTemplateId": "PTEXAMPLEabcdefg111111",
    "principal": {
        "entityType": "User",
        "entityId": "alice"
    }
}
}

Output:

{
    "createdDate": "2023-06-12T20:49:51.490211+00:00",
    "lastUpdatedDate": "2023-06-12T20:49:51.490211+00:00",
    "policyId": "TPEXAMPLEabcdefg111111",
    "policyStoreId": "PSEXAMPLEabcdefg111111",
    "policyType": "TEMPLATE_LINKED",
    "principal": {
        "entityId": "alice",
        "entityType": "User"
    },
    "resource": {
        "entityId": "VacationPhoto94.jpg",
        "entityType": "Photo"
    }
}

For more information about policies, see Amazon Verified Permissions policies in the Amazon Verified Permissions User Guide.

- For API details, see UpdatePolicy in AWS CLI Command Reference.

update-policy-store

The following code example shows how to use update-policy-store.

AWS CLI

To update a policy store

The following update-policy-store example modifies a policy store by changing its validation setting.
aws verifiedpermissions update-policy-store \
   --validation-settings "mode=STRICT" \
   --policy-store-id PSEXAMPLEabcdefg111111

Output:

```json
{
   "arn": "arn:aws:verifiedpermissions::123456789012:policy-store/PSEXAMPLEabcdefg111111",
   "createdDate": "2023-05-16T17:41:29.103459+00:00",
   "lastUpdatedDate": "2023-05-16T17:41:29.103459+00:00",
   "policyStoreId": "PSEXAMPLEabcdefg111111"
}
```

For more information about policy stores, see Amazon Verified Permissions policy stores in the Amazon Verified Permissions User Guide.

- For API details, see UpdatePolicyStore in AWS CLI Command Reference.

**update-policy-template**

The following code example shows how to use `update-policy-template`.

**AWS CLI**

**Example 1: To update a policy template**

The following `update-policy-template` example modifies the specified template-linked policy to replace its policy statement.

```bash
aws verifiedpermissions update-policy-template \
   --policy-template-id PTEXAMPLEabcdefg111111 \
   --statement file://template1.txt \
   --policy-store-id PSEXAMPLEabcdefg111111
```

Contents of file `template1.txt`:

```plaintext
permit(  
   principal in ?principal,  
   action == Action::"view",
```

Actions and scenarios
resource == Photo::"VacationPhoto94.jpg"

Output:

```javascript
{
    "createdDate": "2023-06-12T20:47:42.804511+00:00",
    "lastUpdatedDate": "2023-06-12T20:47:42.804511+00:00",
    "policyStoreId": "PSEXAMPLEabcdefg111111",
    "policyTemplateId": "PTEXAMPLEabcdefg111111"
}
```

For more information about policy templates, see Amazon Verified Permissions policy templates in the Amazon Verified Permissions User Guide.

- For API details, see UpdatePolicyTemplate in AWS CLI Command Reference.

VPC Lattice examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with VPC Lattice.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics

- Actions

Actions

create-listener

The following code example shows how to use create-listener.
To create a listener

The following create-listener example creates an HTTPS listener with a default rule that forwards traffic to the specified VPC Lattice target group.

```
aws vpc-lattice create-listener \
   --name my-service-listener \ 
   --protocol HTTPS \ 
   --port 443 \ 
   --service-identifier svc-0285b53b2eEXAMPLE \ 
   --default-action file://listener-config.json
```

Contents of listener-config.json:

```
{
   "forward": {
      "targetGroups": [
      {
         "targetGroupIdentifier": "tg-0eaa4b9ab4EXAMPLE"
      }
      ]
   }
}
```

Output:

```
{
   "arn": "arn:aws:vpc-lattice:us-east-2:123456789012:service/svc-0285b53b2eEXAMPLE/listener/listener-07cc7fb0abEXAMPLE",
   "defaultAction": {
      "forward": {
         "targetGroups": [
            {
               "targetGroupIdentifier": "tg-0eaa4b9ab4EXAMPLE",
               "weight": 100
            }
         ]
      }
   },
   "id": "listener-07cc7fb0abEXAMPLE",
}
```
For more information, see [Listeners](#) in the Amazon VPC Lattice User Guide.

- For API details, see [CreateListener](#) in AWS CLI Command Reference.

### create-service

The following code example shows how to use create-service.

**AWS CLI**

**To create a service**

The following create-service example creates a service with the specified name.

```bash
aws vpc-lattice create-service \
    --name my-lattice-service
```

**Output:**

```json
{
    "authType": "NONE",
    "dnsEntry": {
        "domainName": "my-lattice-service-0285b53b2eEXAMPLE.1a2b3c4.vpc-lattice-svcs.us-east-2.on.aws",
        "hostedZoneId": "Z09127221KTH2CEXAMPLE"
    },
    "id": "svc-0285b53b2eEXAMPLE",
    "name": "my-lattice-service",
    "status": "CREATE_IN_PROGRESS"
}
```

For more information, see [Services in VPC Lattice](#) in the Amazon VPC Lattice User Guide.
For API details, see CreateService in AWS CLI Command Reference.

create-service-network

The following code example shows how to use create-service-network.

**AWS CLI**

**To create a service network**

The following `create-service-network` example creates a service network with the specified name.

```bash
aws vpc-lattice create-service-network \
   --name my-service-network
```

Output:

```
{
  "authType": "NONE",
  "id": "sn-080ec7dc93EXAMPLE",
  "name": "my-service-network"
}
```

For more information, see Service networks in the Amazon VPC Lattice User Guide.

- For API details, see CreateServiceNetwork in AWS CLI Command Reference.

create-service-network-service-association

The following code example shows how to use create-service-network-service-association.

**AWS CLI**

**To create a service association**

The following `create-service-network-service-association` example associates the specified service with the specified service network.
aws vpc-lattice create-service-network-service-association \
   --service-identifier svc-0285b53b2eEXAMPLE \
   --service-network-identifier sn-080ec7dc93EXAMPLE

Output:

```json
{
   "arn": "arn:aws:vpc-lattice:us-east-2:123456789012:servicenetworkserviceassociation/snsa-0e16955a8cEXAMPLE",
   "createdBy": "123456789012",
   "dnsEntry": {
      "domainName": "my-lattice-service-0285b53b2eEXAMPLE.7d67968.vpc-lattice-svcs.us-east-2.on.aws",
      "hostedZoneId": "Z09127221KTH2CEXAMPLE"
   },
   "id": "snsa-0e16955a8cEXAMPLE",
   "status": "CREATE_IN_PROGRESS"
}
```

For more information, see Manage service associations in the Amazon VPC Lattice User Guide.

- For API details, see CreateServiceNetworkServiceAssociation in AWS CLI Command Reference.

**create-service-network-vpc-association**

The following code example shows how to use create-service-network-vpc-association.

**AWS CLI**

**To create a VPC association**

The following create-service-network-vpc-association example associates the specified vpc with the specified service network. The specified security group controls which resources in the VPC can access the service network and its services.

```bash
aws vpc-lattice create-service-network-vpc-association \
   --vpc-identifier vpc-0a1b2c3d4eEXAMPLE \
   --service-network-identifier sn-080ec7dc93EXAMPLE \
   --security-group-ids sg-0ae16bc6cEXAMPLE
```

Output:
```
{
    "createdBy": "123456789012",
    "id": "snva-0821fc8631EXAMPLE",
    "securityGroupIds": [
        "sg-0ae16bc6cEXAMPLE"
    ],
    "status": "CREATE_IN_PROGRESS"
}
```

For more information, see [Manage VPC associations](#) in the Amazon VPC Lattice User Guide.

- For API details, see [CreateServiceNetworkVpcAssociation](#) in AWS CLI Command Reference.

### create-target-group

The following code example shows how to use create-target-group.

#### AWS CLI

**Example 1: To create a target group of type INSTANCE**

The following create-target-group example creates a target group with the specified name, type, and configuration.

```
aws vpc-lattice create-target-group \
    --name my-lattice-target-group-instance \
    --type INSTANCE \
    --config file://tg-config.json
```

Contents of `tg-config.json`:

```
{
    "port": 443,
    "protocol": "HTTPS",
    "protocolVersion": "HTTP1",
    "vpcIdentifier": "vpc-f1663d9868EXAMPLE"
}
```

Output:
Example 2: To create a target group of type IP

The following create-target-group example creates a target group with the specified name, type, and configuration.

```
aws vpc-lattice create-target-group \
   --name my-lattice-target-group-ip \
   --type IP \
   --config file://tg-config.json
```

Contents of `tg-config.json`:

```
{
   "ipAddressType": "IPV4",
```
Example 3: To create a target group of type LAMBDA

The following `create-target-group` example creates a target group with the specified name, type, and configuration.

```
aws vpc-lattice create-target-group \
```
AWS Command Line Interface

--name my-lattice-target-group-lambda \
--type LAMBDA

Output:

```
{
    "id": "tg-0eaa4b9ab4EXAMPLE",
    "name": "my-lattice-target-group-lambda",
    "status": "CREATE_IN_PROGRESS",
    "type": "LAMBDA"
}
```

Example 4: To create a target group of type ALB

The following `create-target-group` example creates a target group with the specified name, type, and configuration.

```
aws vpc-lattice create-target-group \
    --name my-lattice-target-group-alb \
    --type ALB \
    --config file://tg-config.json
```

Contents of `tg-config.json`:

```
{
    "port": 443,
    "protocol": "HTTPS",
    "protocolVersion": "HTTP1",
    "vpcIdentifier": "vpc-f1663d9868EXAMPLE"
}
```

Output:

```
{
    "config": {
        "port": 443,
        "protocol": "HTTPS",
        "protocolVersion": "HTTP1",
```
"vpcIdentifier": "vpc-f1663d9868EXAMPLE",
},
"id": "tg-0eaa4b9ab4EXAMPLE",
"name": "my-lattice-target-group-alb",
"status": "CREATE_IN_PROGRESS",
"type": "ALB"
}

For more information, see Target groups in the Amazon VPC Lattice User Guide.

- For API details, see CreateTargetGroup in AWS CLI Command Reference.

delete-auth-policy

The following code example shows how to use delete-auth-policy.

AWS CLI

To delete an auth policy

The following delete-auth-policy example deletes the auth policy for the specified service.

```sh
aws vpc-lattice delete-auth-policy
  --resource-identifier svc-0285b53b2eEXAMPLE
```

This command produces no output.

For more information, see Auth policies in the Amazon VPC Lattice User Guide.

- For API details, see DeleteAuthPolicy in AWS CLI Command Reference.

delete-listener

The following code example shows how to use delete-listener.

AWS CLI

To delete a listener

The following delete-listener example deletes the specified listener.

```sh
aws vpc-lattice delete-listener
  --listener-identifier listener-07cc7fb0abEXAMPLE
```
This command produces no output.

For more information, see Listeners in the Amazon VPC Lattice User Guide.
- For API details, see DeleteListener in AWS CLI Command Reference.

**delete-service**

The following code example shows how to use delete-service.

**AWS CLI**

**To delete a service**

The following delete-service example deletes the specified service.

```
aws vpc-lattice delete-service
   --service-identifier svc-0285b53b2eEXAMPLE
```

**Output:**

```
{
   "id": "svc-0285b53b2eEXAMPLE",
   "name": "my-lattice-service",
   "status": "DELETE_IN_PROGRESS"
}
```

For more information, see Services in VPC Lattice in the Amazon VPC Lattice User Guide.
- For API details, see DeleteService in AWS CLI Command Reference.

**delete-service-network**

The following code example shows how to use delete-service-network.

**AWS CLI**

**To delete a service network**
The following `delete-service-network` example deletes the specified service network.

```bash
aws vpc-lattice delete-service-network \
   --service-network-identifier sn-080ec7dc93EXAMPLE
```

This command produces no output.

For more information, see `Service networks` in the *Amazon VPC Lattice User Guide*.
- For API details, see `DeleteServiceNetwork` in *AWS CLI Command Reference*.

### delete-service-network-service-association

The following code example shows how to use `delete-service-network-service-association`.

**AWS CLI**

**To delete a service association**

The following `delete-service-network-service-association` example disassociates the specified service association.

```bash
aws vpc-lattice delete-service-network-service-association \
   --service-network-service-association-identifier snsa-031fabb4d8EXAMPLE
```

Output:

```
{
   "id": "snsa-031fabb4d8EXAMPLE",
   "status": "DELETE_IN_PROGRESS"
}
```

For more information, see `Manage service associations` in the *Amazon VPC Lattice User Guide*.
- For API details, see `DeleteServiceNetworkServiceAssociation` in *AWS CLI Command Reference*.

### delete-service-network-vpc-association

The following code example shows how to use `delete-service-network-vpc-association`.
**AWS CLI**

**To delete a VPC association**

The following `delete-service-network-vpc-association` example disassociates the specified VPC association.

```bash
code
aws vpc-lattice delete-service-network-vpc-association \\
   --service-network-vpc-association-identifier snva-0821fc8631EXAMPLE
```

**Output:**

```json
default
{
   "id": "snva-0821fc8631EXAMPLE",
   "status": "DELETE_IN_PROGRESS"
}
```

For more information, see [Manage VPC associations](#) in the [Amazon VPC Lattice User Guide](#).

- For API details, see [DeleteServiceNetworkVpcAssociation](#) in [AWS CLI Command Reference](#).

**delete-target-group**

The following code example shows how to use `delete-target-group`.

**AWS CLI**

**To delete a target group**

The following `delete-target-group` example deletes the specified target group.

```bash
code
aws vpc-lattice delete-target-group \\
   --target-group-identifier tg-0eaa4b9ab4EXAMPLE
```

**Output:**

```json
default
{
}
```
For more information, see Target groups in the Amazon VPC Lattice User Guide.

- For API details, see DeleteTargetGroup in AWS CLI Command Reference.

**deregister-targets**

The following code example shows how to use deregister-targets.

**AWS CLI**

To deregister a target

The following deregister-targets example deregisters the specified target from the specified target group.

```bash
aws vpc-lattice deregister-targets 
   --targets i-07dd579bc5EXAMPLE 
   --target-group-identifier tg-0eaa4b9ab4EXAMPLE
```

Output:

```json
{
   "successful": [
   {
      "id": "i-07dd579bc5EXAMPLE",
      "port": 443
   }
   ],
   "unsuccessful": []
}
```

For more information, see Register targets in the Amazon VPC Lattice User Guide.

- For API details, see DeregisterTargets in AWS CLI Command Reference.

**get-auth-policy**

The following code example shows how to use get-auth-policy.
AWS CLI

To get information about an auth policy

The following `get-auth-policy` example gets information about the auth policy for the specified service.

```
aws vpc-lattice get-auth-policy \
    --resource-identifier svc-0285b53b2eEXAMPLE
```

Output:

```json
{
    "createdAt": "2023-06-07T03:51:20.266Z",
    "lastUpdatedAt": "2023-06-07T04:39:27.082Z",
}
```

For more information, see Auth policies in the Amazon VPC Lattice User Guide.

- For API details, see GetAuthPolicy in AWS CLI Command Reference.

get-listener

The following code example shows how to use `get-listener`.

AWS CLI

To get information about a service listener

The following `get-listener` example gets information about the specified listener for the specified service.

```
aws vpc-lattice get-listener \
    --listener-identifier listener-0ccf55918EXAMPLE \
    --service-identifier svc-0285b53b2eEXAMPLE
```

Output:
get-service

The following code example shows how to use get-service.

**AWS CLI**

**To get information about a service**

The following get-service example gets information about the specified service.

```bash
aws vpc-lattice get-service \
   --service-identifier svc-0285b53b2eEXAMPLE
```

Output:
For more information, see Services in the Amazon VPC Lattice User Guide.

- For API details, see GetService in AWS CLI Command Reference.

get-service-network

The following code example shows how to use get-service-network.

**AWS CLI**

To get information about a service network

The following get-service-network example gets information about the specified service network.

```
aws vpc-lattice get-service-network
   --service-network-identifier sn-080ec7dc93EXAMPLE
```

Output:

```json
{
   "authType": "AWS_IAM",
   "createdAt": "2023-05-05T15:26:08.417Z",
   "name": "my-lattice-service",
   "status": "ACTIVE"
}
```
"id": "sn-080ec7dc93EXAMPLE",
"lastUpdatedAt": "2023-05-05T15:26:08.417Z",
"name": "my-service-network",
"numberOfAssociatedServices": 2,
"numberOfAssociatedVPCs": 3
}

For more information, see Service networks in the Amazon VPC Lattice User Guide.

- For API details, see GetServiceNetwork in AWS CLI Command Reference.

get-service-network-service-association

The following code example shows how to use get-service-network-service-association.

AWS CLI

To get information about a service association

The following get-service-network-service-association example gets information about the specified service association.

```
aws vpc-lattice get-service-network-service-association \
    --service-network-service-association-identifier sns-a031fabb4d8EXAMPLE
```

Output:

```
{
    "createdAt": "2023-05-05T21:48:16.076Z",
    "createdBy": "123456789012",
    "dnsEntry": {
        "domainName": "my-lattice-service-0285b53b2eEXAMPLE.7d67968.vpc-lattice-svcs.us-east-2.on.aws",
        "hostedZoneId": "Z09127221KTH2CEXAMPLE"
    },
    "id": "snsa-031fabb4d8EXAMPLE",
    "serviceArn": "arn:aws:vpc-lattice:us-east-2:123456789012:service/svc-0285b53b2eEXAMPLE",
    "serviceId": "svc-0285b53b2eEXAMPLE",
    "serviceName": "my-lattice-service",
```
For more information, see Manage service associations in the Amazon VPC Lattice User Guide.

- For API details, see GetServiceNetworkServiceAssociation in AWS CLI Command Reference.

get-service-network-vpc-association

The following code example shows how to use get-service-network-vpc-association.

**AWS CLI**

To get information about a VPC association

The following get-service-network-vpc-association example gets information about the specified VPC association.

```
aws vpc-lattice get-service-network-vpc-association \
    --service-network-vpc-association-identifier snva-0821fc8631EXAMPLE
```

Output:

```json
{
    "createdAt": "2023-06-06T23:41:08.421Z",
    "createdBy": "123456789012",
    "id": "snva-0c5dcb60d6EXAMPLE",
    "lastUpdatedAt": "2023-06-06T23:41:08.421Z",
    "securityGroupIds": [
        "sg-0aee16bc6cEXAMPLE"
    ],
    "serviceNetworkId": "sn-080ec7dc93EXAMPLE",
    "serviceNetworkName": "my-service-network",
    "status": "ACTIVE"
}
```
"vpcId": "vpc-0a1b2c3d4eEXAMPLE"
}

For more information, see Manage VPC associations in the Amazon VPC Lattice User Guide.
- For API details, see GetServiceNetworkVpcAssociation in AWS CLI Command Reference.

**get-target-group**

The following code example shows how to use get-target-group.

**AWS CLI**

**To get information about a target group**

The following get-target-group example gets information about the specified target group, which has a target type of INSTANCE.

```bash
aws vpc-lattice get-target-group \n  --target-group-identifier tg-0eaa4b9ab4EXAMPLE
```

Output:

```json
{
  "config": {
    "healthCheck": {
      "enabled": true,
      "healthCheckIntervalSeconds": 30,
      "healthCheckTimeoutSeconds": 5,
      "healthyThresholdCount": 5,
      "matcher": {
        "httpCode": "200"
      },
      "path": "/",
      "protocol": "HTTPS",
      "protocolVersion": "HTTP1",
      "unhealthyThresholdCount": 2
    },
    "port": 443,
    "protocol": "HTTPS",
```
For more information, see Target groups in the Amazon VPC Lattice User Guide.

- For API details, see GetTargetGroup in AWS CLI Command Reference.

**list-listeners**

The following code example shows how to use list-listeners.

**AWS CLI**

**To list service listeners**

The following list-listeners example lists the listeners for the specified service.

```
aws vpc-lattice list-listeners \
  --service-identifier svc-0285b53b2eEXAMPLE
```

Output:

```json
{
   "items": [
      {
        "arn": "arn:aws:vpc-lattice:us-east-2:123456789012:service/svc-0285b53b2eEXAMPLE/listener/listener-0ccf55918cEXAMPLE",
        "createdAt": "2023-05-07T05:08:45.192Z",
        "id": "listener-0ccf55918cEXAMPLE",
        "lastUpdatedAt": "2023-05-07T05:08:45.192Z",
        "name": "http-80",
```
For more information, see [Define routing](#) in the *Amazon VPC Lattice User Guide*.

- For API details, see [ListListeners](#) in *AWS CLI Command Reference*.

### list-service-network-service-associations

The following code example shows how to use `list-service-network-service-associations`.

**AWS CLI**

**To list service associations**

The following `list-service-network-service-associations` example lists the service associations for the specified service network. The `--query` option scopes the output to the IDs of the service associations.

```bash
code example
aws vpc-lattice list-service-network-service-associations \
    --service-network-identifier sn-080ec7dc93EXAMPLE \
    --query items[*].id
```

**Output:**

```
[
    "snsa-031fabb4d8EXAMPLE",
    "snsa-0e16955a8cEXAMPLE"
]
```

For more information, see [Manage service associations](#) in the *Amazon VPC Lattice User Guide*.

- For API details, see [ListServiceNetworkServiceAssociations](#) in *AWS CLI Command Reference*.

### list-service-network-vpc-associations

The following code example shows how to use `list-service-network-vpc-associations`.
AWS CLI

To list VPC associations

The following list-service-network-vpc-associations example lists the VPC associations for the specified service network. The --query option scopes the output to the IDs of the VPC associations.

```
aws vpc-lattice list-service-network-vpc-associations \
  --service-network-identifier sn-080ec7dc93EXAMPLE \
  --query items[*].id
```

Output:

```
[
  "snva-0821fc8631EXAMPLE",
  "snva-0c5dcb60d6EXAMPLE"
]
```

For more information, see Manage VPC associations in the Amazon VPC Lattice User Guide.

- For API details, see ListServiceNetworkVpcAssociations in AWS CLI Command Reference.

list-service-networks

The following code example shows how to use list-service-networks.

AWS CLI

To list your service networks

The following list-service-networks example lists the service networks owned or shared with the calling account. The --query option scopes the results to the Amazon Resource Names (ARN) of the service networks.

```
aws vpc-lattice list-service-networks \
  --query items[*].arn
```

Output:

```
[
]
]

For more information, see Service networks in the Amazon VPC Lattice User Guide.

- For API details, see ListServiceNetworks in AWS CLI Command Reference.

list-services

The following code example shows how to use list-services.

AWS CLI

To list your services

The following list-services example lists the services owned or shared with the calling account. The --query option scopes the results to the Amazon Resource Names (ARN) of the services.

aws vpc-lattice list-services \
    --query items[*].arn

Output:

[
    "arn:aws:vpc-lattice:us-east-2:111122223333:service/svc-0b8ac96550EXAMPLE"
]

For more information, see Services in the Amazon VPC Lattice User Guide.

- For API details, see ListServices in AWS CLI Command Reference.

list-target-groups

The following code example shows how to use list-target-groups.

AWS CLI

To list your target groups
The following `list-target-groups` example lists the target groups with a target type of LAMBDA.

```
aws vpc-lattice list-target-groups \
   --target-group-type LAMBDA
```

Output:

```
{
   "items": [ 
   {
      "createdAt": "2023-05-06T05:22:16.637Z",
      "id": "tg-045c1b7d9EXAMPLE",
      "lastUpdatedAt": "2023-05-06T05:22:16.637Z",
      "name": "my-target-group-lam",
      "serviceArns": [ 
         "arn:aws:vpc-lattice:us-east-2:123456789012:service/svc-0285b53b2eEXAMPLE"
      ],
      "status": "ACTIVE",
      "type": "LAMBDA"
   }
   ]
}
```

For more information, see Target groups in the Amazon VPC Lattice User Guide.

- For API details, see ListTargetGroups in AWS CLI Command Reference.

**list-targets**

The following code example shows how to use `list-targets`.

**AWS CLI**

*To list the targets for a target group*

The following `list-targets` example lists the targets for the specified target group.

```
aws vpc-lattice list-targets \
```
put-auth-policy

The following code example shows how to use put-auth-policy.

AWS CLI

To create an auth policy for a service

The following put-auth-policy example grants access to requests from any authenticated principal that uses the specified IAM role. The resource is the ARN of the service to which the policy is attached.

```
aws vpc-lattice put-auth-policy \
  --resource-identifier svc-0285b53b2eEXAMPLE \
  --policy file://auth-policy.json
```

Contents of auth-policy.json:
For more information, see [Auth policies](#) in the [Amazon VPC Lattice User Guide](#).

- For API details, see [PutAuthPolicy](#) in [AWS CLI Command Reference](#).

### register-targets

The following code example shows how to use `register-targets`.

**AWS CLI**

**To register a target**

The following `register-targets` example registers the specified targets with the specified target group.

```bash
aws vpc-lattice register-targets
```
Output:

```json
{
    "successful": [
        {
            "id": "i-07dd579bc5EXAMPLE",
            "port": 443
        }
    ],
    "unsuccessful": [
        {
            "failureCode": "UnsupportedTarget",
            "failureMessage": "Instance targets must be in the same VPC as their target group",
            "id": "i-047b3c9078EXAMPLE",
            "port": 443
        }
    ]
}
```

For more information, see Register targets in the Amazon VPC Lattice User Guide.

- For API details, see RegisterTargets in AWS CLI Command Reference.

**AWS WAFV2 examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with AWS WAFV2.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.
Topics

• Actions

Actions

associate-web-acl

The following code example shows how to use associate-web-acl.

AWS CLI

To associate a web ACL with a resource

The following associate-web-acl command associates a web ACL, specified by the web-acl-id, with a resource, specified by the resource-arn. The resource ARN can refer to either an application load balancer or an API Gateway:

```bash
aws waf-regional associate-web-acl \
  --web-acl-id a123fae4-b567-8e90-1234-5ab67ac8ca90 \
  --resource-arn 12cs345-67cd-890b-1cd2-c3a4567d89f1
```

For more information, see Working with Web ACLs in the AWS WAF Developer Guide.

• For API details, see AssociateWebAcl in AWS CLI Command Reference.

check-capacity

The following code example shows how to use check-capacity.

AWS CLI

To obtain the capacity used by a set of rules

The following check-capacity retrieves the capacity requirements for a rule set that contains a rate-based rule statement, and an AND rule statement that contains nested rules.

```bash
aws wafv2 check-capacity \
  --scope REGIONAL \
  --rules file://waf-rule-list.json \
  --region us-west-2
```
Contents of file://waf-rule-list.json:

```json
[
  {
    "Name":"basic-rule",
    "Priority":0,
    "Statement":{
      "AndStatement":{
        "Statements":[
          {
            "ByteMatchStatement":{
              "SearchString":"example.com",
              "FieldToMatch":{
                "SingleHeader":{
                  "Name":"host"
                }
              },
              "TextTransformations":[
                {
                  "Priority":0,
                  "Type":"LOWERCASE"
                }
              ],
              "PositionalConstraint":"EXACTLY"
            }
          },
          {
            "GeoMatchStatement":{
              "CountryCodes":[
                "US",
                "IN"
              ]
            }
          }
        ]
      }
    },
    "Action":{
      "Allow":{
      }
    },
    "VisibilityConfig":{
      "SampledRequestsEnabled":true,
      "CloudWatch Logs":{
      }
    }
  }
]```
Output:

```
{
  "Capacity":15
}
```

For more information, see [AWS WAF Web ACL Capacity Units (WCU)](https://docs.aws.amazon.com/waf/latest/developerguide/waf-architecture limits.html) in the *AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide*.

- For API details, see [CheckCapacity](https://docs.aws.amazon.com/cli/latest/reference/wafv2/check-capacity.html) in *AWS CLI Command Reference*.

**create-ip-set**

The following code example shows how to use `create-ip-set`. 
AWS CLI

To create an IP set for use in your web ACLs and rule groups

The following create-ip-set command creates an IP set with a single address range specification.

```bash
aws wafv2 create-ip-set
   --name testip \
   --scope REGIONAL \
   --ip-address-version IPV4 \
   --addresses 198.51.100.0/16
```

Output:

```json
{
    "Summary":{
        "ARN":"arn:aws:wafv2:us-west-2:123456789012:regional/ipset/testip/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
        "Description":"
        "Name":"testip",
        "LockToken":"447e55ac-0000-0000-0000-86b67c17f8b5",
        "Id":"a1b2c3d4-5678-90ab-cdef-EXAMPLE11111"
    }
}
```

For more information, see IP Sets and Regex Pattern Sets in the AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide.

- For API details, see CreateIpSet in AWS CLI Command Reference.

create-regex-pattern-set

The following code example shows how to use create-regex-pattern-set.

AWS CLI

To create a regex pattern set for use in your web ACLs and rule groups

The following create-regex-pattern-set command creates a regex pattern set with two regex patterns specified.
aws wafv2 create-regex-pattern-set \
   --name regexPatterSet01 \
   --scope REGIONAL \
   --description 'Test web-acl' \
   --regular-expression-list '[["RegexString": "/[0-9]*/"],["RegexString": "/[a-z]*/"]]' 

Output:

```json
{
   "Summary":{
       "ARN":"arn:aws:wafv2:us-west-2:123456789012:regional/regexpatternset/regexPatterSet01/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
       "Description":"Test web-acl",
       "Name":"regexPatterSet01",
       "LockToken":"0bc01e21-03c9-4b98-9433-6229cbf1ef1c",
       "Id":"a1b2c3d4-5678-90ab-cdef-EXAMPLE11111"
   }
}
```

For more information, see [IP Sets and Regex Pattern Sets](#) in the *AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide*.

- For API details, see [CreateRegexPatternSet](#) in *AWS CLI Command Reference*.

### create-rule-group

The following code example shows how to use `create-rule-group`.

**AWS CLI**

To create a custom rule group for use in your web ACLs

The following `create-rule-group` command creates a custom rule group for regional use. The rule statements for the group are provided in a JSON-formatted file.

```bash
aws wafv2 create-rule-group \
   --name "TestRuleGroup" \
   --scope REGIONAL \
   --capacity 250 \
   --rules file://waf-rule.json 
```
--visibility-config
  SampledRequestsEnabled=true,CloudWatchMetricsEnabled=true,MetricName=TestRuleGroupMetrics

--region us-west-2

Contents of file://waf-rule.json:

```
[
  {
    "Name":"basic-rule",
    "Priority":0,
    "Statement":{
      "AndStatement":{
        "Statements":[
          {
            "ByteMatchStatement":{
              "SearchString":"example.com",
              "FieldToMatch":{
                "SingleHeader":{
                  "Name":"host"
                }
              },
            "TextTransformations":[
              {
                "Priority":0,
                "Type":"LOWERCASE"
              }
            ],
            "PositionalConstraint":"EXACTLY"
          }
        ],
        "GeoMatchStatement":{
          "CountryCodes":[
            "US",
            "IN"
          ]
        }
      }
    }
  }
],
"Action":{
```
The following code example shows how to use `create-web-acl`.

**AWS CLI**

To create a web ACL

The following `create-web-acl` command creates a web ACL for regional use. The rule statements for the web ACL are provided in a JSON-formatted file.

```bash
aws wafv2 create-web-acl \
```

For more information, see [Managing Your Own Rule Groups](https://docs.aws.amazon.com/waf/latest/developerguide/managed-rules.html) in the *AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide*.

- For API details, see [CreateRuleGroup](https://docs.aws.amazon.com/cli/latest/reference/wafv2/create-rule-group.html) in *AWS CLI Command Reference*.

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--name TestWebAcl \
--scope REGIONAL \
--default-action Allow={} \
--visibility-config SampledRequestsEnabled=true,CloudWatchMetricsEnabled=true,MetricName=TestWebAclMetrics \
--rules file://waf-rule.json \
--region us-west-2

Contents of file://waf-rule.json:

```json
[
  {
    "Name":"basic-rule",
    "Priority":0,
    "Statement":{
      "AndStatement":{
        "Statements":[
          {
            "ByteMatchStatement":{
              "SearchString":"example.com",
              "FieldToMatch":{
                "SingleHeader":{
                  "Name":"host"
                }
              }
            },
            "TextTransformations":[
              {
                "Priority":0,
                "Type":"LOWERCASE"
              }
            ],
            "PositionalConstraint":"EXACTLY"
          }
        ]
      }
    },
    {"GeoMatchStatement":{
      "CountryCodes":[
        "US",
        "IN"
      ]
    }
  }
]```

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Output:

```json
{
    "Summary":{
        "ARN":"arn:aws:wafv2:us-west-2:123456789012:regional/webacl/TestWebAcl/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
        "Description":"
        "Name":"TestWebAcl",
        "LockToken":"2294b3a1-eb60-4aa0-a86f-a3ae04329de9",
        "Id":"a1b2c3d4-5678-90ab-cdef-EXAMPLE11111"
    }
}
```

For more information, see Managing and Using a Web Access Control List (Web ACL) in the AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide.

- For API details, see CreateWebAcl in AWS CLI Command Reference.

delete-ip-set

The following code example shows how to use delete-ip-set.

AWS CLI

To delete an IP set
The following delete-ip-set deletes the specified IP set. This call requires an ID, which you can obtain from the call, list-ip-sets, and a lock token, which you can obtain from the calls, list-ip-sets and get-ip-set.

```
aws wafv2 delete-ip-set \
  --name test1 \
  --scope REGIONAL \
  --id a1b2c3d4-5678-90ab-cdef-EXAMPLE11111 \
  --lock-token 46851772-db6f-459d-9385-49428812e357
```

This command produces no output.

For more information, see IP Sets and Regex Pattern Sets in the AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide.

- For API details, see DeleteIpSet in AWS CLI Command Reference.

delete-logging-configuration

The following code example shows how to use delete-logging-configuration.

AWS CLI

**To disable logging for a web ACL**

The following delete-logging-configuration removes any logging configuration from the specified web ACL.

```
aws wafv2 delete-logging-configuration \
  --resource-arn arn:aws:wafv2:us-west-2:123456789012:regional/webacl/test/a1b2c3d4-5678-90ab-cdef-EXAMPLE22222
```

This command produces no output.

For more information, see Logging Web ACL Traffic Information in the AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide.

- For API details, see DeleteLoggingConfiguration in AWS CLI Command Reference.

delete-regex-pattern-set

The following code example shows how to use delete-regex-pattern-set.
**AWS CLI**

**To delete a regex pattern set**

The following `delete-regex-pattern-set` updates the settings for the specified regex pattern set. This call requires an ID, which you can obtain from the call, `list-regex-pattern-sets`, and a lock token, which you can obtain from the call `list-regex-pattern-sets` or the call `get-regex-pattern-set`.

```bash
aws wafv2 delete-regex-pattern-set \
   --name regexPatternSet01 \
   --scope REGIONAL \
   --id a1b2c3d4-5678-90ab-cdef-EXAMPLE11111 \
   --lock-token 0bc01e21-03c9-4b98-9433-6229cbf1ef1c
```

This command produces no output.

For more information, see [IP Sets and Regex Pattern Sets](#) in the *AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide.*

- For API details, see [DeleteRegexPatternSet](#) in *AWS CLI Command Reference.*

**delete-rule-group**

The following code example shows how to use `delete-rule-group`.

**AWS CLI**

**To delete a custom rule group**

The following `delete-rule-group` deletes the specified custom rule group. This call requires an ID, which you can obtain from the call, `list-rule-groups`, and a lock token, which you can obtain from the call `list-rule-groups` or the call `get-rule-group`.

```bash
aws wafv2 delete-rule-group \
   --name TestRuleGroup \
   --scope REGIONAL \
   --id a1b2c3d4-5678-90ab-cdef-EXAMPLE11111 \
   --lock-token 7b3bcec2-0000-0000-0000-563bf47249f0
```

This command produces no output.
For more information, see Managing Your Own Rule Groups in the AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide.

- For API details, see DeleteRuleGroup in AWS CLI Command Reference.

delete-web-acl

The following code example shows how to use delete-web-acl.

AWS CLI

To delete a web ACL

The following delete-web-acl deletes the specified web ACL from your account. A web ACL can only be deleted when it's not associated with any resources. This call requires an ID, which you can obtain from the call, list-web-acls, and a lock token, which you can obtain from the call list-web-acls or the call get-web-acl.

```bash
aws wafv2 delete-web-acl
    --name test
    --scope REGIONAL
    --id a1b2c3d4-5678-90ab-cdef-EXAMPLE11111
    --lock-token ebab4ed2-155e-4c9a-9efb-e4c45665b1f5
```

This command produces no output.

For more information, see Managing and Using a Web Access Control List (Web ACL) in the AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide.

- For API details, see DeleteWebAcl in AWS CLI Command Reference.

describe-managed-rule-group

The following code example shows how to use describe-managed-rule-group.

AWS CLI

To retrieve the description for a managed rule group

The following describe-managed-rule-group retrieves the description for an AWS managed rule group.
aws wafv2 describe-managed-rule-group
--vendor-name AWS
--name AWSManagedRulesCommonRuleSet
--scope REGIONAL

Output:

```json
{
    "Capacity": 700,
    "Rules": [
        {
            "Name": "NoUserAgent_HEADER",
            "Action": {
                "Block": {}
            }
        },
        {
            "Name": "UserAgent_BadBots_HEADER",
            "Action": {
                "Block": {}
            }
        },
        {
            "Name": "SizeRestrictions_QUERYSTRING",
            "Action": {
                "Block": {}
            }
        },
        {
            "Name": "SizeRestrictions_Cookie_HEADER",
            "Action": {
                "Block": {}
            }
        },
        {
            "Name": "SizeRestrictions_BODY",
            "Action": {
                "Block": {}
            }
        },
        {
            "Name": "SizeRestrictions_URIPATH",
            "Action": {
                "Block": {}
            }
        }
    ]
}
```
"Block": {}
}

{
"Name": "EC2MetaDataSSRF_BODY",
"Action": {
  "Block": {}
}
}
{
"Name": "EC2MetaDataSSRF_COOKIE",
"Action": {
  "Block": {}
}
}
{
"Name": "EC2MetaDataSSRF_URIPATH",
"Action": {
  "Block": {}
}
}
{
"Name": "EC2MetaDataSSRF_QUERYARGUMENTS",
"Action": {
  "Block": {}
}
}
{
"Name": "GenericLFI_QUERYARGUMENTS",
"Action": {
  "Block": {}
}
}
{
"Name": "GenericLFI_URIPATH",
"Action": {
  "Block": {}
}
}
{
"Name": "GenericLFI_BODY",
"Action": {
  "Block": {}
}
Actions and scenarios

```json
[
],
{
    "Name": "RestrictedExtensions_URIPATH",
    "Action": {
        "Block": {}
    }
},
{
    "Name": "RestrictedExtensions_QUERYARGUMENTS",
    "Action": {
        "Block": {}
    }
},
{
    "Name": "GenericRFI_QUERYARGUMENTS",
    "Action": {
        "Block": {}
    }
},
{
    "Name": "GenericRFI_BODY",
    "Action": {
        "Block": {}
    }
},
{
    "Name": "GenericRFI_URIPATH",
    "Action": {
        "Block": {}
    }
},
{
    "Name": "CrossSiteScripting_COOKIE",
    "Action": {
        "Block": {}
    }
},
{
    "Name": "CrossSiteScripting_QUERYARGUMENTS",
    "Action": {
        "Block": {}
    }
}
]
For more information, see Managed Rule Groups in the AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide.

- For API details, see DescribeManagedRuleGroup in AWS CLI Command Reference.

**disassociate-web-acl**

The following code example shows how to use disassociate-web-acl.

**AWS CLI**

To disassociate a web ACL from a regional AWS resource

The following disassociate-web-acl example removes any existing web ACL association from the specified Application Load Balancer.

```bash
aws wafv2 disassociate-web-acl \
    --resource-arn arn:aws:elasticloadbalancing:us-west-2:123456789012:loadbalancer/app/waf-cli-alb/1ea17125f8b25a2a \
    --region us-west-2
```

This command produces no output.

For more information, see Associating or Disassociating a Web ACL with an AWS Resource in the AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide.

- For API details, see DisassociateWebAcl in AWS CLI Command Reference.
get-ip-set

The following code example shows how to use get-ip-set.

AWS CLI

To retrieve a specific IP set

The following get-ip-set retrieves the IP set with the specified name, scope, and ID. You can get the ID for an IP set from the commands create-ip-set and list-ip-sets.

```bash
aws wafv2 get-ip-set \
   --name testip \
   --scope REGIONAL \
   --id a1b2c3d4-5678-90ab-cdef-EXAMPLE11111
```

Output:

```json
{
   "IPSet":{
      "Description":",
      "Name":"testip",
      "IPAddressVersion":"IPV4",
      "Id":"a1b2c3d4-5678-90ab-cdef-EXAMPLE1111",
      "ARN":"arn:aws:wafv2:us-west-2:123456789012:regional/ipset/testip/a1b2c3d4-5678-90ab-cdef-EXAMPLE1111",
      "Addresses":[
         "192.0.20/16"
      ],
      "LockToken":"447e55ac-2396-4c6d-b9f9-86b67c17f8b5"
   }
}
```

For more information, see IP Sets and Regex Pattern Sets in the AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide.

- For API details, see GetIpSet in AWS CLI Command Reference.

get-logging-configuration

The following code example shows how to use get-logging-configuration.
AWS CLI

To retrieve the logging configurations for a web ACL

The following `get-logging-configuration` retrieves the logging configuration for the specified web ACL.

```bash
aws wafv2 get-logging-configuration \
   --resource-arn arn:aws:wafv2:us-west-2:123456789012:regional/webacl/test/a1b2c3d4-5678-90ab-cdef-EXAMPLE22222 \
   --region us-west-2
```

Output:

```json
{
   "LoggingConfiguration":{
      "ResourceArn":"arn:aws:wafv2:us-west-2:123456789012:regional/webacl/test/a1b2c3d4-5678-90ab-cdef-EXAMPLE22222",
      "RedactedFields":[
         {
            "Method":{
               }
         }
      ],
      "LogDestinationConfigs":[
      ]
   }
}
```

For more information, see [Logging Web ACL Traffic Information](#) in the *AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide*.

- For API details, see [GetLoggingConfiguration](#) in *AWS CLI Command Reference*.

get-rate-based-statement-managed-keys

The following code example shows how to use `get-rate-based-statement-managed-keys`.

Actions and scenarios
AWS CLI

To retrieve a list of IP addresses that are blocked by a rate-based rule

The following `get-rate-based-statement-managed-keys` retrieves the IP addresses currently blocked by a rate-based rule that's being used for a regional application.

```bash
aws wafv2 get-rate-based-statement-managed-keys \
   --scope REGIONAL \
   --web-acl-name testwebacl2 \
   --web-acl-id a1b2c3d4-5678-90ab-cdef-EXAMPLE11111 \
   --rule-name ratebasedtest
```

Output:

```json
{
    "ManagedKeysIPV4":{
        "IPAddressVersion":"IPV4",
        "Addresses":[
            "198.51.100.0/32"
        ]
    },
    "ManagedKeysIPV6":{
        "IPAddressVersion":"IPV6",
        "Addresses":[]
    }
}
```

For more information, see Rate-Based Rule Statement in the AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide.

- For API details, see GetRateBasedStatementManagedKeys in AWS CLI Command Reference.

get-regex-pattern-set

The following code example shows how to use `get-regex-pattern-set`.

AWS CLI

To retrieve a specific regex pattern set
The following `get-regex-pattern-set` retrieves the regex pattern set with the specified name, scope, region, and ID. You can get the ID for a regex pattern set from the commands `create-regex-pattern-set` and `list-regex-pattern-sets`.

```bash
aws wafv2 get-regex-pattern-set
   --name regexPatterSet01
   --scope REGIONAL
   --id a1b2c3d4-5678-90ab-cdef-EXAMPLE11111
   --region us-west-2
```

Output:

```json
{
   "RegexPatternSet": {
      "Description": "Test web-acl",
      "RegularExpressionList": [
         {
            "RegexString": "/[0-9]*/"
         },
         {
            "RegexString": "/[a-z]*/"
         }
      ],
      "Name": "regexPatterSet01",
      "ARN": "arn:aws:wafv2:us-west-2:123456789012:regional/regexpatternset/regexPatterSet01/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
      "Id": "a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
      "LockToken": "c8abf33f-b6fc-46ae-846e-42f994d57b29"
   }
}
```

For more information, see [IP Sets and Regex Pattern Sets](http://aws.amazon.com/waf) in the AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide.

- For API details, see [GetRegexPatternSet](http://aws.amazon.com/cli) in AWS CLI Command Reference.

**get-rule-group**

The following code example shows how to use `get-rule-group`.
AWS CLI

To retrieve a specific custom rule group

The following `get-rule-group` retrieves the custom rule group with the specified name, scope, and ID. You can get the ID for a rule group from the commands `create-rule-group` and `list-rule-groups`.

```bash
aws wafv2 get-rule-group \
   --name ff \
   --scope REGIONAL \
   --id a1b2c3d4-5678-90ab-cdef-EXAMPLE11111
```

Output:

```json
{
   "RuleGroup":{
      "Capacity":1,
      "Description":"
      "Rules":[
         {
            "Priority":0,
            "Action":{
               "Block":{
            }
         },
         "VisibilityConfig":{
            "SampledRequestsEnabled":true,
            "CloudWatchMetricsEnabled":true,
            "MetricName":"jj"
         },
         "Name":"jj",
         "Statement":{
            "SizeConstraintStatement":{
               "ComparisonOperator":"LE",
               "TextTransformations":[
                  {
                     "Priority":0,
                     "Type":"NONE"
                  }
               ],
               "FieldToMatch":{

```
For more information, see Managing Your Own Rule Groups in the AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide.

- For API details, see GetRuleGroup in AWS CLI Command Reference.

get-sampled-requests

The following code example shows how to use get-sampled-requests.

AWS CLI

To retrieve a sample of web requests for a web ACL

The following get-sampled-requests retrieves the sampled web requests for the specified web ACL, rule metric, and time frame.

```bash
aws wafv2 get-sampled-requests
   --web-acl-arn arn:aws:wafv2:us-west-2:123456789012:regional/webacl/test-cli/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111
   --rule-metric-name AWS-AWSManagedRulesSQLiRuleSet
   --scope=REGIONAL
```
Output:

```json
{
    "TimeWindow": {
        "EndTime": 1581541800.0,
        "StartTime": 1581537600.0
    },
    "SampledRequests": [
        {
            "Action": "BLOCK",
            "Timestamp": 1581541799.564,
            "RuleNameWithinRuleGroup": "AWS#AWSManagedRulesSQLiRuleSet#SQLi_BODY",
            "Request": {
                "Country": "US",
                "URI": "/",
                "Headers": [
                    {
                        "Name": "Host",
                        "Value": "alb-test-1EXAMPLE1.us-east-1.elb.amazonaws.com"
                    },
                    {
                        "Name": "Content-Length",
                        "Value": "7456"
                    },
                    {
                        "Name": "User-Agent",
                        "Value": "curl/7.53.1"
                    },
                    {
                        "Name": "Accept",
                        "Value": "/
                    },
                    {
                        "Name": "Content-Type",
                        "Value": "application/x-www-form-urlencoded"
                    }
                ],
                "ClientIP": "198.51.100.08",
                "Method": "POST",
                "HTTPVersion": "HTTP/1.1"
            }
        }
    ]
}
```
"Action": "BLOCK",
"Timestamp": 1581541799.988,
"RuleNameWithinRuleGroup": "AWS#AWSManagedRulesSQLiRuleSet#SQLi_BODY",
"Request": {
    "Country": "US",
    "URI": "/",
    "Headers": [
        {
            "Name": "Host",
            "Value": "alb-test-1EXAMPLE1.us-east-1.elb.amazonaws.com"
        },
        {
            "Name": "Content-Length",
            "Value": "7456"
        },
        {
            "Name": "User-Agent",
            "Value": "curl/7.53.1"
        },
        {
            "Name": "Accept",
            "Value": "/
        },
        {
            "Name": "Content-Type",
            "Value": "application/x-www-form-urlencoded"
        }
    ],
    "ClientIP": "198.51.100.08",
    "Method": "POST",
    "HTTPVersion": "HTTP/1.1"}
},
"Weight": 3
}
"URI": "/",
"Headers": [
  {
    "Name": "Host",
    "Value": "alb-test-1EXAMPLE1.us-east-1.elb.amazonaws.com"
  },
  {
    "Name": "Content-Length",
    "Value": "7456"
  },
  {
    "Name": "User-Agent",
    "Value": "curl/7.53.1"
  },
  {
    "Name": "Accept",
    "Value": "/"
  },
  {
    "Name": "Content-Type",
    "Value": "application/x-www-form-urlencoded"
  }
],
"ClientIP": "198.51.100.08",
"Method": "POST",
"HTTPVersion": "HTTP/1.1"
},
"Weight": 1
],

"Action": "BLOCK",
"Timestamp": 1581541799.4,
"RuleNameWithinRuleGroup": "AWS#AWSManagedRulesSQLiRuleSet#SQLi_BODY",
"Request": {
  "Country": "US",
  "URI": "/",
  "Headers": [
    {
      "Name": "Host",
      "Value": "alb-test-1EXAMPLE1.us-east-1.elb.amazonaws.com"
    },
    {
      "Name": "Content-Length",
      "Value": "7456"
    }
  ]
}
For more information, see [Viewing a Sample of Web Requests](#) in the [AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide](#).

- For API details, see [GetSampledRequests](#) in [AWS CLI Command Reference](#).

### get-web-acl

The following code example shows how to use `get-web-acl`.

#### AWS CLI

**To retrieve a web ACL**

The following `get-web-acl` retrieves the web ACL with the specified name, scope, and ID. You can get the ID for a web ACL from the commands `create-web-acl` and `list-web-acls`.

```bash
aws wafv2 get-web-acl \
--name test01 \
--scope REGIONAL
```
Output:

```json
{
    "WebACL":{
        "Capacity":3,
        "Description":"
        "Rules":[
            {
                "Priority":1,
                "Action":{
                    "Block":{
                    
                }
            },
            "VisibilityConfig":{
                "SampledRequestsEnabled":true,
                "CloudWatchMetricsEnabled":true,
                "MetricName":"testrule01"
            },
            "Name":"testrule01",
            "Statement":{
                "AndStatement":{
                    "Statements":[
                        {
                            "ByteMatchStatement":{
                                "PositionalConstraint":"EXACTLY",
                                "TextTransformations":[
                                    {
                                        "Priority":0,
                                        "Type":"NONE"
                                    }
                                ],
                                "SearchString":"dGVzdHN0cmluZw==",
                                "FieldToMatch":{
                                    "UriPath":{
                                    
                                }
                            }
                        }
                    ]
                }
            }
        }
    }
```
For more information, see Managing and Using a Web Access Control List (Web ACL) in the AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide.

- For API details, see GetWebAcl in AWS CLI Command Reference.
get-web-acl-for-resource

The following code example shows how to use get-web-acl-for-resource.

AWS CLI

To retrieve the web ACL that's associated with an AWS resource

The following get-web-acl-for-resource retrieves the JSON for the web ACL that's associated with the specified resource.

```bash
aws wafv2 get-web-acl-for-resource \\
    --resource-arn arn:aws:elasticloadbalancing:us-west-2:123456789012:loadbalancer/app/waf-cli-alb/1ea17125f8b25a2a
```

Output:

```json
{
    "WebACL":{
        "Capacity":3,
        "Description":"
        "Rules":[
        {
            "Priority":1,
            "Action":{
                "Block":{

                }
            }
        },
        "VisibilityConfig":{
            "SampledRequestsEnabled":true,
            "CloudWatchMetricsEnabled":true,
            "MetricName":"testrule01"
        },
        "Name":"testrule01",
        "Statement":{
            "AndStatement":{
                "Statements":[
                {
                    "ByteMatchStatement":{
                        "PositionalConstraint":"EXACTLY",
                        "TextTransformations":[

                    }
                }
            ]
```
"Priority":0,
  "Type":"NONE"
}]
, "SearchString":"dGVzdHN0cmluZw==",
"FieldToMatch":{
  "UriPath":{
  }
}
}, {
  "SizeConstraintStatement":{
    "ComparisonOperator":"EQ",
    "TextTransformations":[
      {
        "Priority":0,
        "Type":"NONE"
      }
    ],
    "FieldToMatch":{
      "QueryString":{
      }
    },
    "Size":0
  }
}
], "VisibilityConfig":{
  "SampledRequestsEnabled":true,
  "CloudWatchMetricsEnabled":true,
  "MetricName":"test01"
},
"DefaultAction":{
  "Allow":{
  }
},"Priority":0,
  "Type":"NONE"
}]
, "SearchString":"dGVzdHN0cmluZw==",
"FieldToMatch":{
  "UriPath":{
  }
}
}, {
  "SizeConstraintStatement":{
    "ComparisonOperator":"EQ",
    "TextTransformations":[
      {
        "Priority":0,
        "Type":"NONE"
      }
    ],
    "FieldToMatch":{
      "QueryString":{
      }
    },
    "Size":0
  }
}
], "VisibilityConfig":{
  "SampledRequestsEnabled":true,
  "CloudWatchMetricsEnabled":true,
  "MetricName":"test01"
},
"DefaultAction":{
  "Allow":{
  }
},
For more information, see Associating or Disassociating a Web ACL with an AWS Resource in the AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide.

- For API details, see GetWebAclForResource in AWS CLI Command Reference.

**list-available-managed-rule-groups**

The following code example shows how to use list-available-managed-rule-groups.

**AWS CLI**

**To retrieve the managed rule groups**

The following list-available-managed-rule-groups returns the list of all managed rule groups that are currently available for use in your web ACLs.

```
aws wafv2 list-available-managed-rule-groups
   --scope REGIONAL
```

Output:

```json
{
   "ManagedRuleGroups": [
   {
      "VendorName": "AWS",
      "Name": "AWSManagedRulesCommonRuleSet",
      "Description": "Contains rules that are generally applicable to web applications. This provides protection against exploitation of a wide range of vulnerabilities, including those described in OWASP publications and common Common Vulnerabilities and Exposures (CVE)."
   },
   {
      "VendorName": "AWS",
      "Name": "AWSManagedRulesAdminProtectionRuleSet",
      "Description": "Contains rules that allow you to block external access to exposed admin pages. This may be useful if you are running third-party software
```
or would like to reduce the risk of a malicious actor gaining administrative access to your application.

},
{
    "VendorName": "AWS",
    "Name": "AWSManagedRulesKnownBadInputsRuleSet",
    "Description": "Contains rules that allow you to block request patterns that are known to be invalid and are associated with exploitation or discovery of vulnerabilities. This can help reduce the risk of a malicious actor discovering a vulnerable application."
},
{
    "VendorName": "AWS",
    "Name": "AWSManagedRulesSQLiRuleSet",
    "Description": "Contains rules that allow you to block request patterns associated with exploitation of SQL databases, like SQL injection attacks. This can help prevent remote injection of unauthorized queries."
},
{
    "VendorName": "AWS",
    "Name": "AWSManagedRulesLinuxRuleSet",
    "Description": "Contains rules that block request patterns associated with exploitation of vulnerabilities specific to Linux, including LFI attacks. This can help prevent attacks that expose file contents or execute code for which the attacker should not have had access."
},
{
    "VendorName": "AWS",
    "Name": "AWSManagedRulesUnixRuleSet",
    "Description": "Contains rules that block request patterns associated with exploiting vulnerabilities specific to POSIX/POSIX-like OS, including LFI attacks. This can help prevent attacks that expose file contents or execute code for which access should not been allowed."
},
{
    "VendorName": "AWS",
    "Name": "AWSManagedRulesWindowsRuleSet",
    "Description": "Contains rules that block request patterns associated with exploiting vulnerabilities specific to Windows, (e.g., PowerShell commands). This can help prevent exploits that allow attacker to run unauthorized commands or execute malicious code."
}
"Name": "AWSManagedRulesPHPRuleSet",
"Description": "Contains rules that block request patterns associated with exploiting vulnerabilities specific to the use of the PHP, including injection of unsafe PHP functions. This can help prevent exploits that allow an attacker to remotely execute code or commands."
},
{
  "VendorName": "AWS",
  "Name": "AWSManagedRulesWordPressRuleSet",
  "Description": "The WordPress Applications group contains rules that block request patterns associated with the exploitation of vulnerabilities specific to WordPress sites."
},
{
  "VendorName": "AWS",
  "Name": "AWSManagedRulesAmazonIpReputationList",
  "Description": "This group contains rules that are based on Amazon threat intelligence. This is useful if you would like to block sources associated with bots or other threats."
}

For more information, see Managed Rule Groups in the AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide.

- For API details, see ListAvailableManagedRuleGroups in AWS CLI Command Reference.

**list-ip-sets**

The following code example shows how to use list-ip-sets.

**AWS CLI**

*To retrieve a list of IP sets*

The following list-ip-sets retrieves all IP sets for the account that have regional scope.

```sh
aws wafv2 list-ip-sets \
   --scope REGIONAL
```

Output:
For more information, see \[IP \text{ Sets and Regex Pattern Sets}\] in the \textit{AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide}.

- For API details, see \texttt{ListIpSets} in \textit{AWS CLI Command Reference}.

### list-logging-configurations

The following code example shows how to use \texttt{list-logging-configurations}.

#### AWS CLI

**To retrieve a list of all logging configurations for a region**

The following \texttt{list-logging-configurations} retrieves the all logging configurations for web ACLs that are scoped for regional use in the \texttt{us-west-2} region.

```
aws wafv2 list-logging-configurations \
   --scope REGIONAL \
   --region us-west-2
```

**Output:**

```
{
   "LoggingConfigurations": [
       {
       }
   ]
}
```
"RedactedFields": [
  {
    "QueryString": {
    }
  },
  "LogDestinationConfigs": [
  ]
],
"ResourceArn": "arn:aws:wafv2:us-west-2:123456789012:regional/webacl/test/a1b2c3d4-5678-90ab-cdef-EXAMPLE2222",
"RedactedFields": [
  {
    "Method": {
    }
  },
  "LogDestinationConfigs": [
  ]
]
}

For more information, see [Logging Web ACL Traffic Information](https://aws.amazon.com) in the AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide.

- For API details, see [ListLoggingConfigurations](https://aws.amazon.com) in AWS CLI Command Reference.

**list-regex-pattern-sets**

The following code example shows how to use `list-regex-pattern-sets`.

**AWS CLI**

To retrieve a list of regex pattern sets
The following `list-regex-pattern-sets` retrieves all regex pattern sets for the account that are defined in the region `us-west-2`.

```
aws wafv2 list-regex-pattern-sets \
   --scope REGIONAL \ 
   --region us-west-2
```

Output:

```
{
   "NextMarker":"regexPatterSet01",
   "RegexPatternSets":[
   {
      "ARN":"arn:aws:wafv2:us-west-2:123456789012:regional/regexpatternset/regexPatterSet01/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
      "Description":"Test web-acl",
      "Name":"regexPatterSet01",
      "LockToken":"f17743f7-0000-0000-0000-19a8b93bfb01",
      "Id":"a1b2c3d4-5678-90ab-cdef-EXAMPLE11111"
   }
   ]
}
```

For more information, see [IP Sets and Regex Pattern Sets](https://docs.aws.amazon.com/waf/latest/developerguide/ip-sets-regex-pattern-sets.html) in the *AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide*.

- For API details, see [ListRegexPatternSets](https://docs.aws.amazon.com/cli/latest/reference/wafv2/list-regex-pattern-sets.html) in *AWS CLI Command Reference*.

### list-resources-for-web-acl

The following code example shows how to use `list-resources-for-web-acl`.

**AWS CLI**

**To retrieve the resources associated with a web ACL**

The following `list-resources-for-web-acl` retrieves the API Gateway REST API resources that are currently associated with the specified web ACL in the region `us-west-2`.

```
aws wafv2 list-resources-for-web-acl \
   --web-acl-arn arn:aws:wafv2:us-west-2:123456789012:regional/webacl/TestWebAcl/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111 \
```
```
--resource-type API_GATEWAY \
--region us-west-2
```

Output:

```json
{
  "ResourceArns": [
    "arn:aws:apigateway:us-west-2::/restapis/EXAMPLE111/stages/testing"
  ]
}
```

For more information, see [Associating or Disassociating a Web ACL with an AWS Resource](https://docs.aws.amazon.com/waf/latest/developerguide/associating-web-acl-with-aws-resource.html) in the *AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide*.

- For API details, see [ListResourcesForWebAcl](https://docs.aws.amazon.com/cli/latest/reference/wafv2/list-resources-for-webacl.html) in *AWS CLI Command Reference*.

## list-rule-groups

The following code example shows how to use `list-rule-groups`.

### AWS CLI

**To retrieve a list of custom rule groups**

The following `list-rule-groups` retrieves all custom rule groups that are defined for the account for the specified scope and region location.

```
aws wafv2 list-rule-groups \
  --scope REGIONAL \
  --region us-west-2
```

Output:

```json
{
  "RuleGroups": [
    {
      "ARN": "arn:aws:wafv2:us-west-2:123456789012:regional/rulegroup/TestRuleGroup/a1b2c3d4-5678-90ab-cdef-EXAMPLE1111",
      "Description": "",
      "Name": "TestRuleGroup",
      "LockToken": "1eb5ec48-0000-0000-0000-ee9b906c541e",
      "Id": "a1b2c3d4-5678-90ab-cdef-EXAMPLE1111"
    }
  ]
}
```
For more information, see Managing Your Own Rule Groups in the AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide.

- For API details, see ListRuleGroups in AWS CLI Command Reference.

### list-tags-for-resource

The following code example shows how to use list-tags-for-resource.

**AWS CLI**

**To retrieve all tags for an AWS WAF resource**

The following list-tags-for-resource retrieves the list of all tag key, value pairs for the specified web ACL.

```bash
aws wafv2 list-tags-for-resource \
  --resource-arn arn:aws:wafv2:us-west-2:123456789012:regional/webacl/testwebacl2/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111
```

**Output:**

```json
{
   "NextMarker":"
   "TagInfoForResource":{
      "TagList":[
      
   ],
   "NextMarker":"test"
}
```
The following code example shows how to use `list-web-acls`.

**AWS CLI**

**To retrieve the web ACLs for a scope**

The following `list-web-acls` retrieves all web ACLs that are defined for the account for the specified scope.

```bash
aws wafv2 list-web-acls --scope REGIONAL
```

**Output:**

```
{
   "NextMarker":"Testt",
   "WebACLs": [
      {
         "ARN":"arn:aws:wafv2:us-west-2:123456789012:regional/webacl/Testt/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111",
         "Description":"sssss",
         "Name":"Testt",
         "LockToken":"7f36cb30-74ef-4cff-8cd4-a77e1aba1746",
         "Id":"a1b2c3d4-5678-90ab-cdef-EXAMPLE11111"
      }
   ]
}
```

For more information, see [Managing and Using a Web Access Control List (Web ACL)] in the *AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide*. 
put-logging-configuration

The following code example shows how to use put-logging-configuration.

AWS CLI

To create a logging configuration for the web ACL ARN with the specified Kinesis Firehose stream ARN

The following put-logging-configuration example displays logging configuration for WAF with CloudFront.

```bash
aws waf put-logging-configuration \
```

Output:

```
{
   "LoggingConfiguration": {
      "LogDestinationConfigs": [
      ]
   }
}
```

• For API details, see PutLoggingConfiguration in AWS CLI Command Reference.

tag-resource

The following code example shows how to use tag-resource.

AWS CLI

To add tags to an AWS WAF resource
The following tag-resource example adds a tag with a key of Name and value set to AWSWAF to the specified web ACL.

```
aws wafv2 tag-resource \
   --resource-arn arn:aws:wafv2:us-west-2:123456789012:regional/webacl/apiGatewayWebAcl/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111 \
   --tags Key=Name,Value=AWSWAF
```

This command produces no output.

For more information, see [Getting Started with AWS WAF](https://aws.amazon.com/waf) in the *AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide*.

- For API details, see [TagResource](https://aws.amazon.com/cli) in *AWS CLI Command Reference*.

untag-resource

The following code example shows how to use untag-resource.

AWS CLI

**To remove tags from an AWS WAF resource**

The following untag-resource example removes the tag with the key KeyName from the specified web ACL.

```
aws wafv2 untag-resource \
   --resource-arn arn:aws:wafv2:us-west-2:123456789012:regional/webacl/apiGatewayWebAcl/a1b2c3d4-5678-90ab-cdef-EXAMPLE11111 \
   --tag-keys "KeyName"
```

This command produces no output.

For more information, see [Getting Started with AWS WAF](https://aws.amazon.com/waf) in the *AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide*.

- For API details, see [UntagResource](https://aws.amazon.com/cli) in *AWS CLI Command Reference*.

update-byte-match-set

The following code example shows how to use update-byte-match-set.
AWS CLI

To update a byte match set

The following update-byte-match-set command deletes a ByteMatchTuple object (filter) in a ByteMatchSet. Because the updates value has embedded double quotes, you must surround the value with single quotes.

```
aws waf-regional update-byte-match-set \
    --byte-match-set-id a123fae4-b567-8e90-1234-5ab67ac8ca90 \
    --change-token 12cs345-67cd-890b-1cd2-c3a4567d89f1 \
    --updates
    'Action="DELETE",ByteMatchTuple={FieldToMatch={Type="HEADER",Data="referer"},TargetString="badrefer1",TextTransformation="NONE",PositionalConstraint="CONTAINS"}'
```

For more information, see Working with String Match Conditions in the AWS WAF Developer Guide.

- For API details, see UpdateByteMatchSet in AWS CLI Command Reference.

update-ip-set

The following code example shows how to use update-ip-set.

AWS CLI

To modify the settings for an existing IP set

The following update-ip-set updates the settings for the specified IP set. This call requires an ID, which you can obtain from the call, list-ip-sets, and a lock token which you can obtain from the calls, list-ip-sets and get-ip-set. This call also returns a lock token that you can use for a subsequent update.

```
aws wafv2 update-ip-set \
    --name testip \
    --scope REGIONAL \
    --id a1b2c3d4-5678-90ab-cdef-EXAMPLE11111 \
    --addresses 198.51.100.0/16 \
    --lock-token 447e55ac-2396-4c6d-b9f9-86b67c17f8b5
```

Output:
For more information, see IP Sets and Regex Pattern Sets in the AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide.

- For API details, see UpdateIpSet in AWS CLI Command Reference.

update-regex-pattern-set

The following code example shows how to use update-regex-pattern-set.

AWS CLI

To modify the settings for an existing regex pattern set

The following update-regex-pattern-set updates the settings for the specified regex pattern set. This call requires an ID, which you can obtain from the call, list-regex-pattern-sets, and a lock token which you can obtain from the calls, list-regex-pattern-sets and get-regex-pattern-set. This call also returns a lock token that you can use for a subsequent update.

```
aws wafv2 update-regex-pattern-set \
    --name ExampleRegex \
    --scope REGIONAL \
    --id a1b2c3d4-5678-90ab-cdef-EXAMPLE11111 \
    --regular-expression-list RegexString="^.*$" \
    --lock-token ed207e9c-82e9-4a77-aadd-81e6173ab7eb
```

Output:

```
{
    "NextLockToken": "12ebc73e-fa68-417d-a9b8-2bdd761a4fa5"
}
```

For more information, see IP Sets and Regex Pattern Sets in the AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide.

- For API details, see UpdateRegexPatternSet in AWS CLI Command Reference.
update-rule

The following code example shows how to use update-rule.

AWS CLI

To update a rule

The following update-rule command deletes a Predicate object in a rule. Because the updates value has embedded double quotes, you must surround the entire value with single quotes.

```bash
aws waf-regional update-rule \
  --rule-id a123fae4-b567-8e90-1234-5ab67ac8ca90 \
  --change-token 12cs345-67cd-890b-1cd2-c3a4567d89f1 \
  --updates 'Action="DELETE",Predicate={Negated=false,Type="ByteMatch",DataId="MyByteMatchSetID"}''
```

For more information, see Working with Rules in the AWS WAF Developer Guide.

- For API details, see UpdateRule in AWS CLI Command Reference.

update-rule-group

The following code example shows how to use update-rule-group.

AWS CLI

To update a custom rule group

The following update-rule-group changes the visibility configuration for an existing custom rule group. This call requires an ID, which you can obtain from the call, list-rule-groups, and a lock token which you can obtain from the calls, list-rule-groups and get-rule-group. This call also returns a lock token that you can use for a subsequent update.

```bash
aws wafv2 update-rule-group \
  --name TestRuleGroup \
  --scope REGIONAL \
  --id a1b2c3d4-5678-90ab-cdef-EXAMPLE11111 \
  --lock-token 7b3bce2-0000-0000-0000-563bf47249f0 \
  --visibility-config SamplersRequestsEnabled=false,CloudWatchMetricsEnabled=false,MetricName=TestMetricsForRuleGroup \
```

Actions and scenarios
Output:

```json
{
    "NextLockToken": "1eb5ec48-0000-0000-0000-ee9b906c541e"
}
```

For more information, see Managing Your Own Rule Groups in the AWS WAF, AWS Firewall Manager, and AWS Shield Advanced Developer Guide.

- For API details, see UpdateRuleGroup in AWS CLI Command Reference.

### update-size-constraint-set

The following code example shows how to use `update-size-constraint-set`.

**AWS CLI**

**To update a size constraint set**

The following `update-size-constraint-set` command deletes a SizeConstraint object (filters) in a size constraint set:

```
aws waf update-size-constraint-set --size-constraint-set-id a123fae4-b567-8e90-1234-5ab67ac8ca90 --change-token 12cs345-67cd-890b-1cd2-c3a4567d89f1 --updates
    Action="DELETE",SizeConstraint={FieldToMatch={Type="QUERY_STRING"},TextTransformation="NONE",ComparisonOperator="GT",Size=0}
```

For more information, see Working with Size Constraint Conditions in the AWS WAF developer guide.

- For API details, see UpdateSizeConstraintSet in AWS CLI Command Reference.

### update-sql-injection-match-set

The following code example shows how to use `update-sql-injection-match-set`.

**AWS CLI**

**To update a SQL Injection Match Set**
The following `update-sql-injection-match-set` command deletes a SqlInjectionMatchTuple object (filters) in a SQL injection match set:

```bash
aws waf update-sql-injection-match-set --sql-injection-match-set-id a123fae4-b567-8e90-1234-5ab67ac8ca90 --change-token 12cs345-67cd-890b-1cd2-c3a4567d89f1 --updates Action="DELETE",SqlInjectionMatchTuple={FieldToMatch={Type="QUERY_STRING"},TextTransformation="URL_DECODE"}
```

For more information, see Working with SQL Injection Match Conditions in the AWS WAF developer guide.


`update-web-acl`

The following code example shows how to use `update-web-acl`.

**AWS CLI**

To update a web ACL

The following `update-web-acl` command deletes an ActivatedRule object in a WebACL. Because the `updates` value contains embedded double quotes, you must surround the entire value in single quotes.

```bash
aws waf-regional update-web-acl \
  --web-acl-id a123fae4-b567-8e90-1234-5ab67ac8ca90 \
  --change-token 12cs345-67cd-890b-1cd2-c3a4567d89f1 \
  --updates Action="DELETE",ActivatedRule='{Priority=1,RuleId="WAFRule-1-Example"},Action={Type="ALLOW"}'
```

For more information, see [Working with Web ACLs](https://docs.aws.amazon.com/waf/latest/developerguide/working-with-web-acls.html) in the *AWS WAF Developer Guide*.

- For API details, see [UpdateWebAcl](https://docs.aws.amazon.com/cli/latest/reference/waf-regional-update-web-acl.html) in *AWS CLI Command Reference*.

`update-xss-match-set`

The following code example shows how to use `update-xss-match-set`.

**AWS CLI**

To update an XSSMatchSet
The following update-xss-match-set command deletes an XssMatchTuple object (filters) in an XssMatchSet:

```bash
aws waf update-xss-match-set --xss-match-set-id a123fae4-b567-8e90-1234-5ab67ac8ca90
--change-token 12cs345-67cd-890b-1cd2-c3a4567d89f1 --updates
Action="DELETE",XssMatchTuple={FieldToMatch={Type="QUERY_STRING"},TextTransformation="URL_DECODE"}
```

For more information, see Working with Cross-site Scripting Match Conditions in the AWS WAF developer guide.

- For API details, see [UpdateXssMatchSet](#) in [AWS CLI Command Reference](#).

## Amazon WorkDocs examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon WorkDocs.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

### Topics
- [Actions](#)

### Actions

#### Describe users

The following code example shows how to describe Amazon WorkDocs users.

**AWS CLI**

To retrieve details for specified users
This example retrieves details for all the users in the specified organization.

Command:

```bash
aws workdocs describe-users --organization-id d-926726012c
```

Output:

```json
{
  "Users": [
    {
      "Id": "S-1-1-11-11111111-222222222-3333333333-3333&d-926726012c",
      "Username": "example1User",
      "OrganizationId": "d-926726012c",
      "RootFolderId": "3c0e3f849dd20a9771d937b9bbcc97e18796150ae56c26d64a4fa0320a2dedc9",
      "RecycleBinFolderId": "c27f4c4d647be1f5147b3184ffa96e1e2bf708278b696cacba68ba13b91f4fe",
      "Status": "INACTIVE",
      "Type": "USER",
      "CreatedTimestamp": 1535478999.452,
      "ModifiedTimestamp": 1535478999.452
    },
    {
      "Id": "S-1-1-11-11111111-222222222-3333333333-4444&d-926726012c",
      "Username": "example2User",
      "EmailAddress": "example2User@site.awsapps.com",
      "GivenName": "example2Name",
      "Surname": "example2Surname",
      "OrganizationId": "d-926726012c",
      "RootFolderId": "35b886cb17198c9b547655e58b025df0cf34aaed638be52009567e23dc67390",
      "RecycleBinFolderId": "9858c3e9edc4c24600de9aadb4c69fde998070dd46e5e985bd08ec6169ea249ff",
      "Status": "ACTIVE",
      "Type": "MINIMALUSER",
      "CreatedTimestamp": 1535478836.584,
      "ModifiedTimestamp": 1535478836.584
    }
  ]
}
```

- For API details, see [DescribeUsers](https://docs.aws.amazon.com/cli/latest/reference/workdocs/describe-users.html) in *AWS CLI Command Reference*. 
**abort-document-version-upload**

The following code example shows how to use `abort-document-version-upload`.

**AWS CLI**

**To stop a document version upload**

This example stops a previously initiated document version upload.

Command:

```bash
aws workdocs abort-document-version-upload --document-id feaba64d4efdf271c2521b60a2a44a8f057e84beaabbe22f01267313209835f2 --version-id 1536773972914-ddb67663e782e7ce8455ebc962217cf9f9e47b5a9a702e5c84dccccd417da9313
```

Output:

None

- For API details, see [AbortDocumentVersionUpload](#) in *AWS CLI Command Reference*.

**activate-user**

The following code example shows how to use `activate-user`.

**AWS CLI**

**To activate a user**

This example activates an inactive user.

Command:

```bash
aws workdocs activate-user --user-id "S-1-1-11-1111111111-2222222222-3333333333-3333&d-926726012c"
```

Output:

```
{
```
For API details, see [ActivateUser](https://docs.aws.amazon.com/cli/latest/reference/workdocs/activate-user.html) in *AWS CLI Command Reference*.

### add-resource-permissions

The following code example shows how to use `add-resource-permissions`.

**AWS CLI**

**To add permissions for a resource**

This example adds permissions to the resource for the specified principals.

**Command:**

```
aws workdocs add-resource-permissions --resource-id d90d9dcf4e440bc0d84b07e873e973ebab33900900401a95e77c2af58e977d2983b65 --principals Id=anonymous,Type=ANONYMOUS,Role=VIEWER
```
Output:

```json
{
  "ShareResults": [
    {
      "PrincipalId": "anonymous",
      "Role": "VIEWER",
      "Status": "SUCCESS",
      "ShareId":
        "d90d93c1fe44bad0c8471e973ebaab339090401a95e777cffa58e977d2983b65",
      "StatusMessage": ""
    }
  ]
}
```

- For API details, see [AddResourcePermissions](https://docs.aws.amazon.com/cli/latest/reference/workdocs/add-resource-permissions.html) in *AWS CLI Command Reference*.

**create-comment**

The following code example shows how to use `create-comment`.

**AWS CLI**

**To add a new comment**

This example adds a new comment to the specified document version.

**Command:**

```bash
aws workdocs create-comment --document-id 15df51e0335cfcc6a2e4de9dd8be9f22ee40545ad9176f54758dcf903be982d3 --version-id 1521672507741-9f7df0ea5dd0b121c4f3564a0c7c0b4da95cd12c635d3c442af337a88e297920 --text "This is a comment."
```

**Output:**

```json
{
  "Comment": {
    "CommentId": "1534799058197-c7f5c84de9115875bbca93e0367bbebac609541d461636b760849b88b1609dd5",
    "ThreadId": "1534799058197-c7f5c84de9115875bbca93e0367bbebac609541d461636b760849b88b1609dd5",
    "Payload": {
      "Comment": "This is a comment."
    }
  }
}
```
create-custom-metadata

The following code example shows how to use create-custom-metadata.

AWS CLI

To create custom metadata

This example creates custom metadata for the specified document.

Command:

```
aws workdocs create-custom-metadata --resource-id d90d93c1fe44bad0c8471e973ebaab33900401a95e777cffa58e977d2983b65 --custom-metadata KeyName1=example,KeyName2=example2
```

Output:

None

For API details, see CreateCustomMetadata in AWS CLI Command Reference.

create-folder

The following code example shows how to use create-folder.
**AWS CLI**

**To create a folder**

This example creates a folder.

**Command:**

```bash
aws workdocs create-folder --name documents --parent-folder-id 1ece93e5fe75315c7407c4967918b4fd9da87db2a588e67b7fdaf4a98fde678
```

**Output:**

```json
{
   "Metadata": {
      "Id": "50893c0af679524d1a0e0651130ed6d073e1a05f95bd12c42dcde5d35634ed08",
      "Name": "documents",
      "CreatorId": "S-1-1-11-111111111-222222222-333333333-3333&d-926726012c",
      "ParentFolderId": "1ece93e5fe75315c7407c4967918b4fd9da87db2a588e67b7fdaf4a98fde678",
      "CreatedTimestamp": 1534450467.622,
      "ModifiedTimestamp": 1534450467.622,
      "ResourceState": "ACTIVE",
      "Signature": "",
      "Size": 0,
      "LatestVersionSize": 0
   }
}
```

- For API details, see [CreateFolder](#) in *AWS CLI Command Reference*.

**create-labels**

The following code example shows how to use create-labels.

**AWS CLI**

**To create labels**

This example creates a series of labels for a document.

**Command:**

```bash
```
aws workdocs create-labels --resource-id d90d93c1fe44bad0c8471e973ebaab339090401a95e777cffa58e977d2983b65 --labels "documents" "examples" "my_documents"

Output:
None

- For API details, see CreateLabels in AWS CLI Command Reference.

create-notification-subscription

The following code example shows how to use create-notification-subscription.

AWS CLI

To create a notification subscription

The following create-notification-subscription example configures a notification subscription for the specified Amazon WorkDocs organization.

aws workdocs create-notification-subscription \
  --organization-id d-123456789c \
  --protocol HTTPS \
  --subscription-type ALL \
  --notification-endpoint "https://example.com/example"

Output:

{
    "Subscription": {
       "SubscriptionId": "123ab4c5-678d-901e-f23g-45h6789j0123",
       "EndPoint": "https://example.com/example",
       "Protocol": "HTTPS"
    }
}

For more information, see Subscribe to Notifications in the Amazon WorkDocs Developer Guide.

- For API details, see CreateNotificationSubscription in AWS CLI Command Reference.
**create-user**

The following code example shows how to use `create-user`.

**AWS CLI**

**To create a new user**

This example creates a new user in a Simple AD or Microsoft AD directory.

**Command:**

```
aws workdocs create-user --organization-id d-926726012c --username exampleUser2
--email-address exampleUser2@site.awsapps.com --given-name example2Name --surname
example2Surname --password examplePa$$w0rd
```

**Output:**

```
{
   "User": {
      "Id": "S-1-5-21-1601113990-4902692072-9016590749-3455692316-9016590749-540692072-4294967295", 
      "Username": "exampleUser2", 
      "EmailId": "exampleUser2@site.awsapps.com", 
      "GivenName": "example2Name", 
      "Surname": "example2Surname", 
      "OrganizationId": "d-926726012c", 
      "RootFolderId": "35b886cb17198cbd547655e58b025dff0cf34aaed638be52009567e23dc67390", 
      "RecycleBinFolderId": "9858c3e9ed4c2460d8e9aad84b6e69fde998070dd46e5e985bd08ec6169ea249ff", 
      "Status": "ACTIVE", 
      "Type": "MINIMALUSER", 
      "CreatedTimestamp": 1535478836.584, 
      "ModifiedTimestamp": 1535478836.584, 
      "Storage": { 
         "StorageUtilizedInBytes": 0, 
         "StorageRule": { 
            "StorageAllocatedInBytes": 0, 
            "StorageType": "QUOTA" 
         } 
      } 
   } 
}
```
- For API details, see CreateUser in AWS CLI Command Reference.

**deactivate-user**

The following code example shows how to use deactivate-user.

**AWS CLI**

**To deactivate a user**

This example deactivates an active user.

**Command:**

```
aws workdocs deactivate-user --user-id "S-1-1-11-1111111111-2222222222-3333333333-3333d-926726012c"
```

**Output:**

None

- For API details, see DeactivateUser in AWS CLI Command Reference.

**delete-comment**

The following code example shows how to use delete-comment.

**AWS CLI**

**To delete a specified comment from a document version**

This example deletes the specified comment from the specified document version.

**Command:**

```
aws workdocs delete-comment --document-id 15df51e0335cfc6a2e4de9dd8be9f22ee40545ad9176f54758dcf903be982d3 --version-id 1521672507741-9f7df0ea5dd0b121c4f3564a0c7c0b4da95cd12c635d3c442af337a88e297920 --comment-id 1534799058197-c7f5c84de9115875bbca93e0367bbebac609541d461636b760849b88b1609dd5
```

**Output:**
delete-custom-metadata

The following code example shows how to use delete-custom-metadata.

AWS CLI

To delete custom metadata from a resource

This example deletes all custom metadata from the specified resource.

Command:

```bash
aws workdocs delete-custom-metadata --resource-id d90d93c1fe44bad0c8471e973ebaab339090401a95e777cffa58e977d2983b65 --delete-all
```

Output:

None

For API details, see `DeleteCustomMetadata` in *AWS CLI Command Reference*.

delete-document

The following code example shows how to use delete-document.

AWS CLI

To delete a document

This example deletes the specified document.

Command:

```bash
aws workdocs delete-document --document-id b83ed5e5b167b65ef69de9d597627ff1a0d4f07a45e67f1fab7d26b54427de0a
```

Output:
delete-folder

The following code example shows how to use `delete-folder`.

AWS CLI

**To delete a folder**

This example deletes the specified folder.

**Command:**

```
aws workdocs delete-folder --folder-id
  26fa8aa4ba2071447c194f7b150b07149dbdb9e1c8a301872dcd93a4735ce65d
```

**Output:**

None

- For API details, see [DeleteFolder](#) in *AWS CLI Command Reference*.

delete-folder-contents

The following code example shows how to use `delete-folder-contents`.

AWS CLI

**To delete the contents of a folder**

This example deletes the contents of the specified folder.

**Command:**

```
aws workdocs delete-folder-contents --folder-id
  26fa8aa4ba2071447c194f7b150b07149dbdb9e1c8a301872dcd93a4735ce65d
```

**Output:**
None

- For API details, see `DeleteFolderContents` in *AWS CLI Command Reference*.

**delete-labels**

The following code example shows how to use `delete-labels`.

**AWS CLI**

**To delete labels**

This example deletes the specified labels from a document.

**Command:**

```bash
aws workdocs delete-labels --resource-id
d90d93c1fe44bad0c8471e973ebaab339090401a95e777c7fa58e977d2983b65 --labels
"documents" "examples"
```

**Output:**

None

- For API details, see `DeleteLabels` in *AWS CLI Command Reference*.

**delete-notification-subscription**

The following code example shows how to use `delete-notification-subscription`.

**AWS CLI**

**To delete a notification subscription**

The following `delete-notification-subscription` example deletes the specified notification subscription.

```bash
aws workdocs delete-notification-subscription \
--subscription-id 123ab4c5-678d-901e-f23g-45h6789j0123 \
--organization-id d-123456789c
```
This command produces no output.

For more information, see Subscribe to Notifications in the Amazon WorkDocs Developer Guide.
- For API details, see DeleteNotificationSubscription in AWS CLI Command Reference.

delete-user

The following code example shows how to use delete-user.

AWS CLI

To delete a user

This example deletes a user.

Command:

```
aws workdocs delete-user --user-id "S-1-1-11-1111111111-2222222222-3333333333-3333&d-926726012c"
```

Output:

None

- For API details, see DeleteUser in AWS CLI Command Reference.

describe-activities

The following code example shows how to use describe-activities.

AWS CLI

To get a list of user activities

This example returns a list of the latest user activities for the specified organization, with a limit set for the latest two activities.

Command:

```
aws workdocs describe-activities --organization-id d-926726012c --limit 2
```
Output:

```json
{
   "UserActivities": [
      {
         "Type": "DOCUMENT_VERSION_DOWNLOADED",
         "TimeStamp": 1534800122.17,
         "Initiator": {
            "Id": "arn:aws:iam::123456789123:user/exampleUser"
         },
         "ResourceMetadata": {
            "Type": "document",
            "Name": "updatedDoc",
            "Id": "15df51e0335cfcc6a2e4de9dd8be9f22ee40545ad9176f54758dcf903be982d3",
            "Owner": {
               "Id": "S-1-1-11-1111111111-2222222222-3333333333-3333&d-926726012c",
               "GivenName": "exampleName",
               "Surname": "exampleSurname"
            }
         }
      },
      {
         "Type": "DOCUMENT_VERSION_VIEWED",
         "TimeStamp": 1534799079.207,
         "Initiator": {
            "Id": "S-1-1-11-1111111111-2222222222-3333333333-3333&d-926726012c",
            "GivenName": "exampleName",
            "Surname": "exampleSurname"
         },
         "ResourceMetadata": {
            "Type": "document",
            "Name": "updatedDoc",
            "Id": "15df51e0335cfcc6a2e4de9dd8be9f22ee40545ad9176f54758dcf903be982d3",
            "Owner": {
               "Id": "S-1-1-11-1111111111-2222222222-3333333333-3333&d-926726012c",
               "GivenName": "exampleName",
               "Surname": "exampleSurname"
            }
         }
      }
   ]
}
```
For API details, see DescribeActivities in AWS CLI Command Reference.

**describe-comments**

The following code example shows how to use describe-comments.

**AWS CLI**

**To list all comments for a specified document version**

This example lists all the comments for the specified document version.

Command:

```bash
aws workdocs describe-comments --document-id 15df51e0335cfcc6a2e4de9dd8be9f22ee40545ad9176f54758dfc903be982d3 --version-id 1521672507741-9f7df0ea5dd0b121c4f3564a0c7c0b4da95cd12c635d3c442af337a88e297920
```

Output:

```json
{
   "Comments": [
      {
         "CommentId": "1534799058197-c7f5c84de9115875bbca93e0367bbebac609541d461636b760849b88b1609dd5",
         "ThreadId": "1534799058197-c7f5c84de9115875bbca93e0367bbebac609541d461636b760849b88b1609dd5",
         "Text": "This is a comment.",
         "Contributor": {
            "Username": "arn:aws:iam::123456789123:user/exampleUser",
            "Type": "USER"
         },
         "CreatedTimestamp": 1534799058.197,
         "Status": "PUBLISHED",
         "Visibility": "PUBLIC"
      }
   ]
}
```
describe-document-versions

The following code example shows how to use describe-document-versions.

AWS CLI

To retrieve a document's versions

This example retrieves the document versions for the specified document, including initialized versions and a URL for the source document.

Command:

```bash
aws workdocs describe-document-versions --document-id
d90d93c1fe44bad0c8471e973ebaab339090401a95e777c7458e977d2983b65 --fields SOURCE
```

Output:

```json
{
  "DocumentVersions": [
    {
      "Id": "1534452029587-15e129dfc187505c407588df255be83de2920d733859f1d2762411d22a83e3ef",
      "Name": "exampleDoc.docx",
      "ContentType": "application/vnd.openxmlformats-officedocument.wordprocessingml.document",
      "Size": 13922,
      "Signature": "1a23456b78901c23d4ef56gh7EXAMPLE",
      "Status": "ACTIVE",
      "CreatedTimestamp": 1534452029.587,
      "ModifiedTimestamp": 1534452029.849,
      "CreatorId": "S-1-1-11-1111111111-2222222222-3333333333-3333&d-926726012c",
      "Source": {
d90d93c1fe44bad0c8471e973ebaab339090401a95e777c7458e977d2983b65/1534452029587-15e129dfc187505c407588df255be83de2920d733859f1d2762411d22a83e3ef",
      }
    }
  ]
}
```
• For API details, see DescribeDocumentVersions in AWS CLI Command Reference.

describe-folder-contents

The following code example shows how to use describe-folder-contents.

AWS CLI

To describe the contents of a folder
This example describes all the active contents of the specified folder, including its documents and subfolders, sorted by date in ascending order.

Command:

```bash
aws workdocs describe-folder-contents --folder-id 1ece93e5fe75315c7407c4967918b4fd9da87d2b2a588e67b7fdaf4a98fde678 --sort DATE --order ASCENDING --type ALL
```

Output:

```json
{
  "Folders": [
    {
      "Id": "50893c0af679524d1a0e0651130ed6d073e1a05f95bd12d242dcde5d35634ed08",
      "Name": "testing",
      "CreatorId": "S-1-1-11-111111111-222222222-3333333333-33333d-926726012c",
      "ParentFolderId": "1ece93e5fe75315c7407c4967918b4fd9da87d2b2a588e67b7fdaf4a98fde678",
      "CreatedTimestamp": 1534450467.622,
      "ModifiedTimestamp": 1534451113.504,
      "ResourceState": "ACTIVE",
      "Signature": "1a23456b78901c23d4ef56gh7EXAMPLE",
      "Size": 23019,
      "LatestVersionSize": 11537
    }
  ],
  "Documents": [
    {
      "Id": "d90d93c1fe44bad0c8471e973eba339090401a95e777cfa58e977d2983b65",
      "CreatorId": "S-1-1-11-111111111-222222222-3333333333-33333d-926726012c",
      "ParentFolderId": "1ece93e5fe75315c7407c4967918b4fd9da87d2b2a588e67b7fdaf4a98fde678",
      "CreatedTimestamp": 1529005196.082,
      "ModifiedTimestamp": 1534452483.01,
      "LatestVersionMetadata": {
        "Id": "1534452029587-15e129dfe187505c407588df255be83de2920d733859f1d2762411d22a83e3ef",
        "Name": "exampleDoc.docx",
        "ContentType": "application/vnd.openxmlformats-officedocument.wordprocessingml.document"
      }
    }
  ]
}
```
For API details, see `DescribeFolderContents` in *AWS CLI Command Reference*.

**describe-groups**

The following code example shows how to use `describe-groups`.

**AWS CLI**

**To retrieve a list of groups**

The following `describe-groups` example lists the groups associated with the specified Amazon WorkDocs organization.

```bash
aws workdocs describe-groups \
    --search-query "e" \
    --organization-id d-123456789c
```

**Output:**

```json
{
    "Groups": [
        {
            "Id": "S-1-1-11-1122222222-2222233333-333334444-4444&d-123456789c",
            "Name": "Example Group 1"
        },
        {
            "Id": "S-1-1-11-1122222222-2222233333-333334444-5555&d-123456789c",
            "Name": "Example Group 2"
        }
    ]
}
```
For more information, see Getting Started with Amazon WorkDocs in the Amazon WorkDocs Administration Guide.

- For API details, see DescribeGroups in AWS CLI Command Reference.

**describe-notification-subscriptions**

The following code example shows how to use describe-notification-subscriptions.

**AWS CLI**

**To retrieve a list of notification subscriptions**

The following describe-notification-subscriptions example retrieves the notification subscriptions for the specified Amazon WorkDocs organization.

```
aws workdocs describe-notification-subscriptions \
  --organization-id d-123456789c
```

Output:

```
{
  "Subscriptions": [
    {
      "SubscriptionId": "123ab4c5-678d-901e-f23g-45h6789j0123",
      "EndPoint": "https://example.com/example",
      "Protocol": "HTTPS"
    }
  ]
}
```

For more information, see Subscribe to Notifications in the Amazon WorkDocs Developer Guide.

- For API details, see DescribeNotificationSubscriptions in AWS CLI Command Reference.

**describe-resource-permissions**

The following code example shows how to use describe-resource-permissions.
AWS CLI

To get a list of permissions for a resource

This example returns a list of the permissions for the specified resource (document or folder).

Command:

```
aws workdocs describe-resource-permissions --resource-id
15df51e0335cfcc6a2e4de9dd8be9f22ee40545ad9176f54758dcf903be982d3
```

Output:

```
{
  "Principals": [
    {
      "Id": "anonymous",
      "Type": "ANONYMOUS",
      "Roles": [
        {
          "Role": "VIEWER",
          "Type": "DIRECT"
        }
      ]
    },
    {
      "Id": "S-1-1-11-1111111111-2222222222-3333333333-3333&d-926726012c",
      "Type": "USER",
      "Roles": [
        {
          "Role": "OWNER",
          "Type": "DIRECT"
        }
      ]
    },
    {
      "Id": "d-926726012c",
      "Type": "ORGANIZATION",
      "Roles": [
        {
          "Role": "VIEWER",
          "Type": "INHERITED"
        }
      ]
    }
  ]
}
```
get-document

The following code example shows how to use get-document.

AWS CLI

To retrieve document details

This example retrieves the details of the specified document.

Command:

```bash
aws workdocs get-document --document-id d90d93c1fe44bad0c8471e973ebaab339090401a95e777cffa58e977d2983b65
```

Output:

```json
{
   "Metadata": {
      "Id": "d90d93c1fe44bad0c8471e973ebaab339090401a95e777cffa58e977d2983b65",
      "CreatorId": "S-1-1-11-1111111111-2222222222-3333333333-3333&d-926726012c",
      "ParentFolderId": "1ece93e5fe75315c7407c4967918b4fd9da87d8b2a588e67b7fdaf4a98fde678",
      "CreatedTimestamp": 1529005196.082,
      "ModifiedTimestamp": 1534452483.01,
      "LatestVersionMetadata": {
         "Id": "1534452029587-15e129dfc187505c407588df255be83de2920d733859f1d2762411d22a83e3ef",
         "Name": "exampleDoc.docx",
         "ContentType": "application/vnd.openxmlformats-officedocument.wordprocessingml.document",
         "Size": 13922,
         "Signature": "1a23456b78901c23d4ef56gh7EXAMPLE",
         "Status": "ACTIVE",
         "CreatedTimestamp": 1534452029.587,
         "ModifiedTimestamp": 1534452029.587,
         "CreatorId": "S-1-1-11-1111111111-2222222222-3333333333-3333&d-926726012c"
      }
   }
}
```

For API details, see DescribeResourcePermissions in AWS CLI Command Reference.
For API details, see GetDocument in AWS CLI Command Reference.

get-document-path

The following code example shows how to use get-document-path.

AWS CLI

To retrieve a document's path information

This example retrieves the path information (hierarchy from the root folder) for the specified document, and includes the names of the parent folders.

Command:

```
aws workdocs get-document-path --document-id d90d93c1fe44bad0c8471e973ebaab339090401a95e777c8fa58e977d2983b65 --fields NAME
```

Output:

```json
{
    "Path": {
        "Components": [
            {
                "Id": "a43d29cbb8e7c4d25cfee8b803a504b0dc63e760b55ad0c611c6b87691eb6ff3",
                "Name": "/
            },
            {
                "Id": "1ece93e5fe75315c7407c4967918b4fd9da87dd2a588e67b7fda4a98fde678",
                "Name": "Top Level Folder"
            },
            {
                "Id": "d90d93c1fe44bad0c8471e973ebaab339090401a95e777c8fa58e977d2983b65",
                "Name": "exampleDoc.docx"
            }
        ]
    }
}
```
get-document-version

The following code example shows how to use get-document-version.

AWS CLI

To retrieve version metadata for a specified document

This example retrieves version metadata for the specified document, including a source URL and custom metadata.

Command:

```
aws workdocs get-document-version --document-id 15df51e0335cfcc6a2e4de9dd8be9f22ee40545ad9176f54758dcf903be982d3 --version-id 1521672507741-9f7df0ea5dd0b121c4f3564a0c7c0b4da95cd12c635d3c442af337a88e297920 --fields SOURCE --include-custom-metadata
```

Output:

```
{
  "Metadata": {
    "Id": "1521672507741-9f7df0ea5dd0b121c4f3564a0c7c0b4da95cd12c635d3c442af337a88e297920",
    "Name": "exampleDoc",
    "ContentType": "application/vnd.openxmlformats-officedocument.wordprocessingml.document",
    "Size": 11537,
    "Signature": "1a23456b78901c23d4ef56gh7EXAMPLE",
    "Status": "ACTIVE",
    "CreatedTimestamp": 1521672507.741,
    "ModifiedTimestamp": 1534451113.504,
    "CreatorId": "S-1-1-11-1111111111-2222222222-3333333333-3333&d-926726012c",
    "Source": {
      "ORIGINAL": "https://gb-us-west-2-prod-doc-source.s3.us-west-2.amazonaws.com/15df51e0335cfcc6a2e4de9dd8be9f22ee40545ad9176f54758dcf903be982d3/1521672507741-9f7df0ea5dd0b121c4f3564a0c7c0b4da95cd12c635d3c442af337a88e297920?response-content-disposition=attachment%3B%20filename%2A20exampleDoc.docx"
    }
  }
}
```

For API details, see `GetDocumentPath` in *AWS CLI Command Reference*.
For API details, see [GetDocumentVersion](#) in *AWS CLI Command Reference*.

### get-folder

The following code example shows how to use `get-folder`.

**AWS CLI**

**To retrieve the metadata for a folder**

This example retrieves the metadata for the specified folder.

**Command:**

```
aws workdocs get-folder --folder-id 50893c0af679524d1a0e0651130ed6d073e1a05f95bd12c42dcde5d35634ed08
```

**Output:**

```
{
   "Metadata": {
      "Id": "50893c0af679524d1a0e0651130ed6d073e1a05f95bd12c42dcde5d35634ed08",
      "Name": "exampleFolder",
      "CreatorId": "S-1-1-11-1111111111-2222222222-3333333333-3333&d-926726012c",
      "ParentFolderId": "1ece93e5fe75315c7407c4967918b4fd9da87db2a588e67b7fdaf4a98fde678",
      "CreatedTimestamp": 1534450467.622,
      "ModifiedTimestamp": 1534451113.504,
      "ResourceState": "ACTIVE",
      "Signature": "1a23456b78901c23d4ef56gh7EXAMPLE",
      "Size": 23019,
      "LatestVersionSize": 11537
   }
}
```
• For API details, see `GetFolder` in *AWS CLI Command Reference*.

**get-folder-path**

The following code example shows how to use `get-folder-path`.

**AWS CLI**

**To retrieve path information for a folder**

This example retrieves the path information (hierarchy from the root folder) for the specified folder, and includes the names of the parent folders.

Command:

```bash
aws workdocs get-folder-path --folder-id 50893c0af679524d1a0e0651130ed6d073e1a05f95bd12c42dcde5d35634ed08 --fields NAME
```

Output:

```json
{
   "Path": {
      "Components": [
         {
            "Id": "a43d29cbb8e7c4d25cfee8b803a504b0dc63e760b55ad0c611c6b87691eb6ff3",
            "Name": "/
         },
         {
            "Id": "1ece93e5fe7407c4967918b4fd9da87dd2a588e67b7fdaf4a98fde678",
            "Name": "Top Level Folder"
         },
         {
            "Id": "50893c0af679524d1a0e0651130ed6d073e1a05f95bd12c42dcde5d35634ed08",
            "Name": "Sublevel Folder"
         }
      ]
   }
}
```
get-resources

The following code example shows how to use get-resources.

AWS CLI

To retrieve shared resources

The following get-resources example retrieves the resources shared with the specified Amazon WorkDocs user.

```
aws workdocs get-resources \
   --user-id "S-1-1-11-1111111111-2222222222-3333333333-3333" \
   --collection-type SHARED_WITH_ME
```

Output:

```
{
   "Folders": [],
   "Documents": []
}
```

For more information, see Sharing Files and Folders in the Amazon WorkDocs User Guide.

initiate-document-version-upload

The following code example shows how to use initiate-document-version-upload.

AWS CLI

To initiate a document version upload

The following initiate-document-upload example creates a new document object and version object.

```
aws workdocs initiate-document-version-upload \
   --name exampledocname
```
--parent-folder-id
eacd546d952531c633452ed67cac23161aa0d5df2e8061223a59e8f67e7b6189

Output:

```
{
   "Metadata": {
      "Id": "feaba64d4efdf271c2521b60a2a44a8f057e84beaabbe22f01267313209835f2",
      "CreatorId": "S-1-1-11-1111111111-2222222222-3333333333-3333&d-926726012c",
      "ParentFolderId": "eacd546d952531c633452ed67cac23161aa0d5df2e8061223a59e8f67e7b6189",
      "CreatedTimestamp": 1536773972.914,
      "ModifiedTimestamp": 1536773972.914,
      "LatestVersionMetadata": {
         "Id": "1536773972914-t4dbd67663e7e84555ebc962217cf9f9e47b5a9a702e5c84dcccc417da9313",
         "Name": "exampledocname",
         "ContentType": "application/octet-stream",
         "Size": 0,
         "Status": "INITIALIZED",
         "CreatedTimestamp": 1536773972.914,
         "ModifiedTimestamp": 1536773972.914,
         "CreatorId": "arn:aws:iam::123456789123:user/EXAMPLE"
      },
      "ResourceState": "ACTIVE"
   },
   "UploadMetadata": {
feaba64d4efdf271c2521b60a2a44a8f057e84beaabbe22f01267313209835f2/1536773972914-
ddb67663e7e84555ebc962217cf9f9e47b5a9a702e5c84dcccc417da9313?X-Amz-
Signature=01Ab2c34d567e8f90123g456hi78j901k23456781901234mno56pqr78EXAMPLE",
      "SignedHeaders": {
         "Content-Type": "application/octet-stream",
         "x-amz-server-side-encryption": "ABC123"
      }
   }
}
```

- For API details, see [InitiateDocumentVersionUpload](https://aws.amazon.com/cli/) in *AWS CLI Command Reference.*
remove-all-resource-permissions

The following code example shows how to use remove-all-resource-permissions.

AWS CLI

To remove all permissions from a specified resource

This example removes all permissions from the specified resource.

Command:

```bash
aws workdocs remove-all-resource-permissions --resource-id 1ece93e5fe75315c7407c4967918b4fd9da87ddb2a588e67b7fdaf4a98fde678
```

Output:

None

- For API details, see [RemoveAllResourcePermissions](#) in [AWS CLI Command Reference](#).

remove-resource-permission

The following code example shows how to use remove-resource-permission.

AWS CLI

To remove permissions from a resource

This example removes permissions from the resource for the specified principal.

Command:

```bash
aws workdocs remove-resource-permission --resource-id 1ece93e5fe75315c7407c4967918b4fd9da87ddb2a588e67b7fdaf4a98fde678 --principal-id anonymous
```

Output:

None

- For API details, see [RemoveResourcePermission](#) in [AWS CLI Command Reference](#).
update-document

The following code example shows how to use update-document.

AWS CLI

To update a document

This example updates a document's name and parent folder.

Command:

```bash
aws workdocs update-document --document-id 15df51e0335cfcc6a2e4de9dd8be9f22ee40545ad9176f54758dfc903be982d3 --name updatedDoc --parent-folder-id 50893c0af679524d1a0e0651130ed6d073e1a05f95bd12c42dcde5d35634ed08
```

Output:

None


update-document-version

The following code example shows how to use update-document-version.

AWS CLI

To change a document version status to Active

This example changes the status of the document version to Active.

Command:

```bash
aws workdocs update-document-version --document-id 15df51e0335cfcc6a2e4de9dd8be9f22ee40545ad9176f54758dfc903be982d3 --version-id 1521672507741-9f7df0ea5dd0b121c4f3564a0c7c0b4da95cd12c635d3c442af337a88e297920 --version-status ACTIVE
```

Output:

None
For API details, see UpdateDocumentVersion in AWS CLI Command Reference.

update-folder

The following code example shows how to use update-folder.

AWS CLI

To update a folder

This example updates a folder's name and parent folder.

Command:

```bash
aws workdocs update-folder --folder-id 50893c0af679524d1a0e0651130ed6d073e1a05f95bd12c42dcde5d35634ed08 --name exampleFolder1 --parent-folder-id 1ece93e5fe75315c7407c4967918b4fd9da87dd82a588e67b7fdaf4a98fde678
```

Output:

None

For API details, see UpdateFolder in AWS CLI Command Reference.

update-user

The following code example shows how to use update-user.

AWS CLI

To update a user

This example updates the time zone for the specified user.

Command:

```bash
aws workdocs update-user --user-id "S-1-1-11-1111111111-2222222222-3333333333-33333&d-926726012c" --time-zone-id "America/Los_Angeles"
```

Output:
• For API details, see [UpdateUser](#) in *AWS CLI Command Reference*.

**Amazon WorkMail examples using AWS CLI**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon WorkMail.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.
Topics

- Actions

Actions

associate-delegate-to-resource

The following code example shows how to use associate-delegate-to-resource.

AWS CLI

To add a delegate to a resource

The following associate-delegate-to-resource command adds a delegate to a resource.

```
aws workmail associate-delegate-to-resource \\
   --organization-id m-d281d0a2fd824be5b6cd3d3ce909fd27 \\
   --resource-id r-68bf2d3b1c0244aab7264c24b9217443 \\
   --entity-id S-1-1-11-1111111111-2222222222-3333333333-3333
```

This command produces no output.

- For API details, see AssociateDelegateToResource in AWS CLI Command Reference.

associate-member-to-group

The following code example shows how to use associate-member-to-group.

AWS CLI

To add a member to a group

The following associate-member-to-group command adds the specified member to a group.

```
aws workmail associate-member-to-group \\
   --organization-id m-d281d0a2fd824be5b6cd3d3ce909fd27 \\
   --group-id S-1-1-11-1122222222-2222233333-3333334444-4444 \\
   --member-id S-1-1-11-1111111111-2222222222-3333333333-3333
```

This command produces no output.
- For API details, see [AssociateMemberToGroup](#) in *AWS CLI Command Reference*.

**create-alias**

The following code example shows how to use `create-alias`.

**AWS CLI**

**To create an alias**

The following `create-alias` command creates an alias for the specified entity (user or group).

```
aws workmail create-alias \
    --organization-id m-d281d0a2fd824be5b6cd3d3ce909fd27 \
    --entity-id S-1-1-11-1122222222-2222233333-3333334444-4444 \
    --alias exampleAlias@site.awsapps.com
```

This command produces no output.

- For API details, see [CreateAlias](#) in *AWS CLI Command Reference*.

**create-group**

The following code example shows how to use `create-group`.

**AWS CLI**

**To create a new group**

The following `create-group` command creates a new group for the specified organization.

```
aws workmail create-group \
    --organization-id m-d281d0a2fd824be5b6cd3d3ce909fd27 \
    --name exampleGroup1
```

**Output:**

```
{
    "GroupId": "S-1-1-11-1122222222-2222233333-3333334444-4444"
}
```

- For API details, see [CreateGroup](#) in *AWS CLI Command Reference*. 

---

*Actions and scenarios*
**create-resource**

The following code example shows how to use `create-resource`.

**AWS CLI**

**To create a new resource**

The following `create-resource` command creates a new resource (meeting room) for the specified organization.

```
aws workmail create-resource \
   --organization-id m-d281d0a2fd824be5b6cd3d3ce909fd27 \
   --name exampleRoom1 \
   --type ROOM
```

Output:

```
{
    "ResourceId": "r-7afe0efbade843a58cdc10251f9e992c"
}
```

* For API details, see [CreateResource](#) in *AWS CLI Command Reference*.

**create-user**

The following code example shows how to use `create-user`.

**AWS CLI**

**To create a new user**

The following `create-user` command creates a new user.

```
aws workmail create-user \
   --organization-id m-d281d0a2fd824be5b6cd3d3ce909fd27 \
   --name exampleName \
   --display-name exampleDisplayName \
   --password examplePa$$w0rd
```

Output:
delete-access-control-rule

The following code example shows how to use delete-access-control-rule.

AWS CLI

To delete an access control rule

The following delete-access-control-rule example deletes the specified access control rule from the specified Amazon WorkMail organization.

```
aws workmail delete-access-control-rule \
    --organization-id m-n1pq2345678r901st2u3vx45x6789yza \
    --name "myRule"
```

This command produces no output.

For more information, see Working with Access Control Rules in the Amazon WorkMail Administrator Guide.

- For API details, see DeleteAccessControlRule in AWS CLI Command Reference.

delete-alias

The following code example shows how to use delete-alias.

AWS CLI

To delete an alias

The following delete-alias command deletes the alias for the specified entity (user or group).

```
aws workmail delete-alias \
    --organization-id m-d281d0a2fd824be5b6cd3d3ce909fd27 \
```
This command produces no output.

- For API details, see DeleteAlias in AWS CLI Command Reference.

**delete-group**

The following code example shows how to use delete-group.

**AWS CLI**

**To delete an existing group**

The following delete-group command deletes an existing group from Amazon WorkMail.

```
aws workmail delete-group \
  --organization-id m-d281d0a2fd824be5b6cd3d3ce909fd27 \
  --group-id S-1-1-11-1122222222-2222233333-3333344444-4444
```

This command produces no output.

- For API details, see DeleteGroup in AWS CLI Command Reference.

**delete-mailbox-permissions**

The following code example shows how to use delete-mailbox-permissions.

**AWS CLI**

**To delete mailbox permissions**

The following delete-mailbox-permissions command deletes mailbox permissions that were previously granted to a user or group. The entity represents the user that owns the mailbox, and the grantee represents the user or group for whom to delete permissions.

```
aws workmail delete-mailbox-permissions \
  --organization-id m-d281d0a2fd824be5b6cd3d3ce909fd27 \
  --entity-id S-1-1-11-1122222222-2222233333-3333344444-4444 \
  --grantee-id S-1-1-11-1111111111-222222222-333333333-3333
```
This command produces no output.

- For API details, see `DeleteMailboxPermissions` in `AWS CLI Command Reference`.

**delete-resource**

The following code example shows how to use `delete-resource`.

**AWS CLI**

**To delete an existing resource**

The following `delete-resource` command deletes an existing resource from Amazon WorkMail.

```bash
aws workmail delete-resource \
   --organization-id m-d281d0a2fd824be5b6cd3d3ce909fd27 \
   --resource-id r-7afe0efbade843a58cde10251fce99c
```

This command produces no output.

- For API details, see `DeleteResource` in `AWS CLI Command Reference`.

**delete-user**

The following code example shows how to use `delete-user`.

**AWS CLI**

**To delete a user**

The following `delete-user` command deletes the specified user from Amazon WorkMail and all subsequent systems.

```bash
aws workmail delete-user \
   --organization-id m-d281d0a2fd824be5b6cd3d3ce909fd27 \
   --user-id S-1-1-11-1111111111-2222222222-3333333333-3333
```

This command produces no output.

- For API details, see `DeleteUser` in `AWS CLI Command Reference`.  

Actions and scenarios
**deregister-from-work-mail**

The following code example shows how to use deregister-from-work-mail.

**AWS CLI**

**To disable an existing entity**

The following deregister-from-work-mail command disables an existing entity (user, group, or resource) from using Amazon WorkMail.

```bash
aws workmail deregister-from-work-mail \
    --organization-id m-d281d0a2fd824be5b6cd3d3ce909fd27 \
    --entity-id S-1-1-11-1111111111-2222222222-3333333333-3333
```

This command produces no output.

- For API details, see [DeregisterFromWorkMail](https://docs.aws.amazon.com/cli/latest/reference/workmail/deregister-from-work-mail.html) in *AWS CLI Command Reference*.

**describe-group**

The following code example shows how to use describe-group.

**AWS CLI**

**To retrieve information for a group**

The following describe-group command retrieves information about the specified group.

```bash
aws workmail describe-group \
    --organization-id m-d281d0a2fd824be5b6cd3d3ce909fd27 \
    --group-id S-1-1-11-1122222222-2222233333-3333344444-4444
```

Output:

```json
{
    "GroupId": "S-1-1-11-1122222222-2222233333-3333344444-4444",
    "Name": "exampleGroup1",
    "State": "ENABLED"
}
```

- For API details, see [DescribeGroup](https://docs.aws.amazon.com/cli/latest/reference/workmail/describe-group.html) in *AWS CLI Command Reference*. 
describe-organization

The following code example shows how to use describe-organization.

AWS CLI

To retrieve information for an organization

The following describe-organization command retrieves information for the specified Amazon WorkMail organization.

```
aws workmail describe-organization \
    --organization-id m-d281d0a2fd824be5b6cd3d3ce909fd27
```

Output:

```
{
    "OrganizationId": "m-d281d0a2fd824be5b6cd3d3ce909fd27",
    "Alias": "alias",
    "State": "Active",
    "DirectoryId": "d-926726012c",
    "DirectoryType": "VpcDirectory",
    "DefaultMailDomain": "site.awsapps.com",
    "CompletedDate": 1522693605.468,
    "ARN": "arn:aws:workmail:us-west-2:111122223333:organization/m-nlpq2345678r901st2u3vx45x6789yza"
}
```

For more information, see Working with Organizations in the Amazon WorkMail Administrator Guide.

- For API details, see DescribeOrganization in AWS CLI Command Reference.

describe-resource

The following code example shows how to use describe-resource.

AWS CLI

To retrieve information for a resource

The following describe-resource command retrieves information about the specified resource.
aws workmail describe-resource \
   --organization-id m-d281d0a2fd824be5b6cd3d3ce909fd27 \
   --resource-id r-7afe0efbade843a58cdc10251fce992c

Output:

```json
{
  "ResourceId": "r-7afe0efbade843a58cdc10251fce992c",
  "Name": "exampleRoom1",
  "Type": "ROOM",
  "BookingOptions": {
    "AutoAcceptRequests": true,
    "AutoDeclineRecurringRequests": false,
    "AutoDeclineConflictingRequests": true
  },
  "State": "ENABLED"
}
```

- For API details, see DescribeResource in AWS CLI Command Reference.

**describe-user**

The following code example shows how to use describe-user.

**AWS CLI**

**To retrieve user information**

The following describe-user command retrieves information about the specified user.

```bash
aws workmail describe-user \
   --organization-id m-d281d0a2fd824be5b6cd3d3ce909fd27 \
   --user-id S-1-1-11-111111111-222222222-333333333-3333
```

Output:

```json
{
  "UserId": "S-1-1-11-111111111-222222222-333333333-3333",
  "Name": "exampleUser1",
  "Email": "exampleUser1@site.awsapps.com",
  "DisplayName": "",
```
"State": "ENABLED",
"UserRole": "USER",
"EnabledDate": 1532459261.827
}

- For API details, see DescribeUser in AWS CLI Command Reference.

dissociate-delegate-from-resource

The following code example shows how to use disassociate-delegate-from-resource.

AWS CLI

To remove a member from a resource

The following disassociate-delegate-from-resource command removes the specified member from a resource.

```
ws workmail disassociate-delegate-from-resource 
    --organization-id m-d281d0a2fd824be5b6cd3d3ce909fd27 
    --resource-id r-68bf2d3b1c0244aab7264c24b9217443 
    --entity-id S-1-1-11-1111111111-2222222222-3333333333-333
```

This command produces no output.

- For API details, see DisassociateDelegateFromResource in AWS CLI Command Reference.

dissociate-member-from-group

The following code example shows how to use disassociate-member-from-group.

AWS CLI

To remove a member from a group

The following disassociate-member-from-group command removes the specified member from a group.

```
aws workmail disassociate-member-from-group 
    --organization-id m-d281d0a2fd824be5b6cd3d3ce909fd27 
    --group-id S-1-1-11-1122222222-2222333333-3333344444-4444
```
This command produces no output.

- For API details, see DisassociateMemberFromGroup in AWS CLI Command Reference.

get-access-control-effect

The following code example shows how to use get-access-control-effect.

AWS CLI

To get the effect of access control rules

The following get-access-control-effect example retrieves the effect of the specified Amazon WorkMail organization's access control rules for the specified IP address, access protocol action, and user ID.

```
aws workmail get-access-control-effect \\
--organization-id m-n1pq2345678r901st2u3vx45x6789yza \\
--ip-address "192.0.2.0" \\
--action "WindowsOutlook" \\
--user-id "S-1-1-11-1111111111-2222222222-3333333333-3333"
```

Output:

```
{
   "Effect": "DENY",
   "MatchedRules": [
      "myRule"
   ]
}
```

For more information, see Working with Access Control Rules in the Amazon WorkMail Administrator Guide.

- For API details, see GetAccessControlEffect in AWS CLI Command Reference.

get-mailbox-details

The following code example shows how to use get-mailbox-details.
AWS CLI

To get a user's mailbox details

The following get-mailbox-details command retrieves details about the specified user's mailbox.

```
aws workmail get-mailbox-details \
   --organization-id m-n1pq2345678r901st2u3vx45x6789yza \ 
   --user-id S-1-1-1111111111-2222222222-3333333333-3333
```

Output:

```
{
   "MailboxQuota": 51200,
   "MailboxSize": 0.03890800476074219
}
```

For more information, see Managing User Accounts in the Amazon WorkMail Administrator Guide.

• For API details, see GetMailboxDetails in AWS CLI Command Reference.

list-access-control-rules

The following code example shows how to use list-access-control-rules.

AWS CLI

To list access control rules

The following list-access-control-rules example lists the access control rules for the specified Amazon WorkMail organization.

```
aws workmail list-access-control-rules \
   --organization-id m-n1pq2345678r901st2u3vx45x6789yza
```

Output:

```
{
   "Rules": [
```
For more information, see Working with Access Control Rules in the Amazon WorkMail Administrator Guide.

- For API details, see ListAccessControlRules in AWS CLI Command Reference.

**list-aliases**

The following code example shows how to use list-aliases.

**AWS CLI**

**To list aliases for a member**

The following list-aliases command lists aliases for the specified member (user or group).

```
aws workmail list-aliases \
   --organization-id m-d281d0a2fd824be5b6cd3d3ce909fd27 \
   --entity-id S-1-1-11-1111111111-2222222222-3333333333-3333
```

Output:

```
{
```

```
"Aliases": [
  "exampleAlias@site.awsapps.com",
  "exampleAlias1@site.awsapps.com"
]

For API details, see [ListAliases](#) in *AWS CLI Command Reference*.

**list-group-members**

The following code example shows how to use `list-group-members`.

**AWS CLI**

**To list group members**

The following `list-group-members` command lists the members of the specified group.

```bash
aws workmail list-group-members \
  --organization-id m-d281d0a2fd824be5b6cd3d3ce909fd27 \
  --group-id S-1-1-11-1122222222-2222333333-33334444-4444
```

Output:

```json
{
  "Members": [
    {
      "Id": "S-1-1-11-1111111111-2222222222-3333333333-3333",
      "Name": "exampleUser1",
      "Type": "USER",
      "State": "ENABLED",
      "EnabledDate": 1532459261.827
    }
  ]
}
```

For API details, see [ListGroupMembers](#) in *AWS CLI Command Reference*.

**list-groups**

The following code example shows how to use `list-groups`. 
**AWS CLI**

**To retrieve a list of groups**

The following `list-groups` command retrieves summaries of the groups in the specified organization.

```
aws workmail list-groups \
   --organization-id m-d281d0a2fd824be5b6cd3d3ce909fd27
```

Output:

```
{
   "Groups": [
       {
         "Id": "S-1-1-11-1122222222-2222333333-3333344444-4444",
         "Name": "exampleGroup1",
         "State": "DISABLED"
       },
       {
         "Id": "S-4-4-44-1122222222-2222333333-3333344444-4444",
         "Name": "exampleGroup2",
         "State": "ENABLED"
       }
   ]
}
```

- For API details, see [ListGroups](https://awscli.amazonaws.com/articles/CLICommandReference) in *AWS CLI Command Reference*.

**list-mailbox-permissions**

The following code example shows how to use `list-mailbox-permissions`.

**AWS CLI**

**To retrieve mailbox permissions**

The following `list-mailbox-permissions` command retrieves the mailbox permissions associated with the specified entity's mailbox.

```
aws workmail list-mailbox-permissions \
   --organization-id m-d281d0a2fd824be5b6cd3d3ce909fd27
```
Output:

```json
{
  "Permissions": [
    {
      "GranteeId": "S-1-1-11-1122222222-2222333333-333344444-4444",
      "GranteeType": "USER",
      "PermissionValues": [
        "FULL_ACCESS"
      ]
    }
  ]
}
```

- For API details, see [ListMailboxPermissions](https://aws.amazon.com/cli/command-reference/list-mailbox-permissions) in *AWS CLI Command Reference*.

**list-organizations**

The following code example shows how to use `list-organizations`.

**AWS CLI**

To retrieve a list of organizations

The following `list-organizations` command retrieves summaries of non-deleted organizations.

```bash
aws workmail list-organizations
```

Output:

```json
{
  "OrganizationSummaries": [
    {
      "OrganizationId": "m-d281d0a2fd824be5b6cd3d3ce909fd27",
      "Alias": "exampleAlias",
      "State": "Active"
    }
  ]
}
```
For API details, see ListOrganizations in AWS CLI Command Reference.

list-resource-delegates

The following code example shows how to use list-resource-delegates.

AWS CLI

To list the delegates for a resource

The following list-resource-delegates command retrieves the delegates associated with the specified resource.

```
aws workmail list-resource-delegates \
  --organization-id m-d281d0a2fd824be5b6cd3d3ce909fd27 \
  --resource-id r-68bf2d3b1c0244aab7264c24b9217443
```

Output:

```
{
  "Delegates": [
    {
      "Id": "S-1-1-1111111111-2222222222-3333333333-3333",
      "Type": "USER"
    }
  ]
}
```

For API details, see ListResourceDelegates in AWS CLI Command Reference.

list-resources

The following code example shows how to use list-resources.

AWS CLI

To retrieve a list of resources

The following list-resources command retrieves summaries of the resources for the specified organization.
aws workmail list-resources \
   --organization-id m-d281d0a2fd824be5b6cd3d3ce909fd27

Output:

```json
{
   "Resources": [
       {
           "Id": "r-7afe0efbade843a58c10251fca992c",
           "Name": "exampleRoom1",
           "Type": "ROOM",
           "State": "ENABLED"
       }
   ]
}
```

- For API details, see [ListResources](https://docs.aws.amazon.com/cli/latest/reference/workmail/list-resources.html) in *AWS CLI Command Reference*.

### list-tags-for-resource

The following code example shows how to use `list-tags-for-resource`.

**AWS CLI**

**To list the tags for a resource**

The following `list-tags-for-resource` example lists the tags for the specified Amazon WorkMail organization.

```bash
aws workmail list-tags-for-resource \
   --resource-arn arn:aws:workmail:us-west-2:111122223333:organization/m-n1pq2345678r901st2u3vx45x6789yza
```

Output:

```json
{
   "Tags": [
       {
           "Key": "priority",
           "Value": "1"
       }
   ]
}
```
For more information, see Tagging an Organization in the Amazon WorkMail Administrator Guide.

- For API details, see ListTagsForResource in AWS CLI Command Reference.

list-users

The following code example shows how to use list-users.

AWS CLI

To retrieve a list of users

The following list-users command retrieves summaries of the users in the specified organization.

```bash
aws workmail list-users \
   --organization-id m-d281d0a2fd824be5b6cd3d3ce909fd27
```

Output:

```json
{
   "Users": [
      {
         "Id": "S-1-1-11-1111111111-2222222222-3333333333-3333",
         "Email": "exampleUser1@site.awsapps.com",
         "Name": "exampleUser1",
         "State": "ENABLED",
         "UserRole": "USER",
         "EnabledDate": 1532459261.827
      },
      {
         "Id": "S-1-1-11-1122222222-2222233333-3333344444-4444",
         "Name": "exampleGuestUser",
         "State": "DISABLED",
         "UserRole": "SYSTEM_USER"
      }
   ]
}
```
• For API details, see ListUsers in AWS CLI Command Reference.

**put-access-control-rule**

The following code example shows how to use put-access-control-rule.

**AWS CLI**

**To put a new access control rule**

The following put-access-control-rule example denies the specified user access to the specified Amazon WorkMail organization.

```
aws workmail put-access-control-rule \
  --name "myRule" \ 
  --effect "DENY" \ 
  --description "my rule" \ 
  --user-ids "S-1-1-11-1111111111-2222222222-3333333333-3333" \ 
  --organization-id m-npq2345678r901st2u3vx45x6789yza
```

This command produces no output.

For more information, see Working with Access Control Rules in the Amazon WorkMail Administrator Guide.

• For API details, see PutAccessControlRule in AWS CLI Command Reference.

**put-mailbox-permissions**

The following code example shows how to use put-mailbox-permissions.

**AWS CLI**

**To set mailbox permissions**

The following put-mailbox-permissions command sets full access permissions for the specified grantee (user or group). The entity represents the owner of the mailbox.

```
aws workmail put-mailbox-permissions \
  --organization-id m-d281d0a2fd824be5b6cd3d3ce909fd27 \ 
  --entity-id S-1-1-11-1111111111-2222222222-3333333333-3333
```
The following code example shows how to use `register-to-work-mail`.

**AWS CLI**

**To register an existing or disabled entity**

The following `register-to-work-mail` command enables the specified existing entity (user, group, or resource) to use Amazon WorkMail.

```bash
aws workmail register-to-work-mail
  --organization-id m-d281d0a2fd824be5b6cd3d3ce909fd27
  --entity-id S-1-1-11-1122222222-2222233333-3333344444-4444
  --email exampleGroup1@example.com
```

This command produces no output.

- For API details, see [RegisterToWorkMail](#) in *AWS CLI Command Reference*.

**reset-password**

The following code example shows how to use `reset-password`.

**AWS CLI**

**To reset a user's password**

The following `reset-password` command resets the password for the specified user.

```bash
aws workmail reset-password
  --organization-id m-d281d0a2fd824be5b6cd3d3ce909fd27
  --user-id S-1-1-11-111111111-22222222-3333333333-3333
  --password examplePa$$w0rd
```
This command produces no output.

- For API details, see ResetPassword in AWS CLI Command Reference.

**tag-resource**

The following code example shows how to use tag-resource.

**AWS CLI**

**To apply a tag to a resource**

The following tag-resource example applies a tag with key "priority" and value "1" to the specified Amazon WorkMail organization.

```bash
aws workmail tag-resource \
   --resource-arn arn:aws:workmail:us-west-2:111122223333:organization/m-nlpq2345678r901st2u3vx45x6789yza \
   --tags "Key=priority,Value=1"
```

This command produces no output.

For more information, see Tagging an Organization in the Amazon WorkMail Administrator Guide.

- For API details, see TagResource in AWS CLI Command Reference.

**untag-resource**

The following code example shows how to use untag-resource.

**AWS CLI**

**To untag a resource**

The following untag-resource example removes the specified tag from the specified Amazon WorkMail organization.

```bash
aws workmail untag-resource \
   --resource-arn arn:aws:workmail:us-west-2:111122223333:organization/m-nlpq2345678r901st2u3vx45x6789yza \
   --tag-keys "priority"
```
This command produces no output.

For more information, see Tagging an Organization in the Amazon WorkMail Administrator Guide.

- For API details, see UntagResource in AWS CLI Command Reference.

update-mailbox-quota

The following code example shows how to use update-mailbox-quota.

AWS CLI

To update a user's mailbox quota

The following update-mailbox-quota command changes the specified user's mailbox quota.

```
aws workmail update-mailbox-quota \
   --organization-id m-n1pq2345678r901st2u3vx45x6789yza \
   --user-id S-1-1-11-1111111111-2222222222-3333333333-3333 \
   --mailbox-quota 40000
```

This command produces no output.

For more information, see Managing User Accounts in the Amazon WorkMail Administrator Guide.

- For API details, see UpdateMailboxQuota in AWS CLI Command Reference.

update-primary-email-address

The following code example shows how to use update-primary-email-address.

AWS CLI

To update a primary email address

The following update-primary-email-address command updates the primary email address of the specified entity (user, group, or resource).

```
aws workmail update-primary-email-address \
   --organization-id m-d281d0a2fd824be5b6cd3d3ce909fd27 \
```
This command produces no output.

- For API details, see UpdatePrimaryEmailAddress in AWS CLI Command Reference.

update-resource

The following code example shows how to use update-resource.

AWS CLI

To update a resource

The following update-resource command updates the name of the specified resource.

```
aws workmail update-resource \
   --organization-id m-d281d0a2fd824be5b6cd3d3ce909fd27 \
   --resource-id r-7afe0efbade843a58cdc10251fce992c \
   --name exampleRoom2
```

This command produces no output.

- For API details, see UpdateResource in AWS CLI Command Reference.

Amazon WorkMail Message Flow examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Amazon WorkMail Message Flow.

**Actions** are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

**Scenarios** are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics
• **Actions**

**Actions**

**get-raw-message-content**

The following code example shows how to use `get-raw-message-content`.

**AWS CLI**

To get the raw content of an email message

The following `get-raw-message-content` example gets the raw content of an in-transit email message and sends it to a text file named `test`.

```
aws workmailmessageflow get-raw-message-content \
   --message-id a1b2cd34-ef5g-6h7j-kl8m-npq9012345rs \
   test
```

Contents of file `test` after command runs:

```
Subject: Hello World
From: =?UTF-8?Q?marymajor_marymajor?= <marymajor@example.com>
To: =?UTF-8?Q?mateojackson=40example=2Enet?= <mateojackson@example.net>
Date: Thu, 7 Nov 2019 19:22:46 +0000
Mime-Version: 1.0
Content-Type: multipart/alternative;
   boundary="=_EXAMPLE+
References: <mail.1ab23c45.5de6.7f890g123hj45678@storage.wm.amazon.com>
X-Priority: 3 (Normal)
X-Mailer: Amazon WorkMail
Thread-Index: EXAMPLE
Thread-Topic: Hello World
Message-Id: <mail.1ab23c45.5de6.7f890g123hj45678@storage.wm.amazon.com>

This is a multi-part message in MIME format. Your mail reader does not understand MIME message format.
   --=_EXAMPLE+
Content-Type: text/plain; charset=UTF-8
Content-Transfer-Encoding: 7bit

hello world
```
For more information, see Retrieving Message Content with AWS Lambda in the Amazon WorkMail Administrator Guide.

• For API details, see GetRawMessageContent in AWS CLI Command Reference.

WorkSpaces examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with WorkSpaces.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics
• Actions
Actions

create-tags

The following code example shows how to use create-tags.

AWS CLI

To add tags to a WorkSpace

The following create-tags example adds the specified tags to the specified WorkSpace.

```
aws workspaces create-tags \\
   --resource-id ws-dk1xzt417 \\
   --tags Key=Department,Value=Finance
```

This command produces no output.

For more information, see Tag WorkSpaces resources in the Amazon WorkSpaces Administration Guide.

- For API details, see CreateTags in AWS CLI Command Reference.

create-workspaces

The following code example shows how to use create-workspaces.

AWS CLI

Example 1: To create an AlwaysOn WorkSpace

The following create-workspaces example creates an AlwaysOn WorkSpace for the specified user, using the specified directory and bundle.

```
aws workspaces create-workspaces \\
   --workspaces DirectoryId=d-926722edaf,UserName=Mateo,BundleId=wsb-0zsvgp8fc
```

Output:

```
{
   "FailedRequests": [],
   "PendingRequests": [
```
Example 2: To create an AutoStop WorkSpace

The following `create-workspaces` example creates an AutoStop WorkSpace for the specified user, using the specified directory and bundle.

```
aws workspaces create-workspaces \
  --workspaces DirectoryId=d-92672edaf,UserName=Mary,BundleId=wsb-0zsvgp8fc,WorkspaceProperties={RunningMode=AUTO_STOP}
```

Output:

```
{
  "FailedRequests": [],
  "PendingRequests": [
    {
      "WorkspaceId": "ws-dk1xzi417",
      "DirectoryId": "d-92672edaf",
      "UserName": "Mary",
      "State": "PENDING",
      "BundleId": "wsb-0zsvgp8fc"
    }
  ]
}
```

For more information, see Launch a virtual desktop in the Amazon WorkSpaces Administration Guide.

- For API details, see CreateWorkspaces in AWS CLI Command Reference.

delete-tags

The following code example shows how to use delete-tags.
AWS CLI

To delete a tag from a WorkSpace

The following delete-tags example deletes the specified tag from the specified WorkSpace.

```
aws workspaces delete-tags \
   --resource-id ws-dk1zxzr417 \
   --tag-keys Department
```

This command produces no output.

For more information, see Tag WorkSpaces resources in the Amazon WorkSpaces Administration Guide.

- For API details, see DeleteTags in AWS CLI Command Reference.

deregister-workspace-directory

The following code example shows how to use deregister-workspace-directory.

AWS CLI

To deregister a directory

The following deregister-workspace-directory example deregisters the specified directory.

```
aws workspaces deregister-workspace-directory \
   --directory-id d-926722edaf
```

This command produces no output.

For more information, see Register a directory with WorkSpaces in the Amazon WorkSpaces Administration Guide.

- For API details, see DeregisterWorkspaceDirectory in AWS CLI Command Reference.

describe-tags

The following code example shows how to use describe-tags.
AWS CLI

**To describe the tags for a WorkSpace**

The following describe-tags example describes the tags for the specified WorkSpace.

```
aws workspaces describe-tags \
   --resource-id ws-dk1xzr417
```

Output:

```json
{
   "TagList": [
      {
         "Key": "Department",
         "Value": "Finance"
      }
   ]
}
```

For more information, see [Tag WorkSpaces resources](#) in the *Amazon WorkSpaces Administration Guide*.

- For API details, see [DescribeTags](#) in *AWS CLI Command Reference*.

**describe-workspace-bundles**

The following code example shows how to use describe-workspace-bundles.

AWS CLI

**To list the bundles provided by Amazon**

The following describe-workspace-bundles example lists the names and IDs of the bundles provided by Amazon, in table format and sorted by name.

```
aws workspaces describe-workspace-bundles \
   --owner AMAZON \
   --query "Bundles[*].[Name, BundleId]"
```

Output:
[...
  [
    "Standard with Amazon Linux 2",
    "wsb-clj85qzj1"
  ],
  [
    "Performance with Windows 10 (Server 2016 based)",
    "wsb-gm4d5tx2v"
  ],
  [
    "PowerPro with Windows 7",
    "wsb-1pzkp0bx4"
  ],
  [
    "Power with Amazon Linux 2",
    "wsb-2bs6k5lgn"
  ],
  [
    "Graphics with Windows 10 (Server 2019 based)",
    "wsb-03gyjnfyy"
  ],
  ...
]

For more information, see WorkSpaces bundles and images in the Amazon WorkSpaces Administration Guide.

- For API details, see DescribeWorkspaceBundles in AWS CLI Command Reference.

**describe-workspace-directories**

The following code example shows how to use describe-workspace-directories.

**AWS CLI**

**To describe a registered directory**

The following describe-workspace-directories example describes the specified registered directory.

```
aws workspaces describe-workspace-directories \
  --directory-ids d-926722edaf
```
Output:

```json
{
    "Directories": [
        {
            "DirectoryId": "d-926722edaf",
            "Alias": "d-926722edaf",
            "DirectoryName": "example.com",
            "RegistrationCode": "WSpdx+9RJ8JT",
            "SubnetIds": [
                "subnet-9d19c4c6",
                "subnet-500d5819"
            ],
            "DnsIpAddresses": [
                "172.16.1.140",
                "172.16.0.30"
            ],
            "CustomerUserName": "Administrator",
            "IamRoleId": "arn:aws:iam::123456789012:role/workspaces_DefaultRole",
            "DirectoryType": "SIMPLE_AD",
            "WorkspaceSecurityGroupId": "sg-0d89e927e5645d7c5",
            "State": "REGISTERED",
            "WorkspaceCreationProperties": {
                "EnableWorkDocs": false,
                "EnableInternetAccess": false,
                "UserEnabledAsLocalAdministrator": true,
                "EnableMaintenanceMode": true
            },
            "WorkspaceAccessProperties": {
                "DeviceTypeWindows": "ALLOW",
                "DeviceTypeOsx": "ALLOW",
                "DeviceTypeWeb": "DENY",
                "DeviceTypeIos": "ALLOW",
                "DeviceTypeAndroid": "ALLOW",
                "DeviceTypeChromeOs": "ALLOW",
                "DeviceTypeZeroClient": "ALLOW",
                "DeviceTypeLinux": "DENY"
            },
            "Tenancy": "SHARED",
            "SelfservicePermissions": {
                "RestartWorkspace": "ENABLED",
                "IncreaseVolumeSize": "DISABLED",
                "ChangeComputeType": "DISABLED",
                "SwitchRunningMode": "DISABLED"
            }
        }
    ]
}
```
For more information, see Manage directories for WorkSpaces in the Amazon WorkSpaces Administration Guide.

- For API details, see DescribeWorkspaceDirectories in AWS CLI Command Reference.

### describe-workspaces

The following code example shows how to use `describe-workspaces`.

**AWS CLI**

To describe a WorkSpace

The following `describe-workspaces` example describes the specified WorkSpace.

```shell
aws workspaces describe-workspaces \
  --workspace-ids ws-dk1xzr417
```

Output:

```json
{
  "Workspaces": [
    {
      "WorkspaceId": "ws-dk1xzr417",
      "DirectoryId": "d-926722edaf",
      "UserName": "Mary",
      "IpAddress": "172.16.0.175",
      "State": "STOPPED",
      "BundleId": "wsb-0zsvgp8fc",
      "SubnetId": "subnet-500d5819",
      "ComputerName": "WSAMZN-RBSLTTD9",
      "WorkspaceProperties": {
        "RunningMode": "AUTO_STOP",
        "RunningModeAutoStopTimeoutInMinutes": 60,
        "RootVolumeSizeGib": 80,
        "UserVolumeSizeGib": 10,
      }
    }
  ]
}
```
For more information, see Administer your WorkSpaces in the Amazon WorkSpaces Administration Guide.

- For API details, see DescribeWorkspaces in AWS CLI Command Reference.

**describe-workspaces-connection-status**

The following code example shows how to use describe-workspaces-connection-status.

**AWS CLI**

To describe the connection status of a WorkSpace

The following describe-workspaces-connection-status example describes the connection status of the specified WorkSpace.

```
aws workspaces describe-workspaces-connection-status \
    --workspace-ids ws-dk1xzr417
```

Output:

```
{
   "WorkspacesConnectionStatus": [ 
       {
         "WorkspaceId": "ws-dk1xzr417",
         "ConnectionState": "CONNECTED",
         "ConnectionStateCheckTimestamp": 1662526214.744
       }
   ]
}
```

For more information, see Administer your WorkSpaces in the Amazon WorkSpaces Administration Guide.

- For API details, see DescribeWorkspacesConnectionStatus in AWS CLI Command Reference.
migrate-workspace

The following code example shows how to use migrate-workspace.

AWS CLI

To migrate a WorkSpace

The following migrate-workspace example migrates the specified WorkSpace to the specified bundle.

```
aws workspaces migrate-workspace \
   --source-workspace-id ws-dk1xzr417 \
   --bundle-id wsb-j4dky1gs4
```

Output:

```
{
   "SourceWorkspaceId": "ws-dk1xzr417",
   "TargetWorkspaceId": "ws-x5h1lbkp5"
}
```

For more information, see Migrate a WorkSpace in the Amazon WorkSpaces Administration Guide.

- For API details, see MigrateWorkspace in AWS CLI Command Reference.

modify-workspace-creation-properties

The following code example shows how to use modify-workspace-creation-properties.

AWS CLI

To modify a WorkSpace creation property of a directory

The following modify-workspace-creation-properties example enables the EnableInternetAccess property for the specified directory. This enables automatic assignment of public IP addresses for the WorkSpaces created for the directory.

```
aws workspaces modify-workspace-creation-properties \
   --resource-id d-926722edaf \
```

Actions and scenarios
This command produces no output.

For more information, see Update directory details for your WorkSpaces in the Amazon WorkSpaces Administration Guide.

- For API details, see ModifyWorkspaceCreationProperties in AWS CLI Command Reference.

modify-workspace-properties

The following code example shows how to use modify-workspace-properties.

**AWS CLI**

**To modify the running mode of a WorkSpace**

The following modify-workspace-properties example sets the running mode of the specified WorkSpace to AUTO_STOP.

```bash
aws workspaces modify-workspace-properties \
    --workspace-id ws-dkixzr417 \
    --workspace-properties RunningMode=AUTO_STOP
```

This command produces no output.

For more information, see Modify a WorkSpace in the Amazon WorkSpaces Administration Guide.

- For API details, see ModifyWorkspaceProperties in AWS CLI Command Reference.

modify-workspace-state

The following code example shows how to use modify-workspace-state.

**AWS CLI**

**To modify the state of a WorkSpace**

The following modify-workspace-state example sets the state of the specified WorkSpace to ADMIN_MAINTENANCE.

```bash
aws workspaces modify-workspace-state \
```
--workspace-id ws-dk1xzr417 \ 
--workspace-state ADMIN_MAINTENANCE

This command produces no output.

For more information, see WorkSpace maintenance in the Amazon WorkSpaces Administration Guide.

- For API details, see ModifyWorkspaceState in AWS CLI Command Reference.

reboot-workspaces

The following code example shows how to use reboot-workspaces.

AWS CLI

To reboot a WorkSpace

The following reboot-workspaces example reboots the specified WorkSpace.

aws workspaces reboot-workspaces \ 
   --reboot-workspace-requests ws-dk1xzr417

Output:

{
   "FailedRequests": []
}

For more information, see Reboot a WorkSpace in the Amazon WorkSpaces Administration Guide.

- For API details, see RebootWorkspaces in AWS CLI Command Reference.

rebuild-workspaces

The following code example shows how to use rebuild-workspaces.

AWS CLI

To rebuild a WorkSpace
The following rebuild-workspaces example rebuilds the specified WorkSpace.

```
aws workspaces rebuild-workspaces \
   --rebuild-workspace-requests ws-dk1xzw417
```

Output:

```
{
   "FailedRequests": []
}
```

For more information, see Rebuild a WorkSpace in the Amazon WorkSpaces Administration Guide.

- For API details, see RebuildWorkspaces in AWS CLI Command Reference.

**register-workspace-directory**

The following code example shows how to use register-workspace-directory.

**AWS CLI**

**To register a directory**

The following register-workspace-directory example registers the specified directory for use with Amazon WorkSpaces.

```
aws workspaces register-workspace-directory \
   --directory-id d-926722edaf \
   --no-enable-work-docs
```

This command produces no output.

For more information, see Register a directory with WorkSpaces in the Amazon WorkSpaces Administration Guide.

- For API details, see RegisterWorkspaceDirectory in AWS CLI Command Reference.

**restore-workspace**

The following code example shows how to use restore-workspace.
AWS CLI

To restore a WorkSpace

The following `restore-workspace` example restores the specified WorkSpace.

```
aws workspaces restore-workspace \
   --workspace-id ws-dk1xzzr417
```

This command produces no output.

For more information, see Restore a WorkSpace in the Amazon WorkSpaces Administration Guide.

- For API details, see RestoreWorkspace in AWS CLI Command Reference.

start-workspaces

The following code example shows how to use `start-workspaces`.

AWS CLI

To start an AutoStop WorkSpace

The following `start-workspaces` example starts the specified WorkSpace. The WorkSpace must have a running mode of AutoStop.

```
aws workspaces start-workspaces \
   --start-workspace-requests WorkspaceId=ws-dk1xzzr417
```

Output:

```
{
   "FailedRequests": []
}
```

For more information, see Stop and start an AutoStop WorkSpace in the Amazon WorkSpaces Administration Guide.

- For API details, see StartWorkspaces in AWS CLI Command Reference.
stop-workspaces

The following code example shows how to use stop-workspaces.

AWS CLI

To stop an AutoStop WorkSpace

The following stop-workspaces example stops the specified WorkSpace. The WorkSpace must have a running mode of AutoStop.

```bash
aws workspaces stop-workspaces \
   --stop-workspace-requests WorkspaceId=ws-dk1xzr417
```

Output:

```json
{
   "FailedRequests": []
}
```

For more information, see Stop and start an AutoStop WorkSpace in the Amazon WorkSpaces Administration Guide.

- For API details, see StopWorkspaces in AWS CLI Command Reference.

terminate-workspaces

The following code example shows how to use terminate-workspaces.

AWS CLI

To terminate a WorkSpace

The following terminate-workspaces example terminates the specified workspace.

```bash
aws workspaces terminate-workspaces \
   --terminate-workspace-requests ws-dk1xzr417
```

Output:

```json
{
}
```
For more information, see [Delete a WorkSpace](#) in the *Amazon WorkSpaces Administration Guide*. 

- For API details, see [TerminateWorkspaces](#) in *AWS CLI Command Reference*.

### X-Ray examples using AWS CLI

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with X-Ray.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

#### Topics
- Actions

#### Actions

**batch-traces-get**

The following code example shows how to use `batch-traces-get`.

**AWS CLI**

**To get a list of traces**

The following `batch-get-traces` example retrieves a list of traces specified by an ID. The full trace includes a document for each segment, compiled from all of the segment documents received with the same trace ID.

```
aws xray batch-get-traces
```
Output:

```
{
    "Traces": [
        {
            "Id": "1-5d82881a-0a9126e92a73e971eed891b9",
            "Duration": 0.232,
            "Segments": [
                {
                    "Id": "54aff5735b12dd28",
                    "Document": "{"id":"54aff5735b12dd28"},"name":"Scorekeep","start_time":1.568835610432E9,"end_time":1.568835610664E9,"http":{"request":{"url":"http://scorekeep-env-1.m4fg2pfzpv.us-east-2.elasticbeanstalk.com/api/user","method":"POST","user_agent":"curl/7.59.0","client_ip":"52.95.4.28","x_forwarded_for":true},"response":{"status":200}},"aws":{"elastic_beanstalk":{"version_label":"Sample Application-1"},"deployment_id":3,"environment_name":"Scorekeep-env-1"},"ec2":{"availability_zone":"us-east-2b","instance_id":"i-03cf4d2de0f3f37a"},"xray":{"sdk_version":"1.1.0","sdk":"X-Ray for Java"},"service":{"runtime":"OpenJDK 64-Bit Server VM","runtime_version":"1.8.0_222"},"trace_id":"1-5d82881a-0a9126e92a73e971eed891b9"},

        },
        {
            "Id": "0f278b6334c34e6b",
            "Document": "{"id":"0f278b6334c34e6b"},"name":"DynamoDB","start_time":1.568835610658E9,"end_time":1.568835610664E9,"http":{"response":{"status":200,"content_length":61}},"aws":{"table_name":"scorekeep-user","operation":"UpdateItem"},"request_id":"TPEIDNDRUMLPOV17U4A79555NVV4KQNS05AMEVJF66Q9ASUAAJG","resource_names":[]}
        }
    ]
}
```
For more information, see Using the AWS X-Ray API with the AWS CLI in the AWS X-Ray Developer Guide.

- For API details, see BatchTracesGet in AWS CLI Command Reference.

### create-group

The following code example shows how to use `create-group`.

**AWS CLI**

**To create a group**

The following `create-group` example creates a group resource named `AdminGroup`. The group gets a filter expression that defines the criteria of the group as a segment related to a specific service causing a fault or an error.

```bash
aws xray create-group \
  --group-name "AdminGroup" \
  --filter-expression "service("mydomain.com") {fault OR error}"
```

**Output:**

```json
{
  "GroupName": "AdminGroup",
  "FilterExpression": "service("mydomain.com") {fault OR error}"}
```

For more information, see Configuring Sampling, Groups, and Encryption Settings with the AWS X-Ray API in the AWS X-Ray Developer Guide.

- For API details, see CreateGroup in AWS CLI Command Reference.

### create-sampling-rule

The following code example shows how to use `create-sampling-rule`.

Actions and scenarios
AWS CLI

To create a sampling rule

The following `create-sampling-rule` example creates a rule to control sampling behavior for instrumented applications. The rules are provided by a JSON file. The majority of the sampling rule fields are required to create the rule.

```bash
aws xray create-sampling-rule \
   --cli-input-json file://9000-base-scorekeep.json
```

Contents of `9000-base-scorekeep.json`:

```json
{
   "SamplingRule": {
      "RuleName": "base-scorekeep",
      "ResourceARN": "*",
      "Priority": 9000,
      "FixedRate": 0.1,
      "ReservoirSize": 5,
      "ServiceName": "Scorekeep",
      "ServiceType": "*",
      "Host": "*",
      "HTTPMethod": "*",
      "URLPath": "*",
      "Version": 1
   }
}
```

Output:

```json
{
   "SamplingRuleRecord": {
      "SamplingRule": {
         "RuleName": "base-scorekeep",
         "ResourceARN": "*",
         "Priority": 9000,
         "FixedRate": 0.1,
         "ReservoirSize": 5,
         "ServiceName": "Scorekeep",
```
For more information, see Configuring Sampling, Groups, and Encryption Settings with the AWS X-Ray API in the AWS X-Ray Developer Guide.

- For API details, see CreateSamplingRule in AWS CLI Command Reference.

**delete-group**

The following code example shows how to use `delete-group`.

**AWS CLI**

**To delete a group**

The following `delete-group` example deletes the specified group resource.

```bash
aws xray delete-group \
        --group-name "AdminGroup" \
        --group-arn "arn:aws:xray:us-east-2:123456789012:group/AdminGroup/123456789"
```

This command produces no output.

For more information, see Configuring Sampling, Groups, and Encryption Settings with the AWS X-Ray API in the AWS X-Ray Developer Guide.

- For API details, see DeleteGroup in AWS CLI Command Reference.

**delete-sampling-rule**

The following code example shows how to use `delete-sampling-rule`.

```json
{
    "ServiceType": "*",
    "Host": "*",
    "HTTPMethod": "*",
    "URLPath": "*",
    "Version": 1,
    "Attributes": {}
}
"CreatedAt": 1530574410.0,
"ModifiedAt": 1530574410.0
}
```
AWS CLI

To delete a sampling rule

The following delete-sampling-rule example deletes the specified sampling rule. You can specify the group by using either the group name or group ARN.

```bash
aws xray delete-sampling-rule \
   --rule-name polling-scorekeep
```

Output:

```json
{
   "SamplingRuleRecord": {
      "SamplingRule": {
         "RuleName": "polling-scorekeep",
         "ResourceARN": "*",
         "Priority": 5000,
         "FixedRate": 0.003,
         "ReservoirSize": 0,
         "ServiceName": "Scorekeep",
         "ServiceType": "*",
         "Host": "*",
         "HTTPMethod": "GET",
         "URLPath": "/api/state/*",
         "Version": 1,
         "Attributes": {}
      },
      "CreatedAt": 1530574399.0,
      "ModifiedAt": 1530574399.0
   }
}
```

For more information, see Configuring Sampling, Groups, and Encryption Settings with the AWS X-Ray API in the AWS X-Ray Developer Guide.

- For API details, see DeleteSamplingRule in AWS CLI Command Reference.

get-encryption-config

The following code example shows how to use get-encryption-config.
AWS CLI

**To retrieve the encryption configuration**

The following get-encryption-config example retrieves the current encryption configuration for your AWS X-Ray data.

```
aws xray get-encryption-config
```

Output:

```
{
   "EncryptionConfig": {
      "KeyId": "ae4aa649-a4d8-9df9-a475-4ff6d7898456",
      "Status": "ACTIVE",
      "Type": "NONE"
   }
}
```

For more information, see [Configuring Sampling, Groups, and Encryption Settings with the AWS X-Ray API](https://docs.aws.amazon.com/xray/latest/devguide/API_GetEncryptionConfig.html) in the *AWS X-Ray Developer Guide*.

- For API details, see [GetEncryptionConfig](https://docs.aws.amazon.com/cli/latest/reference/xray/get-encryption-config.html) in *AWS CLI Command Reference*.

**get-group**

The following code example shows how to use get-group.

AWS CLI

**To retrieve a group**

The following get-group example displays details for the specified group resource. The details include the group name, the group ARN, and the filter expression that defines the criteria for that group. Groups can also be retrieved by ARN.

```
aws xray get-group
   --group-name "AdminGroup"
```

Output:

```
{
```

Actions and scenarios
For more information, see Configuring Sampling, Groups, and Encryption Settings with the AWS X-Ray API in the AWS X-Ray Developer Guide.

- For API details, see GetGroup in AWS CLI Command Reference.

get-groups

The following code example shows how to use get-groups.

AWS CLI

To retrieve all groups

The following example displays details for all active group.

```
aws xray get-groups
```

Output:

```
{
    "Groups": [
        {
            "GroupName": "AdminGroup",
            "FilterExpression": "service("example.com") {fault OR error}"}
        ],
        {
            "GroupName": "SDETGroup",
            "FilterExpression": "responsetime > 2"
        }
    ]
}
```
For more information, see [Configuring Sampling, Groups, and Encryption Settings with the AWS X-Ray API](https://docs.aws.amazon.com/xray/latest/userguide/what-is-xray.html) in the [AWS X-Ray Developer Guide](https://docs.aws.amazon.com/xray/latest/userguide/what-is-xray.html).


### get-sampling-rules

The following code example shows how to use `get-sampling-rules`.

**AWS CLI**

#### To retrieve all sampling rules

The following `get-sampling-rules` example displays details for all available sampling rules:

```bash
aws xray get-sampling-rules
```

**Output:**

```json
{
    "SamplingRuleRecords": [
        {
            "SamplingRule": {
                "RuleName": "Default",
                "RuleARN": "arn:aws:xray:us-east-1::sampling-rule/Default",
                "ResourceARN": "*",
                "Priority": 10000,
                "FixedRate": 0.01,
                "ReservoirSize": 0,
                "ServiceName": "*",
                "ServiceType": "*",
                "Host": "*",
                "HTTPMethod": "*",
                "URLPath": "*",
                "Version": 1,
                "Attributes": {}
            },
            "CreatedAt": 0.0,
            "ModifiedAt": 1530558121.0
        }
    ]
}
```
{
    "SamplingRule": {
        "RuleName": "base-scorekeep",
        "RuleARN": "arn:aws:xray:us-east-1::sampling-rule/base-scorekeep",
        "ResourceARN": "*",
        "Priority": 9000,
        "FixedRate": 0.1,
        "ReservoirSize": 2,
        "ServiceName": "Scorekeep",
        "ServiceType": "*",
        "Host": "*",
        "HTTPMethod": "*",
        "URLPath": "*",
        "Version": 1,
        "Attributes": {}
    },
    "CreatedAt": 1530573954.0,
    "ModifiedAt": 1530920505.0
},
{
    "SamplingRule": {
        "RuleName": "polling-scorekeep",
        "RuleARN": "arn:aws:xray:us-east-1::sampling-rule/polling-scorekeep",
        "ResourceARN": "*",
        "Priority": 5000,
        "FixedRate": 0.003,
        "ReservoirSize": 0,
        "ServiceName": "Scorekeep",
        "ServiceType": "*",
        "Host": "*",
        "HTTPMethod": "GET",
        "URLPath": "/api/state/*",
        "Version": 1,
        "Attributes": {}
    },
    "CreatedAt": 1530918163.0,
    "ModifiedAt": 1530918163.0
}
]
For more information, see Using Sampling Rules with the X-Ray API in the AWS X-Ray Developer Guide.

- For API details, see GetSamplingRules in AWS CLI Command Reference.

get-sampling-targets

The following code example shows how to use get-sampling-targets.

AWS CLI

To request a sampling quota

The following get-sampling-targets example requests a sampling quota for rules that the service is using to sample requests. The response from AWS X-Ray includes a quota that can be used instead of borrowing from the reservoir.

```
aws xray get-sampling-targets \
   --sampling-statistics-documents '[] {
    "RuleName": "base-scorekeep", 
    "ClientID": "ABCDEF1234567890ABCDEF10" ,
    "Timestamp": "2018-07-07T00:20:06",
    "RequestCount": 110,
    "SampledCount": 20,
    "BorrowCount": 10
    },
   {
    "RuleName": "polling-scorekeep",
    "BorrowCount": 0
    }
}'
```

Output:

```json
{
   "SamplingTargetDocuments": [ 
     {
        "RuleName": "base-scorekeep",
        "FixedRate": 0.1,
        "ReservoirQuota": 2,
        "ReservoirQuotaTTL": 1530923107.0,
        "Interval": 10
     },
     {
        "RuleName": "polling-scorekeep",
        "FixedRate": 0.003,
        "ReservoirQuota": 0,
        "ReservoirQuotaTTL": 1530923107.0,
        "Interval": 10
     }
   ],
   "LastRuleModification": 1530920505.0
}
```
For more information, see Using Sampling Rules with the X-Ray API in the AWS X-Ray Developer Guide.

- For API details, see GetSamplingTargets in AWS CLI Command Reference.

get-service-graph

The following code example shows how to use get-service-graph.

AWS CLI

To get a service graph

The following example displays a document within a specified time period that describes services processing incoming requests, and the downstream services that they call as a result:

```bash
aws xray get-service-graph \
   --start-time 1568835392.0 \
   --end-time 1568835446.0
```

Output:

```json
{
   "Services": [
      {
         "ReferenceId": 0,
         "Name": "Scorekeep",
         "Names": [
            "Scorekeep"
         ],
         "Root": true,
         "Type": "AWS::ElasticBeanstalk::Environment",
         "State": "active",
         "StartTimes": 1568835392.0,
         "EndTimes": 1568835446.0,
         "Edges": [
            {
               "ReferenceId": 1,
               "StartTimes": 1568835392.0,
               "EndTimes": 1568835446.0,
            }
```
"SummaryStatistics": {
  "OkCount": 14,
  "ErrorStatistics": {
    "ThrottleCount": 0,
    "OtherCount": 0,
    "TotalCount": 0
  },
  "FaultStatistics": {
    "OtherCount": 0,
    "TotalCount": 0
  },
  "TotalCount": 14,
  "TotalResponseTime": 0.13
},
"ResponseTimeHistogram": [
  {
    "Value": 0.008,
    "Count": 1
  },
  {
    "Value": 0.005,
    "Count": 7
  },
  {
    "Value": 0.009,
    "Count": 1
  },
  {
    "Value": 0.021,
    "Count": 1
  },
  {
    "Value": 0.038,
    "Count": 1
  },
  {
    "Value": 0.007,
    "Count": 1
  },
  {
    "Value": 0.006,
    "Count": 2
  }
]}
For more information, see Using the AWS X-Ray API with the AWS CLI in the AWS X-Ray Developer Guide.

- For API details, see GetServiceGraph in AWS CLI Command Reference.

get-trace-summaries

The following code example shows how to use get-trace-summaries.

AWS CLI

To get a trace summary

The following get-trace-summaries example retrieves IDs and metadata for traces available within a specified time frame.

```
aws xray get-trace-summaries \
   --start-time 1568835392.0 \
   --end-time 1568835446.0
```

Output:

```
[
]"
"http://scorekeep-env-1.123456789.us-east-2.elasticbeanstalk.com/api/move/4MQNA5NN/L99KK2RF/null"

For more information, see Using the AWS X-Ray API with the AWS CLI in the AWS X-Ray Developer Guide.

• For API details, see GetTraceSummaries in AWS CLI Command Reference.

put-encryption-config

The following code example shows how to use put-encryption-config.

AWS CLI

To update the encryption configuration

The following put-encryption-config example updates the encryption configuration for AWS X-Ray data to use the default AWS managed KMS key `aws/xray`.

```bash
aws xray put-encryption-config \
   --type KMS \
   --key-id alias/aws/xray
```

Output:

```json
{
   "EncryptionConfig": {
      "KeyId": "arn:aws:kms:us-west-2:123456789012:key/c234g4e8-39e9-4gb0-84e2-b0ea215cbb5",
      "Status": "UPDATING",
      "Type": "KMS"
   }
}
```

For more information, see Configuring Sampling, Groups, and Encryption Settings with the AWS X-Ray API in the AWS X-Ray Developer Guide.

• For API details, see PutEncryptionConfig in AWS CLI Command Reference.
**put-trace-segments**

The following code example shows how to use `put-trace-segments`.

**AWS CLI**

**To upload a segment**

The following `put-trace-segments` example uploads segment documents to AWS X-Ray. The segment document is consumed as a list of JSON segment documents.

```bash
aws xray put-trace-segments
    --trace-segment-documents "{"id":"20312a0e2b8809f4","name ":"DynamoDB","trace_id":"1-5832862d-a43aafded3334a971fe312db","start_time":1.479706157195E9,"end_time":1.479706157202E9,"parent_id":
    "79736b962fe3239e","http":{"response":{"content_length":60,"status ":200}},"inferred":true,"aws":{"consistent_read":false,"table_name
    ":"scorekeep-session-xray","operation":"GetItem","request_id":
    "SCAU23OM6M80F38UASC7785ARV54KQ55AEMVJF6Q9ASUAAJG","resource_names":
    [{"scorekeep-session-xray"}],"origin":"AWS::DynamoDB::Table"}"
```

Output:

```json
{
    "UnprocessedTraceSegments": []
}
```

For more information, see [Sending Trace Data to AWS X-Ray](https://docs.aws.amazon.com/xray/latest/devguide/xray-put-trace-segments.html) in the *AWS X-Ray Developer Guide*.

- For API details, see [PutTraceSegments](https://docs.aws.amazon.com/cli/latest/reference/xray/put-trace-segments.html) in [AWS CLI Command Reference](https).

**update-group**

The following code example shows how to use `update-group`.

**AWS CLI**

**To update a group**

The following `update-group` example updates the criteria by which to accept traces into the group named *AdminGroup*. You can specify the desired group by using either the group name or group ARN.
aws xray update-group \
   --group-name "AdminGroup" \
   --group-arn "arn:aws:xray:us-west-2:123456789012:group/AdminGroup/123456789" \
   --filter-expression "service("mydomain.com") {fault}" 

Output:

{
   "GroupName": "AdminGroup",
   "FilterExpression": "service("mydomain.com") {fault}" 
}

For more information, see Configuring Sampling, Groups, and Encryption Settings with the AWS X-Ray API in the AWS X-Ray Developer Guide.

- For API details, see UpdateGroup in AWS CLI Command Reference.

update-sampling-rule

The following code example shows how to use update-sampling-rule.

AWS CLI

To update a sampling rule

The following update-sampling-rule example modifies a sampling rule's configuration. The rules are consumed from a JSON file. Only the fields being updated are required.

aws xray update-sampling-rule \
   --cli-input-json file://1000-default.json

Contents of 1000-default.json:

{
   "SamplingRuleUpdate": {
      "RuleName": "Default",
      "FixedRate": 0.01,
      "ReservoirSize": 0
   }
}
Output:

```json
{
   "SamplingRuleRecords": [
      {
         "SamplingRule": {
            "RuleName": "Default",
            "ResourceARN": "*",
            "Priority": 10000,
            "FixedRate": 0.01,
            "ReservoirSize": 0,
            "ServiceName": "*",
            "ServiceType": "*",
            "Host": "*",
            "HTTPMethod": "*",
            "URLPath": "*",
            "Version": 1,
            "Attributes": {}
         },
         "CreatedAt": 0.0,
         "ModifiedAt": 1529959993.0
      }
   ]
}
```

For more information, see [Configuring Sampling, Groups, and Encryption Settings with the AWS X-Ray API](https://docs.aws.amazon.com/xray/latest/userguide/usingapi-configuring.html) in the [AWS X-Ray Developer Guide](https://docs.aws.amazon.com/xray/latest/userguide/)


**AWS CLI with Bash script code examples**

The code examples in this topic show you how to use the AWS Command Line Interface with Bash script with AWS.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.
Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Cross-service examples are sample applications that work across multiple AWS services.

Examples

- Actions and scenarios using AWS CLI with Bash script

Actions and scenarios using AWS CLI with Bash script

The following code examples show how to perform actions and implement common scenarios by using the AWS Command Line Interface with Bash script with AWS services.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Services

- DynamoDB examples using AWS CLI with Bash script
- HealthImaging examples using AWS CLI with Bash script
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DynamoDB examples using AWS CLI with Bash script

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Bash script with DynamoDB.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.
Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics
• Actions
• Scenarios

Actions

Create a table

The following code example shows how to create a DynamoDB table.

AWS CLI with Bash script

```bash
# function dynamodb_create_table
#
# This function creates an Amazon DynamoDB table.
#
# Parameters:
#    -n table_name -- The name of the table to create.
#    -a attribute_definitions -- JSON file path of a list of attributes and their types.
#    -k key_schema -- JSON file path of a list of attributes and their key types.
#    -p provisioned_throughput -- Provisioned throughput settings for the table.
#
# Returns:
#    0 - If successful.
#    1 - If it fails.

function dynamodb_create_table() {
  local table_name attribute_definitions key_schema provisioned_throughput response
  local option OPTARG # Required to use getopts command in a function.
```
AWS Command Line Interface

User Guide for Version 2

#######################################
# Function usage explanation
#######################################
function usage() {
echo "function dynamodb_create_table"
echo "Creates an Amazon DynamoDB table."
echo " -n table_name -- The name of the table to create."
echo " -a attribute_definitions -- JSON file path of a list of attributes and
their types."
echo " -k key_schema -- JSON file path of a list of attributes and their key
types."
echo " -p provisioned_throughput -- Provisioned throughput settings for the
table."
echo ""
}
# Retrieve the calling parameters.
while getopts "n:a:k:p:h" option; do
case "${option}" in
n) table_name="${OPTARG}" ;;
a) attribute_definitions="${OPTARG}" ;;
k) key_schema="${OPTARG}" ;;
p) provisioned_throughput="${OPTARG}" ;;
h)
usage
return 0
;;
\?)
echo "Invalid parameter"
usage
return 1
;;
esac
done
export OPTIND=1
if [[ -z "$table_name" ]]; then
errecho "ERROR: You must provide a table name with the -n parameter."
usage
return 1
fi
if [[ -z "$attribute_definitions" ]]; then

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errecho "ERROR: You must provide an attribute definitions json file path the -a parameter."
    usage
    return 1
fi

if [[ -z "$key_schema" ]]; then
    errecho "ERROR: You must provide a key schema json file path the -k parameter."
    usage
    return 1
fi

if [[ -z "$provisioned_throughput" ]]; then
    errecho "ERROR: You must provide a provisioned throughput json file path the -p parameter."
    usage
    return 1
fi

iecho "Parameters:

    table_name:   $table_name
    attribute_definitions:   $attribute_definitions
    key_schema:   $key_schema
    provisioned_throughput:   $provisioned_throughput"

response=$(aws dynamodb create-table
    --table-name "$table_name"
    --attribute-definitions file://"$attribute_definitions"
    --key-schema file://"$key_schema"
    --provisioned-throughput "$provisioned_throughput")

local error_code=${?}

if [[ $error_code -ne 0 ]]; then
    aws_cli_error_log $error_code
    errecho "ERROR: AWS reports create-table operation failed.$response"
    return 1
fi

return 0
}
The utility functions used in this example.

```bash
# function iecho
#
# This function enables the script to display the specified text only if
# the global variable $VERBOSE is set to true.

function iecho() {
    if [[ $VERBOSE == true ]]; then
        echo "$@
    fi
}

# function errecho
#
# This function outputs everything sent to it to STDERR (standard error output).

function errecho() {
    printf "%s\n" "$*" 1>&2
}

# function aws_cli_error_log()
#
# This function is used to log the error messages from the AWS CLI.
#
# The function expects the following argument:
# $1 - The error code returned by the AWS CLI.
#
# Returns:
# 0: - Success.

function aws_cli_error_log() {
    local err_code=$1
    errecho "Error code : $err_code"
    if [ "$err_code" == 1 ]; then
        errecho "One or more S3 transfers failed."
    elif [ "$err_code" == 2 ]; then
```
 errecho "  Command line failed to parse."
   elif [ "$err_code" == 130 ]; then
      errecho "  Process received SIGINT."
   elif [ "$err_code" == 252 ]; then
      errecho "  Command syntax invalid."
   elif [ "$err_code" == 253 ]; then
      errecho "  The system environment or configuration was invalid."
   elif [ "$err_code" == 254 ]; then
      errecho "  The service returned an error."
   elif [ "$err_code" == 255 ]; then
      errecho "  255 is a catch-all error."
   fi

   return 0
}

- For API details, see CreateTable in AWS CLI Command Reference.

Delete a table

The following code example shows how to delete a DynamoDB table.

AWS CLI with Bash script

```bash
#!/bin/bash

# function dynamodb_delete_table
#
# This function deletes a DynamoDB table.
#
# Parameters:
#      -n table_name  -- The name of the table to delete.
#
# Returns:
#      0 - If successful.
#      1 - If it fails.
```

Note

There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.
function dynamodb_delete_table() {
    local table_name response
    local option OPTARG # Required to use getopts command in a function.

    # bashsupport disable=BP5008
    function usage() {
        echo "function dynamodb_delete_table"
        echo "Deletes an Amazon DynamoDB table."
        echo " -n table_name  -- The name of the table to delete."
        echo ""
    }

    # Retrieve the calling parameters.
    while getopts "n:h" option; do
        case "${option}" in
            n) table_name="${OPTARG}" ;;
            h) usage
                return 0
                ;;
            \?)
                echo "Invalid parameter"
                usage
                return 1
                ;;
        esac
done
    export OPTIND=1
    if [[ -z "$table_name" ]]; then
        erro echo "ERROR: You must provide a table name with the -n parameter."
        usage
        return 1
    fi

    iecho "Parameters:\n"
    iecho "    table_name:   $table_name"
    iecho ""

    response=$(aws dynamodb delete-table \
            --table-name "$table_name"
    local error_code=${?}
The utility functions used in this example.

```
if [[ $error_code -ne 0 ]]; then
    aws_cli_error_log $error_code
    errecho "ERROR: AWS reports delete-table operation failed.$response"
    return 1
fi

return 0
}
```

```
# function iecho
#
# This function enables the script to display the specified text only if
# the global variable $VERBOSE is set to true.

function iecho() {
    if [[ $VERBOSE == true ]]; then
        echo "$@
    fi
}
```

```
# function errecho
#
# This function outputs everything sent to it to STDERR (standard error output).

function errecho() {
    printf "%s\n" "$*" >&2
}
```

```
# function aws_cli_error_log()
#
# This function is used to log the error messages from the AWS CLI.
#
#
# The function expects the following argument:
```
# $1 - The error code returned by the AWS CLI.
#
# Returns:
# 0: - Success.
#
function aws_cli_error_log() {
    local err_code=$1
    errecho "Error code : $err_code"
    if [ "$err_code" == 1 ]; then
        errecho " One or more S3 transfers failed."
    elif [ "$err_code" == 2 ]; then
        errecho " Command line failed to parse."
    elif [ "$err_code" == 130 ]; then
        errecho " Process received SIGINT."
    elif [ "$err_code" == 252 ]; then
        errecho " Command syntax invalid."
    elif [ "$err_code" == 253 ]; then
        errecho " The system environment or configuration was invalid."
    elif [ "$err_code" == 254 ]; then
        errecho " The service returned an error."
    elif [ "$err_code" == 255 ]; then
        errecho " 255 is a catch-all error."
    fi
    return 0
}

- For API details, see DeleteTable in AWS CLI Command Reference.

Delete an item from a table

The following code example shows how to delete an item from a DynamoDB table.

AWS CLI with Bash script

Note

There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.
# function dynamodb_delete_item
#
# This function deletes an item from a DynamoDB table.
#
# Parameters:
#       -n table_name  -- The name of the table.
#       -k keys  -- Path to json file containing the keys that identify the item to
delete.
#
# Returns:
#       0 - If successful.
#       1 - If it fails.
#
function dynamodb_delete_item() {
    local table_name keys response
    local option OPTARG # Required to use getopts command in a function.

    # Function usage explanation
    function usage() {
        echo "function dynamodb_delete_item"
        echo "Delete an item from a DynamoDB table."
        echo " -n table_name  -- The name of the table."
        echo " -k keys  -- Path to json file containing the keys that identify the item to
delete."
        echo ""
    }

    while getopts "n:k:h" option; do
        case "${option}" in
            n) table_name="${OPTARG}" ;;
            k) keys="${OPTARG}" ;;
            h) usage
                return 0
                ;;
            \?)
                echo "Invalid parameter"
                usage
                return 1
                ;;
        esac
    esac
}
done
export OPTIND=1

if [[ -z "$table_name" ]]; then
    errecho "ERROR: You must provide a table name with the -n parameter."
    usage
    return 1
fi

if [[ -z "$keys" ]]; then
    errecho "ERROR: You must provide a keys json file path the -k parameter."
    usage
    return 1
fi

iecho "Parameters:\n"
iecho "    table_name:   $table_name"
iecho "    keys:   $keys"
iecho ""

response=$(aws dynamodb delete-item \
    --table-name "$table_name" \ 
    --key file://"$keys")

local error_code=${?}

if [[ $error_code -ne 0 ]]; then
    aws_cli_error_log $error_code
    errecho "ERROR: AWS reports delete-item operation failed.$response"
    return 1
fi

return 0
}

The utility functions used in this example.
# the global variable $VERBOSE is set to true.

function iecho() {
    if [[ $VERBOSE == true ]]; then
        echo "$@
    fi
}

# function errecho
#
# This function outputs everything sent to it to STDERR (standard error output).
function errecho() {
    printf "%s\n" "$*" 1>&2
}

# function aws_cli_error_log()
#
# This function is used to log the error messages from the AWS CLI.
# The function expects the following argument:
#   $1 - The error code returned by the AWS CLI.
# Returns:
#   0: - Success.
function aws_cli_error_log() {
    local err_code=$1
    errecho "Error code : $err_code"
    if [ "$err_code" == 1 ]; then
        errecho " One or more S3 transfers failed."
    elif [ "$err_code" == 2 ]; then
        errecho " Command line failed to parse."
    elif [ "$err_code" == 130 ]; then
        errecho " Process received SIGINT."
    elif [ "$err_code" == 252 ]; then
        errecho " Command syntax invalid."
    elif [ "$err_code" == 253 ]; then
        errecho " Command syntax invalid."
    fi
}

Actions and scenarios
For API details, see `DeleteItem` in *AWS CLI Command Reference*.

**Get a batch of items**

The following code example shows how to get a batch of DynamoDB items.

### AWS CLI with Bash script

```bash
#############################################################################
# function dynamodb_batch_get_item
#
# This function gets a batch of items from a DynamoDB table.
#
# Parameters:
#       -i item  -- Path to json file containing the keys of the items to get.
#
#  Returns:
#       The items as json output.
#  And:
#       0 - If successful.
#       1 - If it fails.
#)
function dynamodb_batch_get_item() {
    local item response
    local option OPTARG # Required to use getopts command in a function.
    ```
function usage() {
    echo "function dynamodb_batch_get_item"
    echo "Get a batch of items from a DynamoDB table."
    echo " -i item  -- Path to json file containing the keys of the items to get."
    echo ""
}

while getopts "i:h" option; do
    case "${option}" in
        i) item="${OPTARG}" ;;
        h) usage
           return 0
           ;;
        \?)
           echo "Invalid parameter"
           usage
           return 1
           ;;
        esac
    esac
done
export OPTIND=1

if [[ -z "$item" ]]; then
    errecho "ERROR: You must provide an item with the -i parameter."
    usage
    return 1
fi

response=$(aws dynamodb batch-get-item \
    --request-items file://"$item")
local error_code=${?}

if [[ $error_code -ne 0 ]]; then
    aws_cli_error_log $error_code
    errecho "ERROR: AWS reports batch-get-item operation failed.$response"
    return 1
fi

echo "$response"
The utility functions used in this example.

```
# function errecho
#
# This function outputs everything sent to it to STDERR (standard error output).
# function errecho()
#   printf "%s
" "$*" 1>&2
#

# function aws_cli_error_log()
#
# This function is used to log the error messages from the AWS CLI.
#
# The function expects the following argument:
# $1 - The error code returned by the AWS CLI.
#
# Returns:
# 0: - Success.
#
function aws_cli_error_log() {
  local err_code=$1
  errecho "Error code : $err_code"
  if [ "$err_code" == 1 ]; then
    errecho " One or more S3 transfers failed."
  elif [ "$err_code" == 2 ]; then
    errecho " Command line failed to parse."
  elif [ "$err_code" == 130 ]; then
    errecho " Process received SIGINT."
  elif [ "$err_code" == 252 ]; then
    errecho " Command syntax invalid."
  elif [ "$err_code" == 253 ]; then
    errecho " Command failed to execute."
  fi
}
```
errecho " The system environment or configuration was invalid."
    elif [ "$err_code" == 254 ]; then
        errecho " The service returned an error."
    elif [ "$err_code" == 255 ]; then
        errecho " 255 is a catch-all error."
    fi

return 0
}

- For API details, see BatchGetItem in AWS CLI Command Reference.

### Get an item from a table

The following code example shows how to get an item from a DynamoDB table.

#### AWS CLI with Bash script

```
# function dynamodb_get_item
#
# This function gets an item from a DynamoDB table.
#
# Parameters:
#    -n table_name -- The name of the table.
#    -k keys -- Path to json file containing the keys that identify the item to get.
#    [-q query] -- Optional JMESPath query expression.
#
# Returns:
#    The item as text output.
# And:
#    0 - If successful.
#    1 - If it fails.
```

---

**Note**

There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.
function dynamodb_get_item() {
    local table_name keys query response
    local option OPTARG # Required to use getopts command in a function.

    # ###################################################################
    # Function usage explanation
    ###################################################################
    function usage() {
        echo "function dynamodb_get_item"
        echo "Get an item from a DynamoDB table."
        echo " -n table_name -- The name of the table."
        echo " -k keys -- Path to json file containing the keys that identify the item to get."
        echo " [-q query] -- Optional JMESPath query expression."
        echo ""
    }
    query="" 
    while getopts "n:k:q:h" option; do
        case "${option}" in
            n) table_name="${OPTARG}" ;;
            k) keys="${OPTARG}" ;;
            q) query="${OPTARG}" ;;
            h)
                usage
                return 0
            ;;
            \?)
                echo "Invalid parameter"
                usage
                return 1
            ;;
            esac
        done
    export OPTIND=1

    if [[ -z "$table_name" ]]; then
        errecho "ERROR: You must provide a table name with the -n parameter."
        usage
        return 1
    fi

    if [[ -z "$keys" ]]; then
        errecho "ERROR: You must provide a keys json file path the -k parameter."
        usage
    fi
}
The utility functions used in this example.

```
# This function outputs everything sent to it to STDERR (standard error output).
```
### AWS Command Line Interface

For API details, see [GetItem](https://docs.aws.amazon.com/cli/latest/topic/return-codes.html#cli-aws-help-return-codes) in *AWS CLI Command Reference*.
Get information about a table

The following code example shows how to get information about a DynamoDB table.

AWS CLI with Bash script

```bash
# function dynamodb_describe_table
#
# This function returns the status of a DynamoDB table.
#
# Parameters:
#   -n table_name  -- The name of the table.
#
# Response:
#   - TableStatus:
#     And:
#     0 - Table is active.
#     1 - If it fails.

function dynamodb_describe_table {
    local table_name
    local option OPTARG # Required to use getopts command in a function.

    # Function usage explanation
    function usage() {
        echo "function dynamodb_describe_table"
        echo "Describe the status of a DynamoDB table."
        echo "-n table_name  -- The name of the table."
        echo ""
    }

    # Retrieve the calling parameters.
    while getopts "n:h" option; do
        case ${option}" in
            
```
```
The utility functions used in this example.
# function errecho
#
# This function outputs everything sent to it to STDERR (standard error output).
# function errecho() {
    printf "\%s\n" "$*" 1>&2
}

# function aws_cli_error_log()
#
# This function is used to log the error messages from the AWS CLI.
#
#
# The function expects the following argument:
# $1 - The error code returned by the AWS CLI.
#
# Returns:
# 0: - Success.
#
function aws_cli_error_log() {
    local err_code=$1
    errecho "Error code : $err_code"
    if [ "$err_code" == 1 ]; then
        errecho " One or more S3 transfers failed."
    elif [ "$err_code" == 2 ]; then
        errecho " Command line failed to parse."
    elif [ "$err_code" == 130 ]; then
        errecho " Process received SIGINT."
    elif [ "$err_code" == 252 ]; then
        errecho " Command syntax invalid."
    elif [ "$err_code" == 253 ]; then
        errecho " The system environment or configuration was invalid."
    elif [ "$err_code" == 254 ]; then
        errecho " The service returned an error."
    elif [ "$err_code" == 255 ]; then
        errecho " 255 is a catch-all error."
    fi
The following code example shows how to list DynamoDB tables.

**AWS CLI with Bash script**

```bash
# function dynamodb_list_tables
#
# This function lists all the tables in a DynamoDB.
#
# Returns:
#   0 - If successful.
#   1 - If it fails.

function dynamodb_list_tables() {
    response=$(aws dynamodb list-tables
        --output text
        --query "TableNames")
    local error_code=${?}
    if [[ $error_code -ne 0 ]]; then
        aws_cli_error_log $error_code
        errorecho "ERROR: AWS reports batch-write-item operation failed.$response"
        return 1
    fi
    echo "$response" | tr -s "[:space:]" "\n"
}
```

- For API details, see [DescribeTable](https://aws.amazon.com/cli/) in *AWS CLI Command Reference*.

---

**List tables**

The following code example shows how to list DynamoDB tables.

**AWS CLI with Bash script**

- Note

  There's more on GitHub. Find the complete example and learn how to set up and run in the [AWS Code Examples Repository](https://aws.amazon.com/code-examples/).
The utility functions used in this example.

```bash
# function errecho
#
# This function outputs everything sent to it to STDERR (standard error output).
function errecho() {
    printf "\%s\n" "$*" 1>&2
}
```

```bash
# function aws_cli_error_log()
#
# This function is used to log the error messages from the AWS CLI.
# The function expects the following argument:
# $1 - The error code returned by the AWS CLI.
# Returns:
# 0: - Success.
function aws_cli_error_log() {
    local err_code=$1
    errecho "Error code : $err_code"
    if [ "$err_code" == 1 ]; then
        errecho " One or more S3 transfers failed."
    elif [ "$err_code" == 2 ]; then
        errecho " Command line failed to parse."
    elif [ "$err_code" == 130 ]; then
        errecho " Process received SIGINT."
    elif [ "$err_code" == 252 ]; then
        errecho " Command syntax invalid."
    elif [ "$err_code" == 253 ]; then
        errecho " The system environment or configuration was invalid."
    fi
}
```
elif [ "$err_code" == 254 ]; then
    errecho " The service returned an error."
elif [ "$err_code" == 255 ]; then
    errecho " 255 is a catch-all error."
fi

return 0

• For API details, see ListTables in AWS CLI Command Reference.

Put an item in a table

The following code example shows how to put an item in a DynamoDB table.

AWS CLI with Bash script

Note

There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```bash
# function dynamodb_put_item
#
# This function puts an item into a DynamoDB table.
#
# Parameters:
#    -n table_name  -- The name of the table.
#    -i item  -- Path to json file containing the item values.
#
# Returns:
#    0 - If successful.
#    1 - If it fails.

function dynamodb_put_item() {
    local table_name item response
    local option OPTARG
    # Required to use getopts command in a function.
```
# Function usage explanation

```
function usage() {
    echo "function dynamodb_put_item"
    echo "Put an item into a DynamoDB table."
    echo " -n table_name  -- The name of the table."
    echo " -i item  -- Path to json file containing the item values."
    echo ""
}
```

while getopts "n:i:h" option; do
    case "${option}" in
        n) table_name="${OPTARG}" ;;
        i) item="${OPTARG}" ;;
        h)
            usage
            return 0
            ;;
    
    
    
    
    esac
done

export OPTIND=1

if [[ -z "$table_name" ]]; then
    errorecho "ERROR: You must provide a table name with the -n parameter."
    usage
    return 1
fi

if [[ -z "$item" ]]; then
    errorecho "ERROR: You must provide an item with the -i parameter."
    usage
    return 1
fi

iecho "Parameters:\n"
iecho "    table_name: $table_name"
iecho "    item: $item"
iecho ""
response=$(aws dynamodb put-item \
    --table-name "$table_name" \ 
    --item file://"$item")

local error_code=${?}

if [[ $error_code -ne 0 ]]; then
    aws_cli_error_log $error_code
    errecho "ERROR: AWS reports put-item operation failed.$response"
    return 1
fi

return 0
}

The utility functions used in this example.

# function iecho
# This function enables the script to display the specified text only if
# the global variable $VERBOSE is set to true.
function iecho() {
    if [[ $VERBOSE == true ]]; then
        echo "$@
    fi
}

# function errecho
# This function outputs everything sent to it to STDERR (standard error output).
function errecho() {
    printf "%s\n" "$*" 1>&2
}

# function aws_cli_error_log()
# This function is used to log the error messages from the AWS CLI.
#
#
# The function expects the following argument:
#       $1 - The error code returned by the AWS CLI.
#
# Returns:
#       0: - Success.
#
# Function: aws_cli_error_log()
#         local err_code=$1
#         errecho "Error code : $err_code"
#         if [ "$err_code" == 1 ]; then
#             errecho " One or more S3 transfers failed."
#         elif [ "$err_code" == 2 ]; then
#             errecho " Command line failed to parse."
#         elif [ "$err_code" == 130 ]; then
#             errecho " Process received SIGINT."
#         elif [ "$err_code" == 252 ]; then
#             errecho " Command syntax invalid."
#         elif [ "$err_code" == 253 ]; then
#             errecho " The system environment or configuration was invalid."
#         elif [ "$err_code" == 254 ]; then
#             errecho " The service returned an error."
#         elif [ "$err_code" == 255 ]; then
#             errecho " 255 is a catch-all error."
#         fi
#         return 0
#
# For API details, see PutItem in AWS CLI Command Reference.

## Query a table

The following code example shows how to query a DynamoDB table.
Note

There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```bash
# function dynamodb_query
#
# This function queries a DynamoDB table.
#
# Parameters:
#       -n table_name  -- The name of the table.
#       -k key_condition_expression -- The key condition expression.
#       -a attribute_names -- Path to JSON file containing the attribute names.
#       -v attribute_values -- Path to JSON file containing the attribute values.
#       [-p projection_expression]  -- Optional projection expression.
#
# Returns:
#       The items as json output.
# And:
#       0 - If successful.
#       1 - If it fails.

function dynamodb_query() {
    local table_name key_condition_expression attribute_names attribute_values
    projection_expression response
    local option OPTARG # Required to use getopts command in a function.

    # Function usage explanation
    # Function usage explanation
    function usage() {
        echo "function dynamodb_query"
        echo "Query a DynamoDB table."
        echo "-n table_name  -- The name of the table."
        echo "-k key_condition_expression -- The key condition expression."
        echo "-a attribute_names -- Path to JSON file containing the attribute names."
        echo "-v attribute_values -- Path to JSON file containing the attribute values."
    }
```
echo "[-p projection_expression]  -- Optional projection expression."
    echo ""
}

while getoptsn:k:a:v:p:h" option; do
    case "${option}" in
        n) table_name="${OPTARG}" ;;
        k) key_condition_expression="${OPTARG}" ;;
        a) attribute_names="${OPTARG}" ;;
        v) attribute_values="${OPTARG}" ;;
        p) projection_expression="${OPTARG}" ;;
        h)
            usage
            return 0
            ;;
        
    esac
done
export OPTIND=1

if [[ -z "$table_name" ]]; then
    errecho "ERROR: You must provide a table name with the -n parameter."
    usage
    return 1
fi

if [[ -z "$key_condition_expression" ]]; then
    errecho "ERROR: You must provide a key condition expression with the -k parameter."
    usage
    return 1
fi

if [[ -z "$attribute_names" ]]; then
    errecho "ERROR: You must provide a attribute names with the -a parameter."
    usage
    return 1
fi

if [[ -z "$attribute_values" ]]; then
    errecho "ERROR: You must provide a attribute values with the -v parameter."
    usage
    return 1
fi

Actions and scenarios

The utility functions used in this example.

```
# function errecho
#
# This function outputs everything sent to it to STDERR (standard error output).
function errecho() {
    printf "%s\n" "$*" 1>&2
}
```
function aws_cli_error_log() {
    local err_code=$1
    errorecho "Error code : $err_code"
    if [ "$err_code" == 1 ]; then
        errorecho " One or more S3 transfers failed."
    elif [ "$err_code" == 2 ]; then
        errorecho " Command line failed to parse."
    elif [ "$err_code" == 130 ]; then
        errorecho " Process received SIGINT."
    elif [ "$err_code" == 252 ]; then
        errorecho " Command syntax invalid."
    elif [ "$err_code" == 253 ]; then
        errorecho " The system environment or configuration was invalid."
    elif [ "$err_code" == 254 ]; then
        errorecho " The service returned an error."
    elif [ "$err_code" == 255 ]; then
        errorecho " 255 is a catch-all error."
    fi
    return 0
}

• For API details, see Query in AWS CLI Command Reference.
Scan a table

The following code example shows how to scan a DynamoDB table.

AWS CLI with Bash script

```bash
# function dynamodb_scan
#
# This function scans a DynamoDB table.
#
# Parameters:
#   -n table_name   -- The name of the table.
#   -f filter_expression   -- The filter expression.
#   -a expression_attribute_names -- Path to JSON file containing the expression attribute names.
#   -v expression_attribute_values -- Path to JSON file containing the expression attribute values.
#   [-p projection_expression]   -- Optional projection expression.
#
# Returns:
#   The items as json output.
# And:
#   0 - If successful.
#   1 - If it fails.

function dynamodb_scan() {
    local table_name filter_expression expression_attribute_names
    expression_attribute_values projection_expression response
    local option OPTARG # Required to use getopts command in a function.

    # Function usage explanation
    function usage() {
        echo "function dynamodb_scan"
        echo "Scan a DynamoDB table."
    }
```

Note

There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.
echo " -n table_name  -- The name of the table."
echo " -f filter_expression  -- The filter expression."
echo " -a expression_attribute_names -- Path to JSON file containing the expression attribute names."
echo " -v expression_attribute_values -- Path to JSON file containing the expression attribute values."
echo " [-p projection_expression]  -- Optional projection expression."
}

while getopts "n:f:a:v:p:h" option; do
  case "${option}" in
    n) table_name="${OPTARG}" ;;
    f) filter_expression="${OPTARG}" ;;
    a) expression_attribute_names="${OPTARG}" ;;
    v) expression_attribute_values="${OPTARG}" ;;
    p) projection_expression="${OPTARG}" ;;
    h) usage
      return 0
      ;;
    \?)
      echo "Invalid parameter"
      usage
      return 1
      ;;
    esac
  done
export OPTIND=1

if [[ -z "$table_name" ]]; then
  errecho "ERROR: You must provide a table name with the -n parameter."
  usage
  return 1
fi

if [[ -z "$filter_expression" ]]; then
  errecho "ERROR: You must provide a filter expression with the -f parameter."
  usage
  return 1
fi

if [[ -z "$expression_attribute_names" ]]; then

The utility functions used in this example.
# function errecho
#
# This function outputs everything sent to it to STDERR (standard error output).
function errecho() {
    printf "\%s\n" "$*" 1>&2
}

# function aws_cli_error_log()
#
# This function is used to log the error messages from the AWS CLI.
#
#
# The function expects the following argument:
#         $1 - The error code returned by the AWS CLI.
#
# Returns:
#         0: - Success.
#
function aws_cli_error_log() {
    local err_code=$1
    errecho "Error code : $err_code"
    if [ "$err_code" == 1 ]; then
        errecho " One or more S3 transfers failed."
    elif [ "$err_code" == 2 ]; then
        errecho " Command line failed to parse."
    elif [ "$err_code" == 130 ]; then
        errecho " Process received SIGINT."
    elif [ "$err_code" == 252 ]; then
        errecho " Command syntax invalid."
    elif [ "$err_code" == 253 ]; then
        errecho " The system environment or configuration was invalid."
    elif [ "$err_code" == 254 ]; then
        errecho " The service returned an error."
    elif [ "$err_code" == 255 ]; then
        errecho " 255 is a catch-all error."
    fi
}
Update an item in a table

The following code example shows how to update an item in a DynamoDB table.

AWS CLI with Bash script

```bash
# function dynamodb_update_item
#
# This function updates an item in a DynamoDB table.
#
# Parameters:
#       -n table_name  -- The name of the table.
#       -k keys  -- Path to json file containing the keys that identify the item to
#                     update.
#       -e update expression  -- An expression that defines one or more attributes
#                     to be updated.
#       -v values  -- Path to json file containing the update values.
#
# Returns:
#       0 - If successful.
#       1 - If it fails.
#
function dynamodb_update_item() {
    local table_name keys update_expression values response
    local option OPTARG # Required to use getopts command in a function.

    return 0
}
```

• For API details, see Scan in AWS CLI Command Reference.
function usage() {
    echo "function dynamodb_update_item"
    echo "Update an item in a DynamoDB table."
    echo "  -n table_name  -- The name of the table."
    echo "  -k keys  -- Path to json file containing the keys that identify the item to update."
    echo "  -e update expression  -- An expression that defines one or more attributes to be updated."
    echo "  -v values  -- Path to json file containing the update values."
    echo ""
}

while getopts "n:k:e:v:h" option; do
    case "${option}" in
        n) table_name="${OPTARG}" ;;
        k) keys="${OPTARG}" ;;
        e) update_expression="${OPTARG}" ;;
        v) values="${OPTARG}" ;;
        h) usage
            return 0
            ;;
        \?)
            echo "Invalid parameter"
            usage
            return 1
            ;;
        esac
    done

export OPTIND=1

if [[ -z "$table_name" ]]; then
    errecho "ERROR: You must provide a table name with the -n parameter."
    usage
    return 1
fi

if [[ -z "$keys" ]]; then
    errecho "ERROR: You must provide a keys json file path the -k parameter."
    usage
    return 1
fi

if [[ -z "$update_expression" ]]; then


AWS Command Line Interface

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The utility functions used in this example.

# Function iecho

# This function enables the script to display the specified text only if
# the global variable $VERBOSE is set to true.
function iecho() {
    if [[ $VERBOSE == true ]]; then
        echo "@$"
    fi
}

function errecho() {
    printf "%s\n" "$*" 1>&2
}

function aws_cli_error_log() {
    local err_code=$1
    errecho "Error code : $err_code"
    if [ "$err_code" == 1 ]; then
        errecho " One or more S3 transfers failed."
    elif [ "$err_code" == 2 ]; then
        errecho " Command line failed to parse."
    elif [ "$err_code" == 130 ]; then
        errecho " Process received SIGINT."
    elif [ "$err_code" == 252 ]; then
        errecho " Command syntax invalid."
    elif [ "$err_code" == 253 ]; then
        errecho " The system environment or configuration was invalid."
    fi
}

# This function outputs everything sent to it to STDERR (standard error output).

# This function is used to log the error messages from the AWS CLI.

# The function expects the following argument:
#       $1 - The error code returned by the AWS CLI.

# Returns:
#   0: - Success.

# This function is used to log the error messages from the AWS CLI.
elif [ "$err_code" == 254 ]; then
    errecho " The service returned an error."
elif [ "$err_code" == 255 ]; then
    errecho " 255 is a catch-all error."
fi

return 0
}

- For API details, see UpdateItem in AWS CLI Command Reference.

**Write a batch of items**

The following code example shows how to write a batch of DynamoDB items.

**AWS CLI with Bash script**

```
Note

There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.
```

```
##############################################################################
# function dynamodb_batch_write_item
#
# This function writes a batch of items into a DynamoDB table.
#
# Parameters:
#      -i item  -- Path to json file containing the items to write.
#
# Returns:
#      0 - If successful.
#      1 - If it fails.
##############################################################################
function dynamodb_batch_write_item() {
    local item response
    local option OPTARG # Required to use getopts command in a function.

    # Function usage explanation
```
function usage() {
    echo "function dynamodb_batch_write_item"
    echo "Write a batch of items into a DynamoDB table."
    echo " -i item -- Path to json file containing the items to write."
    echo ""
}
while getopts "i:h" option; do
    case "${option}" in
        i) item="${OPTARG}" ;;
        h)
            usage
            return 0
        ;;
        *)
            echo "Invalid parameter"
            usage
            return 1
        esac
    esac
done
export OPTIND=1
if [[ -z "$item" ]]; then
    errecho "ERROR: You must provide an item with the -i parameter."
    usage
    return 1
fi

iecho "Parameters:\n"
.iecho "    table_name:   $table_name"
.iecho "    item:   $item"
.iecho ""

response=$(aws dynamodb batch-write-item \
--request-items file://"$item")

local error_code=${?}

if [[ $error_code -ne 0 ]]; then
    aws_cli_error_log $error_code
    errecho "ERROR: AWS reports batch-write-item operation failed.$response"
    return 1
fi
The utility functions used in this example.

```bash
# function iecho
#
# This function enables the script to display the specified text only if
# the global variable $VERBOSE is set to true.
function iecho() {
    if [[ $VERBOSE == true ]]; then
        echo "$@
    fi
}

# function errecho
#
# This function outputs everything sent to it to STDERR (standard error output).
function errecho() {
    printf "%s\n" "$*" 1>&2
}

# function aws_cli_error_log()
#
# This function is used to log the error messages from the AWS CLI.
# The function expects the following argument:
# $1 - The error code returned by the AWS CLI.
# Returns:
# 0: - Success.
```
function aws_cli_error_log() {
    local err_code=$1
    errecho "Error code : $err_code"
    if [ "$err_code" == 1 ]; then
        errecho " One or more S3 transfers failed."
    elif [ "$err_code" == 2 ]; then
        errecho " Command line failed to parse."
    elif [ "$err_code" == 130 ]; then
        errecho " Process received SIGINT."
    elif [ "$err_code" == 252 ]; then
        errecho " Command syntax invalid."
    elif [ "$err_code" == 253 ]; then
        errecho " The system environment or configuration was invalid."
    elif [ "$err_code" == 254 ]; then
        errecho " The service returned an error."
    elif [ "$err_code" == 255 ]; then
        errecho " 255 is a catch-all error."
    fi

    return 0
}

• For API details, see BatchWriteItem in AWS CLI Command Reference.

**Scenarios**

**Get started with tables, items, and queries**

The following code example shows how to:

• Create a table that can hold movie data.
• Put, get, and update a single movie in the table.
• Write movie data to the table from a sample JSON file.
• Query for movies that were released in a given year.
• Scan for movies that were released in a range of years.
• Delete a movie from the table, then delete the table.
The DynamoDB getting started scenario.

```bash
# function dynamodb_getting_started_movies
#
# Scenario to create an Amazon DynamoDB table and perform a series of operations on the table.
#
# Returns:
#       0 - If successful.
#       1 - If an error occurred.
#
# local table_name
# echo -n "Enter a name for a new DynamoDB table: "
get_input

source ./dynamodb_operations.sh

key_schema_json_file="dynamodb_key_schema.json"
attribute_definitions_json_file="dynamodb_attr_def.json"
item_json_file="movie_item.json"
key_json_file="movie_key.json"
batch_json_file="batch.json"
attribute_names_json_file="attribute_names.json"
attributes_values_json_file="attribute_values.json"
```

```
echo_repeat "*" 88
echo
echo "Welcome to the Amazon DynamoDB getting started demo."
echo
echo_repeat "*" 88

local table_name
echo -n "Enter a name for a new DynamoDB table: "
get_input
table_name=$get_input_result
```
local provisioned_throughput="ReadCapacityUnits=5,WriteCapacityUnits=5"

echo ' [
  {"AttributeName": "year", "KeyType": "HASH"},
  {"AttributeName": "title", "KeyType": "RANGE"}
] ' >"$key_schema_json_file"

echo ' [
  {"AttributeName": "year", "AttributeType": "N"},
  {"AttributeName": "title", "AttributeType": "S"}
] ' >"$attribute_definitions_json_file"

if dynamodb_create_table -n "$table_name" -a "$attribute_definitions_json_file" -k "$key_schema_json_file" -p "$provisioned_throughput" 1>/dev/null; then
echo "Created a DynamoDB table named $table_name"
else
errecho "The table failed to create. This demo will exit."
clean_up
return 1
fi

echo "Waiting for the table to become active...."

if dynamodb_wait_table_active -n "$table_name"; then
  echo "The table is now active."
else
  errecho "The table failed to become active. This demo will exit."
cleanup "$table_name"
  return 1
fi

echo
echo_repeat "*" 88

echo

echo -n "Enter the title of a movie you want to add to the table: "
get_input
local added_title
added_title=$get_input_result

local added_year
get_int_input "What year was it released? "
added_year=$get_input_result
local rating
get_float_input "On a scale of 1 - 10, how do you rate it? " "1" "10"
rating=$get_input_result

local plot
echo -n "Summarize the plot for me: "
get_input
plot=$get_input_result

echo '{
   "year": {"N": "$added_year"},
   "title": {"S": "$added_title"},
   "info": {"M": {"plot": {"S": "$plot"}, "rating": {"N": "$rating"} } } }
' >"$item_json_file"

if dynamodb_put_item -n "$table_name" -i "$item_json_file"; then
echo "The movie '$added_title' was successfully added to the table '$table_name'."
else
errecho "Put item failed. This demo will exit."
clean_up "$table_name"
return 1
fi

echo
echo_repeat "*" 88
echo

echo "Let's update your movie '$added_title'.'"
get_float_input "You rated it $rating, what new rating would you give it? " "1" "10"
rating=$get_input_result

echo -n "You summarized the plot as '$plot'."
get_input
plot=$get_input_result

echo '{
   "year": {"N": "$added_year"},
   "title": {"S": "$added_title"}
} ~>"$key_json_file"
local update_expression="SET info.rating = :r, info.plot = :p"

if dynamodb_update_item -n "$table_name" -k "$key_json_file" -e "$update_expression" -v "$item_json_file"; then
    echo "Updated '$added_title' with new attributes."
else
    errecho "Update item failed. This demo will exit."
    clean_up "$table_name"
    return 1
fi

local batch_json
for batch_json in movie_files/movies_*.json; do
    echo '{ "$table_name" : $(<"$batch_json") }' >"$batch_json_file"
    if dynamodb_batch_write_item -i "$batch_json_file" 1>/dev/null; then
        echo "Entries in $batch_json added to table."
    else
        errecho "Batch write failed. This demo will exit."
        clean_up "$table_name"
        return 1
    fi
done

local title="The Lord of the Rings: The Fellowship of the Ring"
local year="2001"

if get_yes_no_input "Let's move on...do you want to get info about '$title'? (y/n) "; then
    echo '{
    "year": {"N" :"'$year'"},
    "title": {"S" : "'$title'"}
} '>"$key_json_file"
    local info
info=$(dynamodb_get_item -n "$table_name" -k "$key_json_file")

# shellcheck disable=SC2181
if [[ ${?} -ne 0 ]]; then
    errecho "Get item failed. This demo will exit."
    clean_up "$table_name"
    return 1
fi

    echo "Here is what I found:"
    echo "$info"
    fi

local ask_for_year=true
while [[ "$ask_for_year" == true ]]; do
    echo "Let's get a list of movies released in a given year."
    get_int_input "Enter a year between 1972 and 2018: " "1972" "2018"
    year=$get_input_result
    echo '{
        "#n": "year"
    }' >"$attribute_names_json_file"

    echo '{
        ":v": {
            "N": "$year"
        }
    }' >"$attributes_values_json_file"

    response=$(dynamodb_query -n "$table_name" -k "#n=:v" -a "$attribute_names_json_file" -v "$attributes_values_json_file")

# shellcheck disable=SC2181
if [[ ${?} -ne 0 ]]; then
    errecho "Query table failed. This demo will exit."
    clean_up "$table_name"
    return 1
fi

    echo "Here is what I found:"
    echo "$response"

    if ! get_yes_no_input "Try another year? (y/n) "; then
        ask_for_year=false
    fi
    done
echo "Now let's scan for movies released in a range of years. Enter a year: "
get_int_input "Enter a year between 1972 and 2018: " "1972" "2018"
local start=$get_input_result

get_int_input "Enter another year: " "1972" "2018"
local end=$get_input_result

echo '{
    "#n": "year"
}' >"$attribute_names_json_file"

echo '{
    ":v1": {"N" : "'$start'"},
    ":v2": {"N" : "'$end'"}
}' >"$attributes_values_json_file"

response=$(dynamodb_scan -n "$table_name" -f "#n BETWEEN :v1 AND :v2" -a "$attribute_names_json_file" -v "$attributes_values_json_file")

# shellcheck disable=SC2181
if [[ ${?} -ne 0 ]]; then
    errecho "Scan table failed. This demo will exit."
clean_up "$table_name"
    return 1
fi

echo "Here is what I found:"
echo "$response"

echo

echo_repeat "*" 88

echo

echo "Let's remove your movie '$added_title' from the table."

if get_yes_no_input "Do you want to remove '$added_title'? (y/n)"; then
    echo '{
        "year": {"N" : "'$added_year'"},
        "title": {"S" : "'$added_title'"}
    }' >"$key_json_file"

    if ! dynamodb_delete_item -n "$table_name" -k "$key_json_file"; then
        errecho "Delete item failed. This demo will exit."
clean_up "$table_name"
The DynamoDB functions used in this scenario.

```bash
# function dynamodb_create_table
#
# This function creates an Amazon DynamoDB table.
#
# Parameters:
#       -n table_name  -- The name of the table to create.
#       -a attribute_definitions -- JSON file path of a list of attributes and their types.
#       -k key_schema -- JSON file path of a list of attributes and their key types.
#       -p provisioned_throughput -- Provisioned throughput settings for the table.
#
# Returns:
#       0 - If successful.
#       1 - If it fails.
#
function dynamodb_create_table() {
    local table_name attribute_definitions key_schema provisioned_throughput response
    local option OPTARG # Required to use getopts command in a function.
    return 1
    fi

    if get_yes_no_input "Do you want to delete the table '$table_name'? (y/n) "; then
        if ! clean_up "$table_name"; then
            return 1
        fi
    else
        if ! clean_up; then
            return 1
        fi
    fi

    return 0
}
```
function usage() {
    echo "function dynamodb_create_table"
    echo "Creates an Amazon DynamoDB table."
    echo " -n table_name -- The name of the table to create."
    echo " -a attribute_definitions -- JSON file path of a list of attributes and their types."
    echo " -k key_schema -- JSON file path of a list of attributes and their key types."
    echo " -p provisioned_throughput -- Provisioned throughput settings for the table."
    echo ""
}

# Retrieve the calling parameters.
while getopts "n:a:k:p:h" option; do
    case "$option" in
    n) table_name="$OPTARG" ;;
    a) attribute_definitions="$OPTARG" ;;
    k) key_schema="$OPTARG" ;;
    p) provisioned_throughput="$OPTARG" ;;
    h) usage
        return 0
        ;;
    \?)
        echo "Invalid parameter"
        usage
        return 1
    ;;
    esac
done
export OPTIND=1

if [[ -z "$table_name" ]]; then
    errecho "ERROR: You must provide a table name with the -n parameter."
    usage
    return 1
fi

if [[ -z "$attribute_definitions" ]]; then
    errecho "ERROR: You must provide an attribute definitions json file path the -a parameter."
    usage
    return 1
if

if [[ -z "$key_schema" ]]; then
    errecho "ERROR: You must provide a key schema json file path the -k parameter."
    usage
    return 1
fi

if [[ -z "$provisioned_throughput" ]]; then
    errecho "ERROR: You must provide a provisioned throughput json file path the -p parameter."
    usage
    return 1
fi

iecho "Parameters:
"
iecho "    table_name:   $table_name"
iecho "    attribute_definitions:   $attribute_definitions"
iecho "    key_schema:   $key_schema"
iecho "    provisioned_throughput:   $provisioned_throughput"
iecho ""

response=$(aws dynamodb create-table \
    --table-name "$table_name" \
    --attribute-definitions file://"$attribute_definitions" \
    --key-schema file://"$key_schema" \
    --provisioned-throughput "$provisioned_throughput")

local error_code=${?}

if [[ $error_code -ne 0 ]]; then
    aws_cli_error_log $error_code
    errecho "ERROR: AWS reports create-table operation failed.$response"
    return 1
fi

return 0
}
# Parameters:
#       -n table_name  -- The name of the table.
#
# Response:
#       - TableStatus:
#     And:
#       0 - Table is active.
#       1 - If it fails.

function dynamodb_describe_table {
    local table_name
    local option OPTARG # Required to use getopts command in a function.

    # Function usage explanation
    function usage() {
        echo "function dynamodb_describe_table"
        echo "Describe the status of a DynamoDB table."
        echo "  -n table_name  -- The name of the table."
        echo ""
    }

    # Retrieve the calling parameters.
    while getopts "n:h" option; do
        case "$option" in
            n) table_name="${OPTARG}" ;;
            h) usage
               return 0
               ;;
            \?) echo "Invalid parameter"
               usage
               return 1
               ;;
        esac
    done
    export OPTIND=1

    if [[ -z "$table_name" ]]; then
        errecho "ERROR: You must provide a table name with the -n parameter."
        usage
        return 1
    fi
}
local table_status
    table_status=$(aws dynamodb describe-table --table-name "$table_name" --output text --query 'Table.TableStatus')

local error_code=${?}

if [[ $error_code -ne 0 ]]; then
    aws_cli_error_log "$error_code"
    erroecho "ERROR: AWS reports describe-table operation failed.$table_status"
    return 1
fi

echo "$table_status"

return 0

##############################################################################
# function dynamodb_put_item
#
# This function puts an item into a DynamoDB table.
#
# Parameters:
#       -n table_name  -- The name of the table.
#       -i item  -- Path to json file containing the item values.
#
# Returns:
#       0 - If successful.
#       1 - If it fails.
##############################################################################
function dynamodb_put_item() {
    local table_name item response
    local option OPTARG # Required to use getopts command in a function.

    # Function usage explanation
    function usage() {

    }
```bash
echo "function dynamodb_put_item"
echo "Put an item into a DynamoDB table."
echo " -n table_name  -- The name of the table."
echo " -i item  -- Path to json file containing the item values."
echo ""
}

while getopts "n:i:h" option; do
case "$option" in
  n) table_name="${OPTARG}" ;;
i) item="${OPTARG}" ;;
h)
    usage
    return 0
    ;;
?)
    echo "Invalid parameter"
    usage
    return 1
    ;;
esac
done
export OPTIND=1

if [[ -z "$table_name" ]]; then
  errorecho "ERROR: You must provide a table name with the -n parameter."
  usage
  return 1
fi

if [[ -z "$item" ]]; then
  errorecho "ERROR: You must provide an item with the -i parameter."
  usage
  return 1
fi

iecho "Parameters:\n"
iecho "    table_name:  $table_name"
iecho "    item:  $item"
iecho ""
iecho ""
response=$(aws dynamodb put-item \
    --table-name "$table_name" \
    "parameters": {"item": $item})
```

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local error_code=${?}

if [[ $error_code -ne 0 ]]; then
    aws_cli_error_log $error_code
    erroecho "ERROR: AWS reports put-item operation failed.$response"
    return 1
fi

return 0

##############################################################################
# function dynamodb_update_item
#
# This function updates an item in a DynamoDB table.
#
# Parameters:
#       -n table_name  -- The name of the table.
#       -k keys  -- Path to json file containing the keys that identify the item to
# update.
#       -e update expression  -- An expression that defines one or more attributes
to be updated.
#       -v values  -- Path to json file containing the update values.
#
# Returns:
#       0 - If successful.
#       1 - If it fails.
#############################################################################
function dynamodb_update_item() {
    local table_name keys update_expression values response
    local option OPTARG # Required to use getopts command in a function.

    # Function usage explanation
    function usage() {
        echo "function dynamodb_update_item"
        echo "Update an item in a DynamoDB table."
        echo " -n table_name -- The name of the table."
    }

    # Parse command-line arguments
    while getopts :n:k:e:v: option
    do
        case $option in
            n) table_name=$OPTARG
               ;;
            k) keys=$OPTARG
               ;;
            e) update_expression=$OPTARG
               ;;
            v) values=$OPTARG
               ;;
            *) echo "Unknown option: $option"; exit 1
               ;;
        esac
    done

    # Function implementation
    # ...
echo " -k keys  -- Path to json file containing the keys that identify the item to update."  
  echo " -e update expression  -- An expression that defines one or more attributes to be updated."  
  echo " -v values  -- Path to json file containing the update values."  
  echo ""  
}

while getopts "n:k:e:v:h" option; do
  case "${option}" in
    n) table_name="${OPTARG}" ;;  
    k) keys="${OPTARG}" ;;  
    e) update_expression="${OPTARG}" ;;  
    v) values="${OPTARG}" ;;  
    h)
      usage  
      return 0  
      ;;  
    \?)
      echo "Invalid parameter"  
      usage  
      return 1  
      ;;
  esac
done

export OPTIND=1

if [[ -z "$table_name" ]]; then
  errecho "ERROR: You must provide a table name with the -n parameter."  
  usage  
  return 1
fi

if [[ -z "$keys" ]]; then
  errecho "ERROR: You must provide a keys json file path the -k parameter."  
  usage  
  return 1
fi

if [[ -z "$update_expression" ]]; then
  errecho "ERROR: You must provide an update expression with the -e parameter."  
  usage  
  return 1
fi
if [[ -z "$values" ]]; then
    errecho "ERROR: You must provide a values json file path the -v parameter."
    usage
    return 1
fi

iecho "Parameters:\n"
iecho "    table_name:   $table_name"
iecho "    keys:   $keys"
iecho "    update_expression:   $update_expression"
iecho "    values:   $values"

response=$(aws dynamodb update-item \
    --table-name "$table_name" \
    --key file://"$keys" \
    --update-expression "$update_expression" \
    --expression-attribute-values file://"$values"
)

local error_code=${?}

if [[ $error_code -ne 0 ]]; then
    aws_cli_error_log $error_code
    errecho "ERROR: AWS reports update-item operation failed.$response"
    return 1
fi

return 0
}

##############################################################################
# function dynamodb_batch_write_item
#
# This function writes a batch of items into a DynamoDB table.
#
# Parameters:
#       -i item  -- Path to json file containing the items to write.
#
# Returns:
#       0 - If successful.
#       1 - If it fails.
############################################################################
function dynamodb_batch_write_item() {
    local item response
    # Read the JSON file with the items to write.
    while IFS= read -r item
    do
        item
    done <"$item"

    response=$(aws dynamodb batch-write-item \
        --table-name "$table_name" \
        --request-entries file://"$item"
    )

    local error_code=${?}

    if [[ $error_code -ne 0 ]]; then
        aws_cli_error_log $error_code
        errecho "ERROR: AWS reports batch-write-item operation failed.$response"
        return 1
    fi

    return 0
}
local option OPTARG # Required to use getopts command in a function.

#######################################
# Function usage explanation
#######################################

function usage() {
    echo "function dynamodb_batch_write_item"
    echo "Write a batch of items into a DynamoDB table."
    echo " -i item -- Path to json file containing the items to write."
    echo ""
}

while getopts "i:h" option; do
    case "${option}" in
        i) item="${OPTARG}" ;;
        h)
            usage
            return 0
        ;;
        \?)
            echo "Invalid parameter"
            usage
            return 1
        ;;
        esac
    esac
done
export OPTIND=1

if [[ -z "$item" ]]; then
    errecho "ERROR: You must provide an item with the -i parameter."
    usage
    return 1
fi

iecho "Parameters:\n"
iecho "    table_name:    $table_name"
iecho "    item:        $item"
iecho ""

response=$(aws dynamodb batch-write-item \
    --request-items file://"$item"
)

local error_code=${?}

if [[ $error_code -ne 0 ]]; then
aws_cli_error_log $error_code
errecho "ERROR: AWS reports batch-write-item operation failed.$response"
return 1
fi

return 0
}

#########################################################################
# function dynamodb_get_item
#
# This function gets an item from a DynamoDB table.
#
# Parameters:
#   -n table_name  -- The name of the table.
#   -k keys  -- Path to json file containing the keys that identify the item to get.
#   [-q query]  -- Optional JMESPath query expression.
#
# Returns:
#   The item as text output.
# And:
#   0 - If successful.
#   1 - If it fails.
#########################################################################
function dynamodb_get_item() {
  local table_name keys query response
  local option OPTARG # Required to use getopts command in a function.

  # Function usage explanation
  function usage() {
    echo "function dynamodb_get_item"
    echo "Get an item from a DynamoDB table."
    echo " -n table_name  -- The name of the table."
    echo " -k keys  -- Path to json file containing the keys that identify the item to get."
    echo " [-q query]  -- Optional JMESPath query expression."
    echo ""
    query=""
    while getopts "n:k:q:h" option; do
      case "${option}" in
        
        esac
      fi
  }

  query=""
  while getopts "n:k:q:h" option; do
    case "${option}" in
      
      esac
    fi
  }
}
n) table_name="${OPTARG}" ;;
k) keys="${OPTARG}" ;;
q) query="${OPTARG}" ;;
h)
    usage
    return 0
    ;;
\?)
    echo "Invalid parameter"
    usage
    return 1
    ;;
esac
done
export OPTIND=1

if [[ -z "$table_name" ]]; then
    errecho "ERROR: You must provide a table name with the -n parameter."
    usage
    return 1
fi

if [[ -z "$keys" ]]; then
    errecho "ERROR: You must provide a keys json file path the -k parameter."
    usage
    return 1
fi

if [[ -n "$query" ]]; then
    response=$(aws dynamodb get-item \
            --table-name "$table_name" \
            --key file://"$keys" \
            --output text \
            --query "$query")
else
    response=$(aws dynamodb get-item \
            --table-name "$table_name" \
            --key file://"$keys" \
            --output text
    )
fi

local error_code=${?}
if [[ $error_code -ne 0 ]]; then
    aws_cli_error_log $error_code
    errecho "ERROR: AWS reports get-item operation failed.$response"
    return 1
fi

if [[ -n "$query" ]]; then
    echo "$response" | sed /^\t/s/\t//1 # Remove initial tab that the JMSEPath query inserts on some strings.
else
    echo "$response"
fi

return 0
}

# function dynamodb_query
#
# This function queries a DynamoDB table.
#
# Parameters:
#   -n table_name  -- The name of the table.
#   -k key_condition_expression -- The key condition expression.
#   -a attribute_names -- Path to JSON file containing the attribute names.
#   -v attribute_values -- Path to JSON file containing the attribute values.
#   [-p projection_expression]  -- Optional projection expression.
#
# Returns:
#   The items as json output.
# And:
#   0 - If successful.
#   1 - If it fails.
#
function dynamodb_query() {
    local table_name key_condition_expression attribute_names attribute_values projection_expression response
    local option OPTARG # Required to use getopts command in a function.

    # Function usage explanation
    function usage() {
echo "function dynamodb_query"
    echo "Query a DynamoDB table."
    echo " -n table_name -- The name of the table."
    echo " -k key_condition_expression -- The key condition expression."
    echo " -a attribute_names -- Path to JSON file containing the attribute names."
    echo " -v attribute_values -- Path to JSON file containing the attribute values."
    echo " [-p projection_expression] -- Optional projection expression."
    echo ""

while getopts "n:k:a:v:p:h" option; do
    case "${option}" in
        n) table_name="${OPTARG}" ;;
        k) key_condition_expression="${OPTARG}" ;;
        a) attribute_names="${OPTARG}" ;;
        v) attribute_values="${OPTARG}" ;;
        p) projection_expression="${OPTARG}" ;;
        h)
            usage
            return 0
            ;;
    esac
done
export OPTIND=1

if [[ -z "$table_name" ]]; then
    errecho "ERROR: You must provide a table name with the -n parameter."
    usage
    return 1
fi

if [[ -z "$key_condition_expression" ]]; then
    errecho "ERROR: You must provide a key condition expression with the -k parameter."
    usage
    return 1
fi
if [[ -z "$attribute_names" ]]; then
    errecho "ERROR: You must provide a attribute names with the -a parameter."
    usage
    return 1
fi

if [[ -z "$attribute_values" ]]; then
    errecho "ERROR: You must provide a attribute values with the -v parameter."
    usage
    return 1
fi

if [[ -z "$projection_expression" ]]; then
    response=$(aws dynamodb query "
        --table-name "$table_name"
        --key-condition-expression "$key_condition_expression"
        --expression-attribute-names file://"$attribute_names"
        --expression-attribute-values file://"$attribute_values"
   "
else
    response=$(aws dynamodb query "
        --table-name "$table_name"
        --key-condition-expression "$key_condition_expression"
        --expression-attribute-names file://"$attribute_names"
        --expression-attribute-values file://"$attribute_values"
        --projection-expression "$projection_expression"
   "
fi

local error_code=${?}

if [[ $error_code -ne 0 ]]; then
    aws_cli_error_log $error_code
    errecho "ERROR: AWS reports query operation failed.$response"
    return 1
fi

echo "$response"

return 0
}

# function dynamodb_scan
#
# This function scans a DynamoDB table.
# Parameters:
#       -n table_name  -- The name of the table.
#       -f filter_expression  -- The filter expression.
#       -a expression_attribute_names -- Path to JSON file containing the expression
#          attribute names.
#       -v expression_attribute_values -- Path to JSON file containing the
#          expression attribute values.
#       [-p projection_expression]  -- Optional projection expression.
#
#  Returns:
#       The items as json output.
# And:
#       0 - If successful.
#       1 - If it fails.
###########################################################################
function dynamodb_scan() {
    local table_name filter_expression expression_attribute_names
    expression_attribute_values projection_expression response
    local option OPTARG # Required to use getopts command in a function.

    # Function usage explanation
    # Function usage explanation
    function usage() {
        echo "function dynamodb_scan"
        echo "Scan a DynamoDB table."
        echo "  -n table_name  -- The name of the table."
        echo "  -f filter_expression  -- The filter expression."
        echo "  -a expression_attribute_names -- Path to JSON file containing the
           expression attribute names."
        echo "  -v expression_attribute_values -- Path to JSON file containing the
           expression attribute values."
        echo "  [-p projection_expression]  -- Optional projection expression."
        echo ""
    }

    while getopts "n:f:a:v:p:h" option; do
        case "${option}" in
            n) table_name="${OPTARG}" ;;
            f) filter_expression="${OPTARG}" ;;
            a) expression_attribute_names="${OPTARG}" ;;
            v) expression_attribute_values="${OPTARG}" ;;
            p) projection_expression="${OPTARG}" ;;
        esac
    done

h)
    usage
    return 0
    ;;
    \?)
    echo "Invalid parameter"
    usage
    return 1
    ;;
    esac
    done
    export OPTIND=1

    if [[ -z "$table_name" ]]; then
        errorecho "ERROR: You must provide a table name with the -n parameter."
        usage
        return 1
    fi

    if [[ -z "$filter_expression" ]]; then
        errorecho "ERROR: You must provide a filter expression with the -f parameter."
        usage
        return 1
    fi

    if [[ -z "$expression_attribute_names" ]]; then
        errorecho "ERROR: You must provide expression attribute names with the -a parameter."
        usage
        return 1
    fi

    if [[ -z "$expression_attribute_values" ]]; then
        errorecho "ERROR: You must provide expression attribute values with the -v parameter."
        usage
        return 1
    fi

    if [[ -z "$projection_expression" ]]; then
        response=$(aws dynamodb scan \
            --table-name "$table_name" \
            --filter-expression "$filter_expression" \
            --expression-attribute-names file://"$expression_attribute_names" \
            --expression-attribute-values file://"$expression_attribute_values" \
            --projection-expression "$projection_expression" \
            --output-file "$output_file" \
            --output-format json \
            --max-result-count 100
        )
        echo $response
    fi
else
    response=$(aws dynamodb scan \
        --table-name "$table_name" \
        --filter-expression "$filter_expression" \ 
        --expression-attribute-names file://"$expression_attribute_names" \ 
        --expression-attribute-values file://"$expression_attribute_values" \ 
        --projection-expression "$projection_expression")
fi

local error_code=${?}

if [[ $error_code -ne 0 ]]; then
    aws_cli_error_log $error_code
    erroecho "ERROR: AWS reports scan operation failed.$response"
    return 1
fi

echo "$response"

return 0

##############################################################################
# function dynamodb_delete_item
#
# This function deletes an item from a DynamoDB table.
#
# Parameters:
#       -n table_name  -- The name of the table.
#       -k keys  -- Path to json file containing the keys that identify the item to
#delete.
#
# Returns:
#       0 - If successful.
#       1 - If it fails.
##############################################################################
function dynamodb_delete_item() {
    local table_name keys response
    local option OPTARG # Required to use getopts command in a function.

    # ###################################################################
    # Function usage explanation
    # ###################################################################
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function usage() {
echo "function dynamodb_delete_item"
echo "Delete an item from a DynamoDB table."
echo " -n table_name -- The name of the table."
echo " -k keys -- Path to json file containing the keys that identify the item
to delete."
echo ""
}
while getopts "n:k:h" option; do
case "${option}" in
n) table_name="${OPTARG}" ;;
k) keys="${OPTARG}" ;;
h)
usage
return 0
;;
\?)
echo "Invalid parameter"
usage
return 1
;;
esac
done
export OPTIND=1
if [[ -z "$table_name" ]]; then
errecho "ERROR: You must provide a table name with the -n parameter."
usage
return 1
fi
if [[ -z "$keys" ]]; then
errecho "ERROR: You must provide a keys json file path the -k parameter."
usage
return 1
fi
iecho
iecho
iecho
iecho

"Parameters:\n"
"
table_name:
$table_name"
"
keys:
$keys"
""

response=$(aws dynamodb delete-item \
--table-name "$table_name" \

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local error_code=${?}

if [[ $error_code -ne 0 ]]; then
    aws_cli_error_log $error_code
    errecho "ERROR: AWS reports delete-item operation failed.$response"
    return 1
fi

return 0

function dynamodb_delete_table() {
    local table_name response
    local option OPTARG # Required to use getopts command in a function.

    # bashsupport disable=BP5008
    function usage() {
        echo "function dynamodb_delete_table"
        echo "Deletes an Amazon DynamoDB table."
        echo "  -n table_name -- The name of the table to delete."
    }

    # Retrieve the calling parameters.
    while getopts "n:h" option; do
        case "${option}" in
            n) table_name="${OPTARG}" ;;
            h) usage
                break
        esac
    esac

    # Parameters:
    #  -n table_name  -- The name of the table to delete.
    #
    # Returns:
    #       0 - If successful.
    #       1 - If it fails.
return 0

; ;

?)

echo "Invalid parameter"
usage
return 1

; ;
esac
done
export OPTIND=1

if [[ -z "$table_name" ]]; then
    errof"ERROR: You must provide a table name with the -n parameter."
    usage
    return 1
fi

iecho "Parameters:\n"
iecho " table_name: $table_name"
iecho ""

response=\$(aws dynamodb delete-table <<table-name "$table_name"

local error_code=${?}

if [[ $error_code -ne 0 ]]; then
    aws_cli_error_log $error_code
    errof"ERROR: AWS reports delete-table operation failed.$response"
    return 1
fi

return 0

}

The utility functions used in this scenario.

# function iecho
#
# This function enables the script to display the specified text only if
# the global variable $VERBOSE is set to true.
function iecho() {
    if [[ $VERBOSE == true ]]; then
        echo "$@
    fi
}

function errecho() {
    printf "%s\n" "$*" 1>&2
}

function aws_cli_error_log() {
    local err_code=$1
    errecho "Error code : $err_code"
    if [ "$err_code" == 1 ]; then
        errecho " One or more S3 transfers failed."
    elif [ "$err_code" == 2 ]; then
        errecho " Command line failed to parse."
    elif [ "$err_code" == 130 ]; then
        errecho " Process received SIGINT."
    elif [ "$err_code" == 252 ]; then
        errecho " Command syntax invalid."
    elif [ "$err_code" == 253 ]; then
        errecho " The system environment or configuration was invalid."
elif [ "$err_code" == 254 ]; then
    errecho " The service returned an error."
elif [ "$err_code" == 255 ]; then
    errecho " 255 is a catch-all error."
fi

return 0

• For API details, see the following topics in *AWS CLI Command Reference*.
  • [BatchWriteItem](#)
  • [CreateTable](#)
  • [DeleteItem](#)
  • [DeleteTable](#)
  • [DescribeTable](#)
  • [GetItem](#)
  • [PutItem](#)
  • [Query](#)
  • [Scan](#)
  • [UpdateItem](#)

**HealthImaging examples using AWS CLI with Bash script**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Bash script with HealthImaging.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.
### Actions

**Create a data store**

The following code example shows how to create a HealthImaging data store.

**AWS CLI with Bash script**

```bash
# function errecho
#
# This function outputs everything sent to it to STDERR (standard error output).
function errecho() {
  printf "%s\n" "$*" 1>&2
}

# function imaging_create_datastore
#
# This function creates an AWS HealthImaging data store for importing DICOM P10 files.
#
# Parameters:
#    -n data_store_name - The name of the data store.
#
# Returns:
#    The datastore ID.
#    And:
#    0 - If successful.
#    1 - If it fails.
function imaging_create_datastore() {
  local datastore_name response
  local option OPTARG # Required to use getopt command in a function.

  # bashsupport disable=BP5008
  function usage() {
    echo "function imaging_create_datastore"
    echo "Creates an AWS HealthImaging data store for importing DICOM P10 files."
    echo " -n data_store_name - The name of the data store."
  }
```
echo ""
}

# Retrieve the calling parameters.
while getopts "n:h" option; do
    case "${option}" in
        n) datastore_name="${OPTARG}" ;;
        h)
            usage
            return 0
        ;;
        \?)
            echo "Invalid parameter"
            usage
            return 1
        ;;
        esac
    done
export OPTIND=1

if [[ -z "$datastore_name" ]]; then
    errecho "ERROR: You must provide a data store name with the -n parameter."
    usage
    return 1
fi

response=$(aws medical-imaging create-datastore \
    --datastore-name "$datastore_name" \
    --output text \
    --query 'datastoreId')

local error_code=${?}

if [[ $error_code -ne 0 ]]; then
    aws_cli_error_log $error_code
    errecho "ERROR: AWS reports medical-imaging create-datastore operation failed. $response"
    return 1
fi

echo "$response"

return 0
Delete a data store

The following code example shows how to delete a HealthImaging data store.

**AWS CLI with Bash script**

```bash
# function errecho
#
# This function outputs everything sent to it to STDERR (standard error output).
#
function errecho() {
      printf "%s\n" "$*" 1>&2
}

# function imaging_delete_datastore
#
# This function deletes an AWS HealthImaging data store.
#
# Parameters:
#       -i datastore_id - The ID of the data store.
#
# Returns:
#       0 - If successful.
#       1 - If it fails.

function imaging_delete_datastore() {
      local datastore_id response

      local option OPTARG # Required to use getopt command in a function.

      # bashsupport disable=BP5008

      function usage() {

```

Note

There's more on GitHub. Find the complete example and learn how to set up and run in the [AWS Code Examples Repository](https://github.com/aws-code-examples).

For API details, see [CreateDatastore](https://docs.aws.amazon.com/cli/latest/reference/elasticmapreduce/create-datastore.html) in *AWS CLI Command Reference*.
```bash
# AWS Command Line Interface

# function imaging_delete_datastore

# Deletes an AWS HealthImaging data store.
#   -i datastore_id - The ID of the data store.
#   
#
# # Retrieve the calling parameters.
# while getopts "i:h" option; do
#   case "${option}" in
#     i)
#       datastore_id="${OPTARG}" ;;
#     h)
#       usage
#       return 0
#       ;;
#     ?)
#       echo "Invalid parameter"
#       usage
#       return 1
#       ;;
#     esac
#   done
# export OPTIND=1

# Error handling
if [[ -z "$datastore_id" ]]; then
  errecho "ERROR: You must provide a data store ID with the -i parameter."
  usage
  return 1
fi

response=$(aws medical-imaging delete-datastore
  --datastore-id "$datastore_id"
)

local error_code=${?}
if [[ $error_code -ne 0 ]]; then
  aws_cli_error_log $error_code
  errecho "ERROR: AWS reports medical-imaging delete-datastore operation failed.
$response"
  return 1
fi

return 0
```
Get data store properties

The following code example shows how to get HealthImaging data store properties.

AWS CLI with Bash script

```bash
#!/bin/bash

function imaging_get_datastore {
    local datastore_id option OPTARG 
    local error_code

    # Get a data store's properties.
    # Parameters:
    #       -i data_store_id - The ID of the data store.
    # Returns:
    #       [datastore_name, datastore_id, datastore_status, datastore_arn, created_at, updated_at]
    # And:
    #       0 - If successful.
    #       1 - If it fails.

    local datastore_id
    local error_code

    errecho "Getting data store properties for $1"
    error_code=0

    if [ -z "${datastore_id}" ];
    then
        errecho "Error: data store ID is required.
        "
        error_code=1
        return
    fi

    # Additional code to get data store properties
}
```

Note

There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

For API details, see `DeleteDatastore` in AWS CLI Command Reference.
# bashsupport disable=BP5008

function usage() {
    echo "function imaging_get_datastore"
    echo "Gets a data store's properties."
    echo "  -i datastore_id - The ID of the data store."
    echo ""
}

# Retrieve the calling parameters.
while getopts "i:h" option; do
    case "${option}" in
    i) datastore_id="${OPTARG}" ;;
    h)
        usage
        return 0
        ;;
    \?)
        echo "Invalid parameter"
        usage
        return 1
        ;;
    esac
done
export OPTIND=1

if [[ -z "$datastore_id" ]]; then
    errecho "ERROR: You must provide a data store ID with the -i parameter."
    usage
    return 1
fi

local response

response=$(aws medical-imaging get-datastore \
    --datastore-id "$datastore_id" \
    --output text \
    --query "[ datastoreProperties.datastoreName, datastoreProperties.datastoreId, datastoreProperties.datastoreStatus, datastoreProperties.datastoreArn, datastoreProperties.createdAt, datastoreProperties.updatedAt"]"
)
error_code=${?}
List data stores

The following code example shows how to list HealthImaging data stores.

AWS CLI with Bash script

```bash
if [[ $error_code -ne 0 ]]; then
    aws_cli_error_log $error_code
    errecho "ERROR: AWS reports list-datastores operation failed.$response"
    return 1
fi

echo "$response"
return 0
}


**Note**

There's more on GitHub. Find the complete example and learn how to set up and run in the [AWS Code Examples Repository](https://github.com/aws/aws-cli).
function imaging_list_datastores() {
    local option OPTARG # Required to use getopts command in a function.
    local error_code
    # bashsupport disable=BP5008
    function usage() {
        echo "function imaging_list_datastores"
        echo "Lists the AWS HealthImaging data stores in the account."
        echo ""
    }

    # Retrieve the calling parameters.
    while getopts "h" option; do
        case "${option}" in
            h)
                usage
                return 0
                ;;
            \?)
                echo "Invalid parameter"
                usage
                return 1
                ;;
        esac
    done
    export OPTIND=1

    local response
    response=$(aws medical-imaging list-datastores \
        --output text \
        --query "datastoreSummaries[*][datastoreName, datastoreId, datastoreStatus]"
    )
    error_code=${?}

    if [[ $error_code -ne 0 ]]; then
        aws_cli_error_log $error_code
        errecho "ERROR: AWS reports list-datastores operation failed.$response"
        return 1
    fi

    echo "$response"
    return 0
IAM examples using AWS CLI with Bash script

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Bash script with IAM.

Actions are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

Scenarios are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics

- Actions
- Scenarios

Actions

Attach a policy to a role

The following code example shows how to attach an IAM policy to a role.
AWS CLI with Bash script

Note

There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```bash
# function errecho
#
# This function outputs everything sent to it to STDERR (standard error output).
#
function errecho() {
    printf "\"%s\n" "$*" 1>&2
}

# function iam_attach_role_policy
#
# This function attaches an IAM policy to a tole.
#
# Parameters:
#   -n role_name -- The name of the IAM role.
#   -p policy_ARN -- The IAM policy document ARN.
#
# Returns:
#   0 - If successful.
#   1 - If it fails.

function iam_attach_role_policy() {
    local role_name policy_arn response
    local option OPTARG # Required to use getopts command in a function.

    # bashsupport disable=BP5008
    function usage() {
        echo "function iam_attach_role_policy"
        echo "Attaches an AWS Identity and Access Management (IAM) policy to an IAM role."
        echo "  -n role_name -- The name of the IAM role."
        echo "  -p policy_ARN -- The IAM policy document ARN."
        echo ""
    }
```

Actions and scenarios
# Retrieve the calling parameters.
while getopts "n:p:h" option; do
case "$option" in
n) role_name="\$OPTARG" ;;
p) policy_arn="\$OPTARG" ;;
h) usage
   return 0
   ;;
?)
   echo "Invalid parameter"
   usage
   return 1
   ;;
esac
done
export OPTIND=1

if [[ -z "$role_name" ]]; then
   errecho "ERROR: You must provide a role name with the -n parameter."
   usage
   return 1
fi

if [[ -z "$policy_arn" ]]; then
   errecho "ERROR: You must provide a policy ARN with the -p parameter."
   usage
   return 1
fi

response=$(aws iam attach-role-policy "
   --role-name "$role_name" "
   --policy-arn "$policy_arn"
"
local error_code=${?}

if [[ $error_code -ne 0 ]]; then
   aws_cli_error_log $error_code
   errecho "ERROR: AWS reports attach-role-policy operation failed.\n   $response"
   return 1
fi
Create a policy

The following code example shows how to create an IAM policy.

AWS CLI with Bash script

```bash
#!/bin/bash

# function errecho
#
# This function outputs everything sent to it to STDERR (standard error output).
#
function errecho() {
    printf "%s\n" "$*" 1>&2
}

# function iam_create_policy
#
# This function creates an IAM policy.
#
# Parameters:
#   -n policy_name -- The name of the IAM policy.
#   -p policy_json -- The policy document.
#
# Returns:
#   0 - If successful.
#   1 - If it fails.
```
function iam_create_policy() {
    local policy_name policy_document response
    local option OPTARG # Required to use getopts command in a function.

    # bashsupport disable=BP5008
    function usage() {
        echo "function iam_create_policy"
        echo "Creates an AWS Identity and Access Management (IAM) policy."
        echo "  -n policy_name   The name of the IAM policy."
        echo "  -p policy_json -- The policy document."
        echo ""
    }

    # Retrieve the calling parameters.
    while getopts "n:p:h" option; do
        case "${option}" in
            n) policy_name="${OPTARG}" ;;
            p) policy_document="${OPTARG}" ;;
            h)
                usage
                return 0
                ;;
            \?)
                echo "Invalid parameter"
                usage
                return 1
            ;;
        esac
    done
    export OPTIND=1

    if [[ -z "$policy_name" ]]; then
        errecho "ERROR: You must provide a policy name with the -n parameter."
        usage
        return 1
    fi

    if [[ -z "$policy_document" ]]; then
        errecho "ERROR: You must provide a policy document with the -p parameter."
        usage
        return 1
    fi

    response=$(aws iam create-policy \

For API details, see `CreatePolicy` in *AWS CLI Command Reference*.

Create a role

The following code example shows how to create an IAM role.

**AWS CLI with Bash script**

```bash
--policy-name "$policy_name" \
--policy-document "$policy_document" \
--output text \
--query Policy.Arn)

local error_code=${?}

if [[ $error_code -ne 0 ]]; then
    aws_cli_error_log $error_code
    errecho "ERROR: AWS reports create-policy operation failed.\n$response"
    return 1
fi

echo "$response"
}
```

---

### Note

There's more on GitHub. Find the complete example and learn how to set up and run in the [AWS Code Examples Repository](https://github.com/aws/aws-cli/tree/main/awscli/examples/iams/iam_create_role.py).
# This function creates an IAM role.
#
# Parameters:
#    -n role_name -- The name of the IAM role.
#    -p policy_json -- The assume role policy document.
#
# Returns:
#    The ARN of the role.
#    And:
#    0 - If successful.
#    1 - If it fails.
#
function iam_create_role() {
    local role_name policy_document response
    local option OPTARG # Required to use getopts command in a function.

    # bashsupport disable=BP5008
    function usage() {
        echo "function iam_create_user_access_key"
        echo "Creates an AWS Identity and Access Management (IAM) role."
        echo "  -n role_name   The name of the IAM role."
        echo "  -p policy_json -- The assume role policy document."
        echo ""
    }

    # Retrieve the calling parameters.
    while getopts "n:p:h" option; do
        case "${option}" in
            n) role_name="${OPTARG}" ;;
            p) policy_document="${OPTARG}" ;;
            h) usage
               return 0
               ;;
            \?)
               echo "Invalid parameter"
               usage
               return 1
               ;;
            esac
        done
    export OPTIND=1

    # Create the IAM role
    response=$(aws iam create-role --role-name $role_name --assume-role-policy-document $policy_document)
    response=$(echo $response | jq -r .arn)
    echo $response

    # Check if the role was created successfully
    status=$(echo $response | jq -r .arn | wc -w)
    if [ $status -eq 1 ]; then
       echo $response
       return 0
    else
       echo "Failed to create role"
       return 1
    fi
}

export OPTIND=1
if [[ -z "$role_name" ]]; then
    errecho "ERROR: You must provide a role name with the -n parameter."
    usage
    return 1
fi

if [[ -z "$policy_document" ]]; then
    errecho "ERROR: You must provide a policy document with the -p parameter."
    usage
    return 1
fi

response=$(aws iam create-role \
    --role-name "$role_name" \
    --assume-role-policy-document "$policy_document" \
    --output text \
    --query Role.Arn)

local error_code=${?}

if [[ $error_code -ne 0 ]]; then
    aws_cli_error_log $error_code
    errecho "ERROR: AWS reports create-role operation failed.\n$response"
    return 1
fi

echo "$response"

return 0
}

- For API details, see [CreateRole](https://docs.aws.amazon.com/cli/latest/reference/iam/create-role.html) in *AWS CLI Command Reference*.

### Create a user

The following code example shows how to create an IAM user.
**Warning**

To avoid security risks, don't use IAM users for authentication when developing purpose-built software or working with real data. Instead, use federation with an identity provider such as [AWS IAM Identity Center](https://aws.amazon.com/iam/).

### AWS CLI with Bash script

**Note**

There's more on GitHub. Find the complete example and learn how to set up and run in the [AWS Code Examples Repository](https://github.com/aws-code-examples/).  

```bash
### function iecho
#
# This function enables the script to display the specified text only if the global variable $VERBOSE is set to true.
###
def iecho() {
    if [[ $VERBOSE == true ]]; then
        echo "$@
    fi
}

### function errecho
#
# This function outputs everything sent to it to STDERR (standard error output).
###
def errecho() {
    printf "\n" "$" 1>&2
}

### function iam_create_user
#
# This function creates the specified IAM user, unless it already exists.
```
# Parameters:
#       -u user_name  -- The name of the user to create.
#
# Returns:
#       The ARN of the user.
#     And:
#       0 - If successful.
#       1 - If it fails.
#
# Function to create an IAM user.
#
# bashsupport disable=BP5008
function iam_create_user() {
    local user_name response
    local option OPTARG # Required to use getopts command in a function.

    # Retrieve the calling parameters.
    while getopts "u:h" option; do
        case "${option}" in
            u) user_name="${OPTARG}" ;;
            h) usage return 0 ;;
        
        esac
    done
    export OPTIND=1

    if [[ -z "$user_name" ]]; then
        errorecho "ERROR: You must provide a username with the -u parameter."
        usage
    fi

    # Code to create the IAM user goes here.
}
return 1
fi

ielo "Parameters:\n"
ielo "    User name:   $user_name"
ielo ""
# If the user already exists, we don't want to try to create it.
if (iam_user_exists "$user_name"); then
    errecho "ERROR: A user with that name already exists in the account."
    return 1
fi

response=$(aws iam create-user --user-name "$user_name" \
    --output text \n    --query 'User.Arn')

local error_code=${?}

if [[ $error_code -ne 0 ]]; then
    aws_cli_error_log $error_code
    errecho "ERROR: AWS reports create-user operation failed.$response"
    return 1
fi

echo "$response"

return 0
}

- For API details, see CreateUser in AWS CLI Command Reference.

Create an access key

The following code example shows how to create an IAM access key.
**Warning**

To avoid security risks, don't use IAM users for authentication when developing purpose-built software or working with real data. Instead, use federation with an identity provider such as AWS IAM Identity Center.

**AWS CLI with Bash script**

**Note**

There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```bash
# function errecho
#
# This function outputs everything sent to it to STDERR (standard error output).
#
function errecho() {
    printf "\%s\n" "$*" 1>&2
}

# function iam_create_user_access_key
#
# This function creates an IAM access key for the specified user.
#
# Parameters:
#       -u user_name -- The name of the IAM user.
#       [-f file_name] -- The optional file name for the access key output.
#
# Returns:
#       [access_key_id access_key_secret]
#       And:
#       0 - If successful.
#       1 - If it fails.
#
function iam_create_user_access_key() {
    local user_name file_name response
```
local option OPTARG # Required to use getopts command in a function.

# bashsupport disable=BP5008
function usage() {
    echo "function iam_create_user_access_key"
    echo "Creates an AWS Identity and Access Management (IAM) key pair."
    echo "  -u user_name   The name of the IAM user."
    echo "  [-f file_name]   Optional file name for the access key output."
    echo ""
}

# Retrieve the calling parameters.
while getopts "u:f:h" option; do
    case "${option}" in
        u) user_name="${OPTARG}" ;;
        f) file_name="${OPTARG}" ;;
        h)
            usage
            return 0
            ;;
        \?)
            echo "Invalid parameter"
            usage
            return 1
            ;;
    esac
done
export OPTIND=1

if [[ -z "$user_name" ]]; then
    errecho "ERROR: You must provide a username with the -u parameter."
    usage
    return 1
fi

response=$(aws iam create-access-key \
    --user-name "$user_name" \
    --output text)

local error_code=${?}

if [[ $error_code -ne 0 ]]; then
    aws_cli_error_log $error_code
    errecho "ERROR: AWS reports create-access-key operation failed.$response"
Return 1
fi

if [[ -n "$file_name" ]]; then
echo "$response" >"$file_name"
fi

local key_id key_secret
# shellcheck disable=SC2086
key_id=$(echo $response | cut -f 2 -d ' ')
# shellcheck disable=SC2086
key_secret=$(echo $response | cut -f 4 -d ' ')

echo "$key_id $key_secret"

return 0
}

• For API details, see CreateAccessKey in AWS CLI Command Reference.

Delete a policy

The following code example shows how to delete an IAM policy.

AWS CLI with Bash script

Note

There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.
function errecho() {
    printf "%s\n" "$*" 1>&2
}

function iam_delete_policy() {
    local policy_arn response
    local option OPTARG # Required to use getopts command in a function.
    # Retrieve the calling parameters.
    while getopts "n:h" option; do
        case "$option" in
            n) policy_arn="$OPTARG" ;;
            h) usage
                return 0
                ;;
            esac
    done
    # bashsupport disable=BP5008
    function usage() {
        echo "function iam_delete_policy"
        echo "Deletes an WS Identity and Access Management (IAM) policy"
        echo " -n policy_arn -- The name of the IAM policy arn."
        echo ""
    }
For API details, see DeletePolicy in AWS CLI Command Reference.

Delete a role

The following code example shows how to delete an IAM role.
### Note

There's more on GitHub. Find the complete example and learn how to set up and run in the [AWS Code Examples Repository](https://github.com/aws/aws-cli).

---

```bash
# function iecho
#
# This function enables the script to display the specified text only if
# the global variable $VERBOSE is set to true.
function iecho() {
    if [[ $VERBOSE == true ]]; then
        echo "$@
    fi
}
```

```bash
# function errecho
#
# This function outputs everything sent to it to STDERR (standard error output).
function errecho() {
    printf "%s\n" "$*" 1>&2
}
```

```bash
# function iam_delete_role
#
# This function deletes an IAM role.
# Parameters:
#       -n role_name -- The name of the IAM role.
# Returns:
#       0 - If successful.
#       1 - If it fails.
function iam_delete_role() {
```
local role_name response
local option OPTARG # Required to use getopts command in a function.

# bashsupport disable=BP5008
function usage() {
    echo "function iam_delete_role"
    echo "Deletes an AWS Identity and Access Management (IAM) role"
    echo "  -n role_name -- The name of the IAM role."
    echo ""
}

# Retrieve the calling parameters.
while getopts "n:h" option; do
    case "${option}" in
    n) role_name="${OPTARG}" ;;
    h)
        usage
        return 0
        ;;
    \\?)
        echo "Invalid parameter"
        usage
        return 1
        ;;
    esac
    done
export OPTIND=1

echo "role_name:$role_name"
if [[ -z "$role_name" ]]; then
    erroecho "ERROR: You must provide a role name with the -n parameter."
    usage
    return 1
fi

iecho "Parameters:

iecho "  Role name:  $role_name"
iecho ""

response=$(aws iam delete-role \
  --role-name "$role_name"
)

local error_code=${?}
Delete a user

The following code example shows how to delete an IAM user.

⚠️ Warning

To avoid security risks, don't use IAM users for authentication when developing purpose-built software or working with real data. Instead, use federation with an identity provider such as AWS IAM Identity Center.

AWS CLI with Bash script

ℹ️ Note

There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.
if [[ $VERBOSE == true ]]; then
    echo "$@
fi

# function errecho
#
# This function outputs everything sent to it to STDERR (standard error output).
function errecho() {
    printf "\%s\n" "$*" 1>&2
}

# function iam_delete_user
#
# This function deletes the specified IAM user.
#
# Parameters:
#       -u user_name  -- The name of the user to create.
#
# Returns:
#       0 - If successful.
#       1 - If it fails.
function iam_delete_user() {
    local user_name response
    local option OPTARG # Required to use getopts command in a function.

    # bashsupport disable=BP5008
    function usage() {
        echo "function iam_delete_user"
        echo "Deletes an AWS Identity and Access Management (IAM) user. You must supply a username:"
        echo "    -u user_name    The name of the user."
        echo ""
    }

    # Retrieve the calling parameters.
    while getopts "u:h" option; do
        case "${option}" in
            u) user_name="${OPTARG}" ;;
                h)

usage
    return 0
    ;;
\?
    echo "Invalid parameter"
usage
    return 1
    ;;
esac

done
export OPTIND=1

if [[ -z "$user_name" ]]; then
    errecho "ERROR: You must provide a username with the -u parameter."
    usage
    return 1
fi

iecho "Parameters:
"
iecho "    User name:   $user_name"
iecho ""

# If the user does not exist, we don't want to try to delete it.
if (! iam_user_exists "$user_name")); then
    errecho "ERROR: A user with that name does not exist in the account."
    return 1
fi

response=$(aws iam delete-user \
    --user-name "$user_name"
)

local error_code=${?}

if [[ $error_code -ne 0 ]]; then
    aws_cli_error_log $error_code
    errecho "ERROR: AWS reports delete-user operation failed.$response"
    return 1
fi

iecho "delete-user response:$response"
iecho

return 0
• For API details, see DeleteUser in AWS CLI Command Reference.

Delete an access key

The following code example shows how to delete an IAM access key.

⚠️ Warning

To avoid security risks, don’t use IAM users for authentication when developing purpose-built software or working with real data. Instead, use federation with an identity provider such as AWS IAM Identity Center.

AWS CLI with Bash script

ℹ️ Note

There’s more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
# function errecho
#
# This function outputs everything sent to it to STDERR (standard error output).
# function errecho() {
#    printf "%s\n" "$*" 1>&2
#
# function iam_delete_access_key
#
# This function deletes an IAM access key for the specified IAM user.
# # Parameters:
#    -u user_name -- The name of the user.
#    -k access_key -- The access key to delete.
```
Returns:

0 - If successful.
1 - If it fails.

Function:

```bash
function iam_delete_access_key() {
    local user_name access_key response
    local option OPTARG # Required to use getopts command in a function.

    # bashsupport disable=BP5008
    function usage() {
        echo "function iam_delete_access_key"
        echo "Deletes an AWS Identity and Access Management (IAM) access key for the specified IAM user"
        echo "  -u user_name    The name of the user."
        echo "  -k access_key   The access key to delete."
        echo ""
    }

    # Retrieve the calling parameters.
    while getopts "u:k:h" option; do
        case "${option}" in
            u) user_name="${OPTARG}" ;;
            k) access_key="${OPTARG}" ;;
            h)
                usage
                return 0
            ;;
            \?)
                echo "Invalid parameter"
                usage
                return 1
            ;;
        esac
    done
    export OPTIND=1

    if [[ -z "$user_name" ]]; then
        errecho "ERROR: You must provide a username with the -u parameter."
        usage
        return 1
    fi

    if [[ -z "$access_key" ]]; then
        errecho "ERROR: You must provide an access key with the -k parameter."
    fi
```
For API details, see [DeleteAccessKey](https://docs.aws.amazon.com/cli/latest/reference/iam/delete-access-key.html) in [AWS CLI Command Reference](https://docs.aws.amazon.com/cli/latest/userguide/cli-aws-index.html).

**Detach a policy from a role**

The following code example shows how to detach an IAM policy from a role.

**AWS CLI with Bash script**

```bash
usage
    return 1
fi

iecho "Parameters:
" iecho "   Username:   $user_name"
iecho "   Access key:   $access_key"
iecho ""

response=$(aws iam delete-access-key \
    --user-name "$user_name" \
    --access-key-id "$access_key")

local error_code=${?}

if [[ $error_code -ne 0 ]]; then
    aws_cli_error_log $error_code
    errecho "ERROR: AWS reports delete-access-key operation failed.\n$response"
    return 1
fi

iecho "delete-access-key response:$response"
iecho 

return 0
}
```

---

**Note**

There's more on GitHub. Find the complete example and learn how to set up and run in the [AWS Code Examples Repository](https://github.com/aws-samples/aws-code-examples).
function errecho() {
    printf "%s
" "$*" 1>&2
}

# function iam_detach_role_policy
#
# This function detaches an IAM policy to a role.
#
# Parameters:
#       -n role_name -- The name of the IAM role.
#       -p policy_ARN -- The IAM policy document ARN.
#
# Returns:
#       0 - If successful.
#       1 - If it fails.
function iam_detach_role_policy() {
    local role_name policy_arn response
    local option OPTARG # Required to use getopts command in a function.

    # bashsupport disable=BP5008
    function usage() {
        echo "function iam_detach_role_policy"
        echo "Detaches an AWS Identity and Access Management (IAM) policy to an IAM role."
        echo "  -n role_name    The name of the IAM role."
        echo "  -p policy_ARN -- The IAM policy document ARN."
        echo ""
    }

    # Retrieve the calling parameters.
    while getopts "n:p:h" option; do
        case "${option}" in
            n) role_name="${OPTARG}" ;;
            p) policy_arn="${OPTARG}" ;;
            h) usage
        esac
    done

    # Other code here...
}
• For API details, see [DetachRolePolicy](#) in *AWS CLI Command Reference*. 
Get a user

The following code example shows how to get an IAM user.

⚠️ **Warning**

To avoid security risks, don't use IAM users for authentication when developing purpose-built software or working with real data. Instead, use federation with an identity provider such as AWS IAM Identity Center.

### AWS CLI with Bash script

ℹ️ **Note**

There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```bash
# function errecho
#
# This function outputs everything sent to it to STDERR (standard error output).
function errecho() {
    printf "%s\n" "$*" 1>&2
}

# function iam_user_exists
#
# This function checks to see if the specified AWS Identity and Access Management (IAM) user already exists.
# Parameters:
#   $1 - The name of the IAM user to check.
# Returns:
#   0 - If the user already exists.
#   1 - If the user doesn't exist.
```
```bash
function iam_user_exists() {
    local user_name
    user_name=$1

    # Check whether the IAM user already exists.
    # We suppress all output - we're interested only in the return code.
    local errors
    errors=$(aws iam get-user \
        --user-name "$user_name" 2>&1 >/dev/null)

    local error_code=${?}

    if [[ $error_code -eq 0 ]]; then
        return 0 # 0 in Bash script means true.
    else
        if [[ $errors != *"error"*(NoSuchEntity)* ]]; then
            aws_cli_error_log $error_code
            errorecho "Error calling iam get-user $errors"
        fi
        return 1 # 1 in Bash script means false.
    fi
}
```


**List a user's access keys**

The following code example shows how to list a user's IAM access keys.

⚠️ **Warning**

To avoid security risks, don't use IAM users for authentication when developing purpose-built software or working with real data. Instead, use federation with an identity provider such as [AWS IAM Identity Center](https://aws.amazon.com/iam/).
### Note

There's more on GitHub. Find the complete example and learn how to set up and run in the [AWS Code Examples Repository](https://github.com/awsdocs/aws-cli).

```bash
# function errecho
#
# This function outputs everything sent to it to STDERR (standard error output).
# function errecho() {
#     printf "%s\n" "$*" 1>&2
#
# function iam_list_access_keys
#
# This function lists the access keys for the specified user.
# # Parameters:
# #       -u user_name   The name of the IAM user.
# # Returns:
# #       access_key_ids
# #     And:
# #     0 - If successful.
# #     1 - If it fails.
# function iam_list_access_keys() {
    # bashsupport disable=BP5008
    function usage() {
        echo "function iam_list_access_keys"
        echo "Lists the AWS Identity and Access Management (IAM) access key IDs for the specified user."
        echo "  -u user_name   The name of the IAM user."
        echo ""
    }
```
local user_name response
local option OPTARG # Required to use getopts command in a function.

# Retrieve the calling parameters.
while getopts "u:h" option; do
  case "${option}" in
    u) user_name="${OPTARG}" ;;
    h)
      usage
      return 0
      ;;
    \?)
      echo "Invalid parameter"
      usage
      return 1
      ;;
  esac
done
export OPTIND=1

if [[ -z "$user_name" ]]; then
  erro echo "ERROR: You must provide a username with the -u parameter."
  usage
  return 1
fi

response=$(aws iam list-access-keys \
  --user-name "$user_name" \
  --output text \
  --query 'AccessKeyMetadata[].AccessKeyId')

local error_code=${?}

if [[ $error_code -ne 0 ]]; then
  aws_cli_error_log $error_code
  erro echo "ERROR: AWS reports list-access-keys operation failed.$response"
  return 1
fi

echo "$response"

return 0
}
List users

The following code example shows how to list IAM users.

⚠️ Warning

To avoid security risks, don't use IAM users for authentication when developing purpose-built software or working with real data. Instead, use federation with an identity provider such as AWS IAM Identity Center.

AWS CLI with Bash script

ℹ️ Note

There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```
# function errecho
#
# This function outputs everything sent to it to STDERR (standard error output).
function errecho() {
    printf "%s\n" "$*" 1>&2
}

# function iam_list_users
#
# List the IAM users in the account.
#
# Returns:
#    The list of users names
#    And:
#    0 - If the user already exists.
#    1 - If the user doesn't exist.
```
function iam_list_users() {
    local option OPTARG # Required to use getopts command in a function.
    local error_code
    # bashsupport disable=BP5008
    function usage() {
        echo "function iam_list_users"
        echo "Lists the AWS Identity and Access Management (IAM) user in the account."
        echo ""
    }

    # Retrieve the calling parameters.
    while getopts "h" option; do
        case "${option}" in
        h)
            usage
            return 0
            ;;
            \?)
            echo "Invalid parameter"
            usage
            return 1
            ;;
        esac
    esac
    done
    export OPTIND=1
    local response

    response=$(aws iam list-users \
        --output text \
        --query "Users[].UserName")
    error_code=${?}

    if [[ $error_code -ne 0 ]]; then
        aws_cli_error_log $error_code
        errecho "ERROR: AWS reports list-users operation failed.$response"
        return 1
    fi

    errecho "$response"
    return 0
}
Scenarios

Create a user and assume a role

The following code example shows how to create a user and assume a role.

⚠️ Warning

To avoid security risks, don’t use IAM users for authentication when developing purpose-built software or working with real data. Instead, use federation with an identity provider such as AWS IAM Identity Center.

- Create a user with no permissions.
- Create a role that grants permission to list Amazon S3 buckets for the account.
- Add a policy to let the user assume the role.
- Assume the role and list S3 buckets using temporary credentials, then clean up resources.

AWS CLI with Bash script

Note

There’s more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```bash
# function iam_create_user_assume_role
#
# Scenario to create an IAM user, create an IAM role, and apply the role to the user.
#
# "IAM access" permissions are needed to run this code.
# "STS assume role" permissions are needed to run this code. (Note: It might be necessary to...
```
function iam_create_user_assume_role() {
  if [ "$IAM_OPERATIONS_SOURCED" != "True" ]; then
    source ./iam_operations.sh
  fi
}

echo_repeat "**" 88
echo "Welcome to the IAM create user and assume role demo."
echo
echo "This demo will create an IAM user, create an IAM role, and apply the role to
the user."

user_name=$get_input_result

local user_arn
user_arn=$(iam_create_user -u "$user_name")

local access_key_response
access_key_response=$(iam_create_user_access_key -u "$user_name")

if [ " rented " ]; then
  echo "$user_arn"
  echo "The user failed to create. This demo will exit."
  return 1

  local access_key_response
  access_key_response=$(iam_create_user_access_key -u "$user_name")

  if [ " rented " ]; then
    erroecho "$user_arn"
    erroecho "The access key failed to create. This demo will exit."
    clean_up "$user_name"
IFS="'	 ' read -r -a access_key_values <<<"$access_key_response"
local key_name=${access_key_values[0]}
local key_secret=${access_key_values[1]}

echo "Created access key named $key_name"

echo "Wait 10 seconds for the user to be ready."
sleep 10
echo_repeat "*" 88
echo

local iam_role_name
iam_role_name=$(generate_random_name "test-role")
echo "Creating a role named $iam_role_name with user $user_name as the principal."

local assume_role_policy_document="{
   "Version": "2012-10-17",
   "Statement": [{
      "Effect": "Allow",
      "Principal": {"AWS": "$user_arn"},
      "Action": "sts:AssumeRole"
   }]
}

local role_arn
role_arn=$(iam_create_role -n "$iam_role_name" -p "$assume_role_policy_document")

# shellcheck disable=SC2181
if [ $? == 0 ]; then
   echo "Created IAM role named $iam_role_name"
else
   errecho "The role failed to create. This demo will exit."
clean_up "$user_name" "$key_name"
   return 1
fi

local policy_name
policy_name=$(generate_random_name "test-policy")
local policy_document="{
   "Version": "2012-10-17",
   "Statement": []
}"
local policy_arn
policy_arn=$(iam_create_policy -n "$policy_name" -p "$policy_document")
# shellcheck disable=SC2181
if [[ $? == 0 ]]; then
echo "Created IAM policy named $policy_name"
else
  errecho "The policy failed to create."
  clean_up "$user_name" "$key_name" "$iam_role_name"
  return 1
fi

if (iam_attach_role_policy -n "$iam_role_name" -p "$policy_arn"); then
  echo "Attached policy $policy_arn to role $iam_role_name"
else
  errecho "The policy failed to attach."
  clean_up "$user_name" "$key_name" "$iam_role_name" "$policy_arn"
  return 1
fi

local assume_role_policy_document="{
  "Version": "2012-10-17",
  "Statement": [{
    "Effect": "Allow",
    "Action": "sts:AssumeRole",
    "Resource": "$role_arn"}]]"

local assume_role_policy_name
assume_role_policy_name=$(generate_random_name "test-assume-role-")

# shellcheck disable=SC2181
local assume_role_policy_arn
assume_role_policy_arn=$(iam_create_policy -n "$assume_role_policy_name" -p "$assume_role_policy_document")
# shellcheck disable=SC2181
if [ $? == 0 ]; then
  echo "Created IAM policy named $assume_role_policy_name for sts assume role"
else
  errecho "The policy failed to create."
  clean_up "$user_name" "$key_name" "$iam_role_name" "$policy_arn" "$policy_arn"
  return 1
fi
echo "Wait 10 seconds to give AWS time to propagate these new resources and connections."
sleep 10
echo_repeat "*" 88
echo

echo "Try to list buckets without the new user assuming the role."
echo_repeat "*" 88
echo

# Set the environment variables for the created user.
# bashsupport disable=BP2001
export AWS_ACCESS_KEY_ID=$key_name
# bashsupport disable=BP2001
export AWS_SECRET_ACCESS_KEY=$key_secret

local buckets
buckets=$(s3_list_buckets)

# shellcheck disable=SC2181
if [ $? == 0 ]; then
    local bucket_count
    bucket_count=$(echo "$buckets" | wc -w | xargs)
    echo "There are $bucket_count buckets in the account. This should not have happened."
else
    errecho "Because the role with permissions has not been assumed, listing buckets failed."
fi

echo
echo_repeat "*" 88
echo "Now assume the role $iam_role_name and list the buckets."
echo_repeat "*" 88
echo

local credentials

credentials=$(sts_assume_role -r "$role_arn" -n "AssumeRoleDemoSession")
# shellcheck disable=SC2181
if [ $? == 0 ]; then
    echo "Assumed role $iam_role_name"
else
    errecho "Failed to assume role."
    export AWS_ACCESS_KEY_ID=""
    export AWS_SECRET_ACCESS_KEY=""
    clean_up "$user_name" "$key_name" "$iam_role_name" "$policy_arn" "$policy_arn"
    "$assume_role_policy_arn"
    return 1
fi

IFS='\t ' read -r -a credentials <<<"$credentials"

echo AWS_ACCESS_KEY_ID=${credentials[0]}
export AWS_SECRET_ACCESS_KEY=${credentials[1]}
# bashsupport disable=BP2001
export AWS_SESSION_TOKEN=${credentials[2]}

buckets=$(s3_list_buckets)

# shellcheck disable=SC2181
if [ $? == 0 ]; then
    local bucket_count
    bucket_count=$(echo "$buckets" | wc -w | xargs)
    echo "There are $bucket_count buckets in the account. Listing buckets succeeded because of "
    echo "the assumed role."
else
    errecho "Failed to list buckets. This should not happen."
    export AWS_ACCESS_KEY_ID=""
    export AWS_SECRET_ACCESS_KEY=""
    export AWS_SESSION_TOKEN=""
    clean_up "$user_name" "$key_name" "$iam_role_name" "$policy_arn" "$policy_arn"
    "$assume_role_policy_arn"
    return 1
fi

local result=0
export AWS_ACCESS_KEY_ID=""
export AWS_SECRET_ACCESS_KEY=""

echo
echo_repeat "*" 88
echo "The created resources will now be deleted."
echo_repeat "*" 88
echo
The IAM functions used in this scenario.

```
# function iam_user_exists
#
# This function checks to see if the specified AWS Identity and Access Management
# (IAM) user already exists.
#
# Parameters:
#       $1 - The name of the IAM user to check.
#
# Returns:
#       0 - If the user already exists.
#       1 - If the user doesn't exist.

function iam_user_exists() {
    local user_name
    user_name=$1

    # Check whether the IAM user already exists.
    # We suppress all output - we're interested only in the return code.

    local errors
    errors=$(aws iam get-user \  
              --user-name "$user_name" 2>&1 >/dev/null)

    local error_code=${?}

    if [[ $error_code -eq 0 ]]; then
        return 0 # 0 in Bash script means true.
    fi
}
```
else
    if [[ $errors != */"error"*/"(NoSuchEntity)"* ]]; then
        aws_cli_error_log $error_code
        errecho "Error calling iam get-user $errors"
    fi

    return 1 # 1 in Bash script means false.
fi
}

###############################################################################
# function iam_create_user
#
# This function creates the specified IAM user, unless
# it already exists.
#
# Parameters:
#    -u user_name -- The name of the user to create.
#
# Returns:
#    - The ARN of the user.
#      And:
#    0 - If successful.
#    1 - If it fails.
###############################################################################
function iam_create_user() {
    local user_name response
    local option OPTARG # Required to use getopts command in a function.

    # bashsupport disable=BP5008
    function usage() {
        echo "function iam_create_user"
        echo "Creates an WS Identity and Access Management (IAM) user. You must supply a username:"
        echo "  -u user_name    The name of the user. It must be unique within the account."
        echo "  "
    }

    # Retrieve the calling parameters.
    while getopts "u:h" option; do
        case "$option" in
            u) user_name="$OPTARG" ;;
            h)

            # Read in all of the parameters.
            while read line; do
                # Split the line into parameters.
                IFS=' ' read -r param value <<< $line
                # Process each parameter.
                case $param in
                    "-u"
                        user_name="$value"
                esac
            done
        esac
    esac

    # Call the AWS CLI to create the user.
    aws-cli iam create-user --user-name $user_name

    # Check for errors.
    if [[ $errors != */"error"*/"(NoSuchEntity)"* ]]; then
        aws_cli_error_log $error_code
        errecho "Error creating user $errors"
    fi

    # Return the ARN of the user.
    return 0 $arn
}
usage
  return 0
  ;;

\?)
  echo "Invalid parameter"
  usage
  return 1
  ;;
esac
done
export OPTIND=1

if [[ -z "$user_name" ]]; then
  errecho "ERROR: You must provide a username with the -u parameter."
  usage
  return 1
fi

iecho "Parameters:\n"
iecho "  User name:   $user_name"
iecho ""

# If the user already exists, we don't want to try to create it.
if (iam_user_exists "$user_name"); then
  errecho "ERROR: A user with that name already exists in the account."
  return 1
fi

response=$(aws iam create-user --user-name "$user_name" \
  --output text \
  --query 'User.Arn')

local error_code=${?}

if [[ $error_code -ne 0 ]]; then
  aws_cli_error_log $error_code
  errecho "ERROR: AWS reports create-user operation failed.$response"
  return 1
fi

echo "$response"

return 0
}
# function iam_create_user_access_key
#
# This function creates an IAM access key for the specified user.
#
# Parameters:
#       -u user_name -- The name of the IAM user.
#       [-f file_name] -- The optional file name for the access key output.
#
# Returns:
#       [access_key_id access_key_secret]
#     And:
#       0 - If successful.
#       1 - If it fails.

function iam_create_user_access_key() {
    local user_name file_name response
    local option OPTARG # Required to use getopts command in a function.

    # bashsupport disable=BP5008
    function usage() {
        echo "function iam_create_user_access_key"
        echo "Creates an AWS Identity and Access Management (IAM) key pair."
        echo "  -u user_name The name of the IAM user."
        echo "  [-f file_name] Optional file name for the access key output."
        echo ""
    }

    # Retrieve the calling parameters.
    while getopts "u:f:h" option; do
        case "$option" in
            u) user_name="${OPTARG}" ;;
            f) file_name="${OPTARG}" ;;
            h)
                usage
                return 0
                ;;
            \\?)
                echo "Invalid parameter"
                usage
                return 1
                ;;
        esac
    esac
}
done
export OPTIND=1

if [[ -z "$user_name" ]]; then
    errecho "ERROR: You must provide a username with the -u parameter."
    usage
    return 1
fi

response=$(aws iam create-access-key \
   --user-name "$user_name" \
   --output text)

local error_code=${?}

if [[ $error_code -ne 0 ]]; then
    aws_cli_error_log $error_code
    errecho "ERROR: AWS reports create-access-key operation failed.$response"
    return 1
fi

if [[ -n "$file_name" ]]; then
    echo "$response" >"$file_name"
fi

local key_id key_secret
# shellcheck disable=SC2086
key_id=$(echo $response | cut -f 2 -d ' ')
# shellcheck disable=SC2086
key_secret=$(echo $response | cut -f 4 -d ' ')

echo "$key_id $key_secret"

return 0

####################################################
# function iam_create_role
#
# This function creates an IAM role.
#
# Parameters:
#   -n role_name -- The name of the IAM role.
#   -p policy_json -- The assume role policy document.

 Actions and scenarios
# Returns:
#     The ARN of the role.
#     And:
#     0 - If successful.
#     1 - If it fails.

function iam_create_role() {
    local role_name policy_document response
    local option OPTARG # Required to use getopts command in a function.

    # bashsupport disable=BP5008
    function usage() {
        echo "function iam_create_user_access_key"
        echo "Creates an AWS Identity and Access Management (IAM) role."
        echo "  -n role_name   The name of the IAM role."
        echo "  -p policy_json -- The assume role policy document."
        echo ""
    }

    # Retrieve the calling parameters.
    while getopts "n:p:h" option; do
        case "${option}" in
            n) role_name="${OPTARG}" ;;
            p) policy_document="${OPTARG}" ;;
            h)
                usage
                return 0
                ;;
            \?)
                echo "Invalid parameter"
                usage
                return 1
                ;;
        esac
    done
    export OPTIND=1

    if [[ -z "$role_name" ]]; then
        errecho "ERROR: You must provide a role name with the -n parameter."
        usage
        return 1
    fi
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if [[ -z "$policy_document" ]]; then
errecho "ERROR: You must provide a policy document with the -p parameter."
usage
return 1
fi
response=$(aws iam create-role \
--role-name "$role_name" \
--assume-role-policy-document "$policy_document" \
--output text \
--query Role.Arn)
local error_code=${?}
if [[ $error_code -ne 0 ]]; then
aws_cli_error_log $error_code
errecho "ERROR: AWS reports create-role operation failed.\n$response"
return 1
fi
echo "$response"
return 0
}
###############################################################################
# function iam_create_policy
#
# This function creates an IAM policy.
#
# Parameters:
#
-n policy_name -- The name of the IAM policy.
#
-p policy_json -- The policy document.
#
# Returns:
#
0 - If successful.
#
1 - If it fails.
###############################################################################
function iam_create_policy() {
local policy_name policy_document response
local option OPTARG # Required to use getopts command in a function.
# bashsupport disable=BP5008
function usage() {

Actions and scenarios

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echo "function iam_create_policy"
echo "Creates an AWS Identity and Access Management (IAM) policy."
echo " -n policy_name   The name of the IAM policy."
echo " -p policy_json -- The policy document."
echo ""
}

# Retrieve the calling parameters.
while getopts "n:p:h" option; do
    case "${option}" in
        n) policy_name="${OPTARG}" ;;
        p) policy_document="${OPTARG}" ;;
        h)
            usage
            return 0
            ;;
        \?)
            echo "Invalid parameter"
            usage
            return 1
            ;;
    esac
done
export OPTIND=1

if [[ -z "$policy_name" ]]; then
    errecho "ERROR: You must provide a policy name with the -n parameter."
    usage
    return 1
fi

if [[ -z "$policy_document" ]]; then
    errecho "ERROR: You must provide a policy document with the -p parameter."
    usage
    return 1
fi

response=$(aws iam create-policy
    --policy-name "$policy_name"
    --policy-document "$policy_document"
    --output text
    --query Policy.Arn)

local error_code=${?}
if [[ $error_code -ne 0 ]]; then
    aws_cli_error_log $error_code
    errecho "ERROR: AWS reports create-policy operation failed.\n$response"
    return 1
fi

echo "$response"
}

######################################################################
# function iam_attach_role_policy
#
# This function attaches an IAM policy to a role.
#
# Parameters:
#    -n role_name -- The name of the IAM role.
#    -p policy_ARN -- The IAM policy document ARN.
#
# Returns:
#    0 - If successful.
#    1 - If it fails.
######################################################################
function iam_attach_role_policy() {
    local role_name policy_arn response
    local option OPTARG # Required to use getopts command in a function.

    # bashsupport disable=BP5008
    function usage() {
        echo "function iam_attach_role_policy"
        echo "Attaches an AWS Identity and Access Management (IAM) policy to an IAM role."
        echo "  -n role_name  The name of the IAM role."
        echo "  -p policy_ARN  -- The IAM policy document ARN."
        echo ""
    }

    # Retrieve the calling parameters.
    while getopts "n:p:h" option; do
        case "$option" in
            n) role_name="${OPTARG}" ;;
            p) policy_arn="${OPTARG}" ;;
            h)
                usage
                exit 0
                ;;
            *) errecho "ERROR: Unknown option "$option"" && exit 1
        esac
    esac

    # Continue with the function implementation.
    # ...
Action and scenarios

return 0

#?)
    echo "Invalid parameter"
    usage
    return 1

esac
done
export OPTIND=1

if [[ -z "$role_name" ]]; then
    errecho "ERROR: You must provide a role name with the -n parameter."
    usage
    return 1
fi

if [[ -z "$policy_arn" ]]; then
    errecho "ERROR: You must provide a policy ARN with the -p parameter."
    usage
    return 1
fi

response=$(aws iam attach-role-policy \
    --role-name "$role_name" \
    --policy-arn "$policy_arn"
)

local error_code=${?}

if [[ $error_code -ne 0 ]]; then
    aws_cli_error_log $error_code
    errecho "ERROR: AWS reports attach-role-policy operation failed.\n$response"
    return 1
fi

echo "$response"

return 0

###############################################################################
# function iam_detach_role_policy
#
# This function detaches an IAM policy to a tole.
# Parameters:
#       -n role_name -- The name of the IAM role.
#       -p policy_ARN -- The IAM policy document ARN.
#
# Returns:
#       0 - If successful.
#       1 - If it fails.

function iam_detach_role_policy() {
    local role_name policy_arn response
    local option OPTARG # Required to use getopts command in a function.

    function usage() {
        echo "function iam_detach_role_policy"
        echo "Detaches an AWS Identity and Access Management (IAM) policy to an IAM role."
        echo "  -n role_name   The name of the IAM role."
        echo "  -p policy_ARN -- The IAM policy document ARN."
        echo ""
    }

    # Retrieve the calling parameters.
    while getopts "n:p:h" option; do
        case "${option}" in
            n) role_name="${OPTARG}" ;;
            p) policy_arn="${OPTARG}" ;;
            h)
                usage
                return 0
                ;;
            \?)
                echo "Invalid parameter"
                usage
                return 1
                ;;
        esac
    done

    export OPTIND=1

    if [[ -z "$role_name" ]]; then
        errecho "ERROR: You must provide a role name with the -n parameter."
        usage
if [[ -z "$policy_arn" ]]; then
    errecho "ERROR: You must provide a policy ARN with the -p parameter."
    usage
    return 1
fi

response=$(aws iam detach-role-policy \
        --role-name "$role_name" \ 
        --policy-arn "$policy_arn")

local error_code=${?}
if [[ $error_code -ne 0 ]]; then
    aws_cli_error_log $error_code
    errecho "ERROR: AWS reports detach-role-policy operation failed.\n$response"
    return 1
fi

echo "$response"

return 0

function iam_delete_policy() {
    local policy_arn response
    local option OPTARG # Required to use getopts command in a function.

    # bashsupport disable=BP5008
    function usage() {

    # function iam_delete_policy
    # This function deletes an IAM policy.
    # Parameters:
    # -n policy_arn -- The name of the IAM policy arn.
    # Returns:
    # 0 - If successful.
    # 1 - If it fails.

    }}
echo "function iam_delete_policy"
echo "Deletes an AWS Identity and Access Management (IAM) policy"
echo "  -n policy_arn -- The name of the IAM policy arn."
echo ""
}

# Retrieve the calling parameters.
while getopts "n:h" option; do
    case "${option}" in
        n) policy_arn="${OPTARG}" ;;
        h)
            usage
            return 0
            ;;
        \?)
            echo "Invalid parameter"
            usage
            return 1
            ;;
        esac
    done
export OPTIND=1

if [[ -z "$policy_arn" ]]; then
    errecho "ERROR: You must provide a policy arn with the -n parameter."
    usage
    return 1
fi

iecho "Parameters:\n"
iecho "    Policy arn:  $policy_arn"
iecho ""

response=$(aws iam delete-policy \
    --policy-arn "$policy_arn")

local error_code=${?}

if [[ $error_code -ne 0 ]]; then
    aws_cli_error_log $error_code
    errecho "ERROR: AWS reports delete-policy operation failed.\n$response"
    return 1
fi

function iam_delete_role() {
    local role_name response
    local option OPTARG # Required to use getopts command in a function.

    # bashsupport disable=BP5008
    function usage() {
        echo "function iam_delete_role"
        echo "Deletes an AWS Identity and Access Management (IAM) role"
        echo "  -n role_name -- The name of the IAM role."
        echo ""
    }

    # Retrieve the calling parameters.
    while getopts "n:h" option; do
        case "$option" in
        n) role_name="${OPTARG}" ;;
        h) usage
            return 0
            ;;
        \?)
    esac
        echo "Invalid parameter"
    usage
    return 1
    ;;
    esac
}

export OPTIND=1

echo "role_name:$role_name"
if [[ -z "$role_name" ]]; then
  errecho "ERROR: You must provide a role name with the -n parameter."
  usage
  return 1
fi

iecho "Parameters:
"
iecho "  Role name:  $role_name"
ifiecho ""

response=$(aws iam delete-role \
   --role-name "$role_name")

local error_code=${?}

if [[ $error_code -ne 0 ]]; then
  aws_cli_error_log $error_code
  errecho "ERROR: AWS reports delete-role operation failed.\n$response"
  return 1
fi

iecho "delete-role response:$response"
iecho

    return 0
  }

# function iam_delete_access_key
#
# This function deletes an IAM access key for the specified IAM user.
#
# Parameters:
#   -u user_name -- The name of the user.
#   -k access_key -- The access key to delete.
#
# Returns:
#   0 - If successful.
#   1 - If it fails.
function iam_delete_access_key() {
    local user_name access_key response
    local option OPTARG # Required to use getopts command in a function.

    # bashsupport disable=BP5008
    function usage() {
        echo "function iam_delete_access_key"
        echo "Deletes an AWS Identity and Access Management (IAM) access key for the specified IAM user"
        echo "  -u user_name    The name of the user."
        echo "  -k access_key   The access key to delete."
        echo ""
    }

    # Retrieve the calling parameters.
    while getopts "u:k:h" option; do
        case "${option}" in
            u) user_name="${OPTARG}" ;;
            k) access_key="${OPTARG}" ;;
            h) usage
               usage
               return 0
               ;;
            \?) echo "Invalid parameter"
               usage
               return 1
               ;;
             esac
        esac
    done
    export OPTIND=1
    if [[ -z "$user_name" ]]; then
        errecho "ERROR: You must provide a username with the -u parameter."
        usage
        return 1
    fi

    if [[ -z "$access_key" ]]; then
        errecho "ERROR: You must provide an access key with the -k parameter."
        usage
        return 1
    fi
iecho "Parameters:
"  
ifecho "    Username: $user_name"
ifecho "    Access key: $access_key"
ifecho ""
response=$(aws iam delete-access-key 
    --user-name "$user_name" 
    --access-key-id "$access_key")

local error_code=${?}

if [[ $error_code -ne 0 ]]; then
    aws_cli_error_log $error_code
    errecho "ERROR: AWS reports delete-access-key operation failed.
$response"
    return 1
fi

ifecho "delete-access-key response:$response"
ifecho

return 0
}
echo "  -u user_name    The name of the user."
   echo ""
}

# Retrieve the calling parameters.
while getopts "u:h" option; do
   case "-${option}" in
      u) user_name="${OPTARG}" ;;
      h)
         usage
         return 0
      ;;
      \?)
         echo "Invalid parameter"
         usage
         return 1
      ;;
      esac
   done
export OPTIND=1

if [[ -z "$user_name" ]]; then
   errorecho "ERROR: You must provide a username with the -u parameter."
   usage
   return 1
fi

echo "Parameters:\n"
echo "    User name:   $user_name"
echo ""

# If the user does not exist, we don't want to try to delete it.
if (! iam_user_exists "$user_name"); then
   errorecho "ERROR: A user with that name does not exist in the account."
   return 1
fi

response=$(aws iam delete-user \
     --user-name "$user_name"
)

local error_code=${?}

if [[ $error_code -ne 0 ]]; then
   aws_cli_error_log $error_code
• For API details, see the following topics in *AWS CLI Command Reference*.
  
  • [AttachRolePolicy](#)
  
  • [CreateAccessKey](#)
  
  • [CreatePolicy](#)
  
  • [CreateRole](#)
  
  • [CreateUser](#)
  
  • [DeleteAccessKey](#)
  
  • [DeletePolicy](#)
  
  • [DeleteRole](#)
  
  • [DeleteUser](#)
  
  • [DeleteUserPolicy](#)
  
  • [DetachRolePolicy](#)
  
  • [PutUserPolicy](#)

**Amazon S3 examples using AWS CLI with Bash script**

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Bash script with Amazon S3.

*Actions* are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

*Scenarios* are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.
Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

Topics

• Actions
• Scenarios

Actions

Copy an object from one bucket to another

The following code example shows how to copy an S3 object from one bucket to another.

AWS CLI with Bash script

Note

There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.

```bash
# function errecho
#
# This function outputs everything sent to it to STDERR (standard error output).

function errecho() {
  printf "\%s\n" "$*" 1>&2
}

# function copy_item_in_bucket
#
# This function creates a copy of the specified file in the same bucket.
#
# Parameters:
#   $1 - The name of the bucket to copy the file from and to.
#   $2 - The key of the source file to copy.
#   $3 - The key of the destination file.
#
# Returns:
```
function copy_item_in_bucket() {
    local bucket_name=$1
    local source_key=$2
    local destination_key=$3
    local response

    response=$(aws s3api copy-object \
        --bucket "$bucket_name" \
        --copy-source "$bucket_name/$source_key" \
        --key "$destination_key")

    # shellcheck disable=SC2181
    if [[ $? -ne 0 ]]; then
        errecho "ERROR: AWS reports s3api copy-object operation failed.\n$response"
        return 1
    fi
}

• For API details, see CopyObject in AWS CLI Command Reference.

Create a bucket

The following code example shows how to create an S3 bucket.

AWS CLI with Bash script

Note

There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.
AWS Command Line Interface

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function iecho() {
if [[ $VERBOSE == true ]]; then
echo "$@"
fi
}
###############################################################################
# function errecho
#
# This function outputs everything sent to it to STDERR (standard error output).
###############################################################################
function errecho() {
printf "%s\n" "$*" 1>&2
}
###############################################################################
# function create-bucket
#
# This function creates the specified bucket in the specified AWS Region, unless
# it already exists.
#
# Parameters:
#
-b bucket_name -- The name of the bucket to create.
#
-r region_code -- The code for an AWS Region in which to
#
create the bucket.
#
# Returns:
#
The URL of the bucket that was created.
#
And:
#
0 - If successful.
#
1 - If it fails.
###############################################################################
function create_bucket() {
local bucket_name region_code response
local option OPTARG # Required to use getopts command in a function.
# bashsupport disable=BP5008
function usage() {
echo "function create_bucket"
echo "Creates an Amazon S3 bucket. You must supply a bucket name:"
echo " -b bucket_name
The name of the bucket. It must be globally unique."
echo " [-r region_code]
The code for an AWS Region in which the bucket is
created."
echo ""

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# Retrieve the calling parameters.
while getopts "b:r:h" option; do
    case "${option}" in
        b) bucket_name="${OPTARG}" ;;
        r) region_code="${OPTARG}" ;;
        h)
            usage
            return 0
            ;;
        
        .PER
            echo "Invalid parameter"
            usage
            return 1
            ;;
        esac
done

if [[ -z "$bucket_name" ]]; then
    errorecho "ERROR: You must provide a bucket name with the -b parameter."
    usage
    return 1
fi

local bucket_config_arg
# A location constraint for "us-east-1" returns an error.
if [[ -n "$region_code" ]] && [[ "$region_code" != "us-east-1" ]]; then
    bucket_config_arg="--create-bucket-configuration LocationConstraint="$region_code"
fi

iecho "Parameters:

iecho "   Bucket name:   $bucket_name"
iecho "   Region code:   $region_code"
iecho ""

# If the bucket already exists, we don't want to try to create it.
if (bucket_exists "$bucket_name"); then
    errorecho "ERROR: A bucket with that name already exists. Try again."
    return 1
fi

# shellcheck disable=SC2086
response=$(aws s3api create-bucket
   --bucket "$bucket_name"
   $bucket_config_arg)

# shellcheck disable=SC2181
if [[ $? -ne 0 ]]; then
   errecho "ERROR: AWS reports create-bucket operation failed.\n$response"
   return 1
fi

• For API details, see CreateBucket in AWS CLI Command Reference.

Delete an empty bucket

The following code example shows how to delete an empty S3 bucket.

AWS CLI with Bash script

Note

There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.
$1 - The name of the bucket.

Returns:
0 - If successful.
1 - If it fails.

function delete_bucket() {
    local bucket_name=$1
    local response

    response=$(aws s3api delete-bucket
        --bucket "$bucket_name")

    # shellcheck disable=SC2181
    if [[ $? -ne 0 ]]; then
        errecho "ERROR: AWS reports s3api delete-bucket failed.\n$response"
        return 1
    fi
}

For API details, see DeleteBucket in AWS CLI Command Reference.

Delete an object

The following code example shows how to delete an S3 object.

AWS CLI with Bash script

Note
There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.
• For API details, see `DeleteObject` in AWS CLI Command Reference.

Delete multiple objects

The following code example shows how to delete multiple objects from an S3 bucket.
# function errecho
#
# This function outputs everything sent to it to STDERR (standard error output).
function errecho() {
  printf \"%s\n\" "$*" 1>&2
}

# function delete_items_in_bucket
#
# This function deletes the specified list of keys from the specified bucket.
# Parameters:
#   $1 - The name of the bucket.
#   $2 - A list of keys in the bucket to delete.
# Returns:
#   0 - If successful.
#   1 - If it fails.
function delete_items_in_bucket() {
  local bucket_name=$1
  local keys=$2
  local response

  # Create the JSON for the items to delete.
  local delete_items=
  delete_items="\"{\"Objects\":[]\""
  for key in $keys; do
    delete_items="$delete_items\"Key\": "$key\"",
  done
  delete_items=${delete_items%?} # Remove the final comma.

  # Do the delete.
  aws s3 rm --delete-if-empty $bucket_name $delete_items
  # $response
delete_items="\$
delete_items"])"

response=$(aws s3api delete-objects \
--bucket "$bucket_name" \
--delete "$delete_items"
)

# shellcheck disable=SC2181
if [[ $? -ne 0 ]]; then
  errorecho "ERROR: AWS reports s3api delete-object operation failed.\n$response"
  return 1
fi

• For API details, see [DeleteObjects](https://aws.amazon.com/cli/command-reference) in *AWS CLI Command Reference*.

### Determine the existence of a bucket

The following code example shows how to determine the existence of an S3 bucket.

##### AWS CLI with Bash script

```bash
# function bucket_exists
#
# This function checks to see if the specified bucket already exists.
#
# Parameters:
#   $1 - The name of the bucket to check.
#
# Returns:
#   0 - If the bucket already exists.
#   1 - If the bucket doesn't exist.

function bucket_exists()
{
  local bucket_name
```
bucket_name=$1

# Check whether the bucket already exists.
# We suppress all output - we're interested only in the return code.

if aws s3api head-bucket \
   --bucket "$bucket_name" \
   >/dev/null 2>&1; then
   return 0 # 0 in Bash script means true.
else
   return 1 # 1 in Bash script means false.
fi

• For API details, see HeadBucket in AWS CLI Command Reference.

Get an object from a bucket

The following code example shows how to read data from an object in an S3 bucket.

AWS CLI with Bash script

 surgeries

 Note

There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.
function download_object_from_bucket() {
    local bucket_name=$1
    local destination_file_name=$2
    local object_name=$3
    local response

    response=$(aws s3api get-object \
        --bucket "$bucket_name" \
        --key "$object_name" \
        "$destination_file_name")

    # shellcheck disable=SC2181
    if [[ $? -ne 0 ]]; then
        errecho "ERROR: AWS reports put-object operation failed.\n$response"
        return 1
    fi
}

• For API details, see GET_OBJECT in AWS CLI Command Reference.

List objects in a bucket

The following code example shows how to list objects in an S3 bucket.

AWS CLI with Bash script

Note

There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.
# function errecho
#
# This function outputs everything sent to it to STDERR (standard error output).
#
# function errecho() {
#    printf "%s\n " "$*" 1>&2
#

# function list_items_in_bucket
#
# This function displays a list of the files in the bucket with each file's
# size. The function uses the --query parameter to retrieve only the key and
# size fields from the Contents collection.
#
# Parameters:
#       $1 - The name of the bucket.
#
# Returns:
#       The list of files in text format.
#       And:
#       0 - If successful.
#       1 - If it fails.
#
# function list_items_in_bucket() {
#    local bucket_name=$1
#    local response

response=$(aws s3api list-objects
     --bucket "$bucket_name"
     --output text
     --query 'Contents[].{Key: Key, Size: Size}')

    # shellcheck disable=SC2181
    if [[ $response == * ]]; then
        echo "$response"
    else
        errecho "ERROR: AWS reports s3api list-objects operation failed.\n$response"
        return 1
    fi
}
For API details, see ListObjectsV2 in AWS CLI Command Reference.

Upload an object to a bucket

The following code example shows how to upload an object to an S3 bucket.

AWS CLI with Bash script

```bash
# function errecho
#
# This function outputs everything sent to it to STDERR (standard error output).
#
function errecho() {
    printf "%s\n" "$*" 1>&2
}

# function copy_file_to_bucket
#
# This function creates a file in the specified bucket.
#
# Parameters:
#    $1 - The name of the bucket to copy the file to.
#    $2 - The path and file name of the local file to copy to the bucket.
#    $3 - The key (name) to call the copy of the file in the bucket.
#
# Returns:
#    0 - If successful.
#    1 - If it fails.

function copy_file_to_bucket() {
    local response bucket_name source_file destination_file_name
    bucket_name=$1
    source_file=$2
    destination_file_name=$3
```
response=$(aws s3api put-object \ 
--bucket "$bucket_name" \ 
--body "$source_file" \ 
--key "$destination_file_name")

# shellcheck disable=SC2181
if [[ ${?} -ne 0 ]]; then
  errecho "ERROR: AWS reports put-object operation failed.\n$response"
  return 1
fi

• For API details, see PutObject in AWS CLI Command Reference.

Scenarios

Get started with buckets and objects

The following code example shows how to:

• Create a bucket and upload a file to it.
• Download an object from a bucket.
• Copy an object to a subfolder in a bucket.
• List the objects in a bucket.
• Delete the bucket objects and the bucket.

AWS CLI with Bash script

Note

There's more on GitHub. Find the complete example and learn how to set up and run in the AWS Code Examples Repository.
# This function creates, copies, and deletes S3 buckets and objects.
#
# Returns:
#       0 - If successful.
#       1 - If an error occurred.
#******************************************************************************
function s3_getting_started() {
    if [ "$BUCKET_OPERATIONS_SOURCED" != "True" ]; then
        cd bucket-lifecycle-operations || exit
        source ./bucket_operations.sh
        cd ..
    fi
}

echo_repeat "***" 88
echo "Welcome to the Amazon S3 getting started demo."

local bucket_name
bucket_name=$(generate_random_name "doc-example-bucket")

local region_code
region_code=$(aws configure get region)

if create_bucket -b "$bucket_name" -r "$region_code"; then
    echo "Created demo bucket named $bucket_name"
else
    errecho "The bucket failed to create. This demo will exit."
    return 1
fi

local file_name
while [ -z "$file_name" ]; do
    echo -n "Enter a file you want to upload to your bucket: "
    get_input
    file_name=$get_input_result

    if [ ! -f "$file_name" ]; then
        echo "Could not find file $file_name. Are you sure it exists?"
        file_name=""
    fi
done
local key
key="$(basename "$file_name")"

local result=0
if copy_file_to_bucket "$bucket_name" "$file_name" "$key"; then
    echo "Uploaded file $file_name into bucket $bucket_name with key $key."
else
    result=1
fi

local destination_file
destination_file="$file_name.download"
if yes_no_input "Would you like to download $key to the file $destination_file? (y/n) "; then
    if download_object_from_bucket "$bucket_name" "$destination_file" "$key"; then
        echo "Downloaded $key in the bucket $bucket_name to the file $destination_file."
    else
        result=1
    fi
fi

if yes_no_input "Would you like to copy $key a new object key in your bucket? (y/n) "; then
    local to_key
to_key="demo/$key"
    if copy_item_in_bucket "$bucket_name" "$key" "$to_key"; then
        echo "Copied $key in the bucket $bucket_name to the $to_key."
    else
        result=1
    fi
fi

local bucket_items
bucket_items=$(list_items_in_bucket "$bucket_name")

# shellcheck disable=SC2181
if [[ $? -ne 0 ]]; then
    result=1
fi

echo "Your bucket contains the following items."
echo -e "Name\t\tSize"
The Amazon S3 functions used in this scenario.

```
# function create-bucket
#
# This function creates the specified bucket in the specified AWS Region, unless
# it already exists.
#
# Parameters:
#       -b bucket_name  -- The name of the bucket to create.
#       -r region_code  -- The code for an AWS Region in which to
#                          create the bucket.
#
# Returns:
#       The URL of the bucket that was created.
#     And:
#       0 - If successful.
#       1 - If it fails.
```
function create_bucket() {
  local bucket_name region_code response
  local option OPTARG # Required to use getopts command in a function.

  # bashsupport disable=BP5008
  function usage() {
    echo "function create_bucket"
    echo "Creates an Amazon S3 bucket. You must supply a bucket name:"
    echo "  -b bucket_name    The name of the bucket. It must be globally unique."
    echo "  [-r region_code]    The code for an AWS Region in which the bucket is created."
    echo ""
  }

  # Retrieve the calling parameters.
  while getopts "b:r:h" option; do
    case "${option}" in
      b) bucket_name="${OPTARG}" ;;
      r) region_code="${OPTARG}" ;;
      h)
        usage
        return 0
        ;;
      \?)
        echo "Invalid parameter"
        usage
        return 1
        ;;
    esac
done

  if [[ -z "$bucket_name" ]]; then
    errecho "ERROR: You must provide a bucket name with the -b parameter."
    usage
    return 1
  fi

  local bucket_config_arg
  # A location constraint for "us-east-1" returns an error.
  if [[ -n "$region_code" ]] && [[ "$region_code" != "us-east-1" ]]; then
    bucket_config_arg="--create-bucket-configuration LocationConstraint="$region_code"
  fi
AWS Command Line Interface

iecho
iecho
iecho
iecho

"Parameters:\n"
"
Bucket name:
"
Region code:
""

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$bucket_name"
$region_code"

# If the bucket already exists, we don't want to try to create it.
if (bucket_exists "$bucket_name"); then
errecho "ERROR: A bucket with that name already exists. Try again."
return 1
fi
# shellcheck disable=SC2086
response=$(aws s3api create-bucket \
--bucket "$bucket_name" \
$bucket_config_arg)
# shellcheck disable=SC2181
if [[ ${?} -ne 0 ]]; then
errecho "ERROR: AWS reports create-bucket operation failed.\n$response"
return 1
fi
}
###############################################################################
# function copy_file_to_bucket
#
# This function creates a file in the specified bucket.
#
# Parameters:
#
$1 - The name of the bucket to copy the file to.
#
$2 - The path and file name of the local file to copy to the bucket.
#
$3 - The key (name) to call the copy of the file in the bucket.
#
# Returns:
#
0 - If successful.
#
1 - If it fails.
###############################################################################
function copy_file_to_bucket() {
local response bucket_name source_file destination_file_name
bucket_name=$1
source_file=$2
destination_file_name=$3
response=$(aws s3api put-object \

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--bucket "$bucket_name" \
--body "$source_file" \
--key "$destination_file_name")
# shellcheck disable=SC2181
if [[ ${?} -ne 0 ]]; then
errecho "ERROR: AWS reports put-object operation failed.\n$response"
return 1
fi
}
###############################################################################
# function download_object_from_bucket
#
# This function downloads an object in a bucket to a file.
#
# Parameters:
#
$1 - The name of the bucket to download the object from.
#
$2 - The path and file name to store the downloaded bucket.
#
$3 - The key (name) of the object in the bucket.
#
# Returns:
#
0 - If successful.
#
1 - If it fails.
###############################################################################
function download_object_from_bucket() {
local bucket_name=$1
local destination_file_name=$2
local object_name=$3
local response
response=$(aws s3api get-object \
--bucket "$bucket_name" \
--key "$object_name" \
"$destination_file_name")
# shellcheck disable=SC2181
if [[ ${?} -ne 0 ]]; then
errecho "ERROR: AWS reports put-object operation failed.\n$response"
return 1
fi
}
###############################################################################

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function copy_item_in_bucket() {
    local bucket_name=$1
    local source_key=$2
    local destination_key=$3
    local response

    response=$(aws s3api copy-object
               --bucket "$bucket_name"
               --copy-source "$bucket_name/$source_key"
               --key "$destination_key"
          )

    # shellcheck disable=SC2181
    if [[ $? -ne 0 ]]; then
        errecho "ERROR: AWS reports s3api copy-object operation failed.\n$response"
        return 1
    fi
}

# function list_items_in_bucket
# This function displays a list of the files in the bucket with each file's size. The function uses the --query parameter to retrieve only the key and size fields from the Contents collection.
# Parameters:
#       $1 - The name of the bucket.
# Returns:
#       The list of files in text format.
# And:
function list_items_in_bucket() {
    local bucket_name=$1
    local response

    response=$(aws s3api list-objects
        --bucket "$bucket_name"
        --output text
        --query 'Contents[].{Key: Key, Size: Size}')

    # shellcheck disable=SC2181
    if [[ ${?} -eq 0 ]]; then
        echo "$response"
    else
        echo "ERROR: AWS reports s3api list-objects operation failed.\n$response"
        return 1
    fi
}

# function delete_items_in_bucket
#
# This function deletes the specified list of keys from the specified bucket.
#
# Parameters:
#       $1 - The name of the bucket.
#       $2 - A list of keys in the bucket to delete.
#
# Returns:
#       0 - If successful.
#       1 - If it fails.
#
function delete_items_in_bucket() {
    local bucket_name=$1
    local keys=$2
    local response

    # Create the JSON for the items to delete.
    local delete_items
    delete_items="\"Objects\":[
        for key in $keys; do
            delete_items="$delete_items\"Key\": \"$key\","


delete_items=${delete_items%?} # Remove the final comma.
delete_items="${delete_items}]"

response=$(aws s3api delete-objects \
   --bucket "$bucket_name" \
   --delete "${delete_items}"

# shellcheck disable=SC2181
if [[ $? -ne 0 ]]; then
   errecho "ERROR: AWS reports s3api delete-object operation failed.\n$response"
   return 1
fi
}

******************************************************************************
# function delete_bucket
#
# This function deletes the specified bucket.
#
# Parameters:
#       $1 - The name of the bucket.
#
# Returns:
#       0 - If successful.
#       1 - If it fails.
******************************************************************************
function delete_bucket() {
   local bucket_name=$1
   local response

   response=$(aws s3api delete-bucket \
      --bucket "$bucket_name"

# shellcheck disable=SC2181
if [[ $? -ne 0 ]]; then
   errecho "ERROR: AWS reports s3api delete-bucket failed.\n$response"
   return 1
fi
}

- For API details, see the following topics in AWS CLI Command Reference.
AWS STS examples using AWS CLI with Bash script

The following code examples show you how to perform actions and implement common scenarios by using the AWS Command Line Interface with Bash script with AWS STS.

**Actions** are code excerpts from larger programs and must be run in context. While actions show you how to call individual service functions, you can see actions in context in their related scenarios and cross-service examples.

**Scenarios** are code examples that show you how to accomplish a specific task by calling multiple functions within the same service.

Each example includes a link to GitHub, where you can find instructions on how to set up and run the code in context.

**Topics**
- Actions

**Actions**

**Assume a role**

The following code example shows how to assume a role with AWS STS.
### Note

There's more on GitHub. Find the complete example and learn how to set up and run in the [AWS Code Examples Repository](https://github.com/aws/aws-code-examples).

---

```bash
# function iecho
#
# This function enables the script to display the specified text only if
# the global variable $VERBOSE is set to true.
function iecho() {
    if [[ $VERBOSE == true ]]; then
        echo "$@
    fi
}
```

```bash
# function errecho
#
# This function outputs everything sent to it to STDERR (standard error output).
function errecho() {
    printf "%s\n" "$*" 1>&2
}
```

```bash
# function sts_assume_role
#
# This function assumes a role in the AWS account and returns the temporary
# credentials.
#
# Parameters:
#   -n role_session_name -- The name of the session.
#   -r role_arn -- The ARN of the role to assume.
#
# Returns:
#   [access_key_id, secret_access_key, session_token]
#   And:
```
function sts_assume_role() {
    local role_session_name role_arn response
    local option OPTARG    # Required to use getopts command in a function.

    # bashsupport disable=BP5008
    function usage() {
        echo "function sts_assume_role"
        echo "Assumes a role in the AWS account and returns the temporary credentials:"
        echo "  -n role_session_name -- The name of the session."
        echo "  -r role_arn -- The ARN of the role to assume."
        echo ""
    }

    while getopts n:r:h option; do
        case "${option}" in
            n) role_session_name=${OPTARG} ;;
               r) role_arn=${OPTARG} ;;
               h) usage
                   return 0
                   ;;
               \?)
               echo "Invalid parameter"
               usage
               return 1
               ;;
        esac
        done

    response=$(aws sts assume-role \
        --role-session-name "$role_session_name" \
        --role-arn "$role_arn" \
        --output text \
        --query "Credentials.[AccessKeyId, SecretAccessKey, SessionToken]"
    )

    local error_code=${?}

    if [[ $error_code -ne 0 ]]; then
        aws_cli_error_log $error_code
        errorecho "ERROR: AWS reports create-role operation failed.\n$response"
        return 1
    fi

    echo "$response"
}
fi

echo "$response"

return 0
}

• For API details, see AssumeRole in AWS CLI Command Reference.
Security in the AWS Command Line Interface

Cloud security at AWS is the highest priority. As an AWS customer, you benefit from a data center and network architecture that is built to meet the requirements of the most security-sensitive organizations.

Security is a shared responsibility between AWS and you. The shared responsibility model describes this as security of the cloud and security in the cloud:

- **Security of the cloud** – AWS is responsible for protecting the infrastructure that runs AWS services in the AWS Cloud. AWS also provides you with services that you can use securely. Third-party auditors regularly test and verify the effectiveness of our security as part of the AWS Compliance Programs. To learn about the compliance programs that apply to AWS Command Line Interface, see AWS Services in Scope by Compliance Program.

- **Security in the cloud** – Your responsibility is determined by the AWS service that you use. You are also responsible for other factors including the sensitivity of your data, your company’s requirements, and applicable laws and regulations.

This documentation helps you understand how to apply the shared responsibility model when using the AWS Command Line Interface (AWS CLI). The following topics show you how to configure the AWS CLI to meet your security and compliance objectives. You also learn how to use the AWS CLI to help you to monitor and secure your AWS resources.

**Topics**

- Data protection in the AWS CLI
- Identity and Access Management
- Compliance Validation for this AWS Product or Service
- Resilience for this AWS Product or Service
- Infrastructure Security for this AWS Product or Service
- Enforce a minimum version of TLS

**Data protection in the AWS CLI**

The AWS shared responsibility model applies to data protection in AWS Command Line Interface. As described in this model, AWS is responsible for protecting the global infrastructure that runs all
of the AWS Cloud. You are responsible for maintaining control over your content that is hosted on this infrastructure. You are also responsible for the security configuration and management tasks for the AWS services that you use. For more information about data privacy, see the Data Privacy FAQ. For information about data protection in Europe, see the AWS Shared Responsibility Model and GDPR blog post on the AWS Security Blog.

For data protection purposes, we recommend that you protect AWS account credentials and set up individual users with AWS IAM Identity Center or AWS Identity and Access Management (IAM). That way, each user is given only the permissions necessary to fulfill their job duties. We also recommend that you secure your data in the following ways:

- Use multi-factor authentication (MFA) with each account.
- Use SSL/TLS to communicate with AWS resources. We require TLS 1.2 and recommend TLS 1.3.
- Set up API and user activity logging with AWS CloudTrail.
- Use AWS encryption solutions, along with all default security controls within AWS services.
- Use advanced managed security services such as Amazon Macie, which assists in discovering and securing sensitive data that is stored in Amazon S3.
- If you require FIPS 140-2 validated cryptographic modules when accessing AWS through a command line interface or an API, use a FIPS endpoint. For more information about the available FIPS endpoints, see Federal Information Processing Standard (FIPS) 140-2.

We strongly recommend that you never put confidential or sensitive information, such as your customers' email addresses, into tags or free-form text fields such as a Name field. This includes when you work with AWS CLI or other AWS services using the console, API, AWS CLI, or AWS SDKs. Any data that you enter into tags or free-form text fields used for names may be used for billing or diagnostic logs. If you provide a URL to an external server, we strongly recommend that you do not include credentials information in the URL to validate your request to that server.

**Data encryption**

A key feature of any secure service is that information is encrypted when it is not being actively used.

**Encryption at rest**

The AWS CLI does not itself store any customer data other than the credentials it needs to interact with the AWS services on the user's behalf.
If you use the AWS CLI to invoke an AWS service that transmits customer data to your local computer for storage, then refer to the Security & Compliance chapter in that service's User Guide for information on how that data is stored, protected, and encrypted.

**Encryption in transit**

By default, all data transmitted from the client computer running the AWS CLI and AWS service endpoints is encrypted by sending everything through a HTTPS/TLS connection.

You don't need to do anything to enable the use of HTTPS/TLS. It is always enabled unless you explicitly disable it for an individual command by using the `--no-verify-ssl` command line option.

**Identity and Access Management**

AWS Identity and Access Management (IAM) is an AWS service that helps an administrator securely control access to AWS resources. IAM administrators control who can be *authenticated* (signed in) and *authorized* (have permissions) to use AWS resources. IAM is an AWS service that you can use with no additional charge.

**Topics**

- **Audience**
- **Authenticating with identities**
- **Managing access using policies**
- **How AWS services work with IAM**
- **Troubleshooting AWS identity and access**

**Audience**

How you use AWS Identity and Access Management (IAM) differs, depending on the work that you do in AWS.

**Service user** – If you use AWS services to do your job, then your administrator provides you with the credentials and permissions that you need. As you use more AWS features to do your work, you might need additional permissions. Understanding how access is managed can help you request the right permissions from your administrator. If you cannot access a feature in AWS, see [Troubleshooting AWS identity and access](#) or the user guide of the AWS service you are using.
**Service administrator** – If you’re in charge of AWS resources at your company, you probably have full access to AWS. It’s your job to determine which AWS features and resources your service users should access. You must then submit requests to your IAM administrator to change the permissions of your service users. Review the information on this page to understand the basic concepts of IAM. To learn more about how your company can use IAM with AWS, see the user guide of the AWS service you are using.

**IAM administrator** – If you’re an IAM administrator, you might want to learn details about how you can write policies to manage access to AWS. To view example AWS identity-based policies that you can use in IAM, see the user guide of the AWS service you are using.

### Authenticating with identities

Authentication is how you sign in to AWS using your identity credentials. You must be **authenticated** (signed in to AWS) as the AWS account root user, as an IAM user, or by assuming an IAM role.

You can sign in to AWS as a federated identity by using credentials provided through an identity source. AWS IAM Identity Center (IAM Identity Center) users, your company's single sign-on authentication, and your Google or Facebook credentials are examples of federated identities. When you sign in as a federated identity, your administrator previously set up identity federation using IAM roles. When you access AWS by using federation, you are indirectly assuming a role.

Depending on the type of user you are, you can sign in to the AWS Management Console or the AWS access portal. For more information about signing in to AWS, see [How to sign in to your AWS account](#) in the [AWS Sign-In User Guide](#).

If you access AWS programmatically, AWS provides a software development kit (SDK) and a command line interface (CLI) to cryptographically sign your requests by using your credentials. If you don't use AWS tools, you must sign requests yourself. For more information about using the recommended method to sign requests yourself, see [Signing AWS API requests](#) in the [IAM User Guide](#).

Regardless of the authentication method that you use, you might be required to provide additional security information. For example, AWS recommends that you use multi-factor authentication (MFA) to increase the security of your account. To learn more, see [Multi-factor authentication](#) in the [AWS IAM Identity Center User Guide](#) and [Using multi-factor authentication (MFA) in AWS](#) in the [IAM User Guide](#).
**AWS account root user**

When you create an AWS account, you begin with one sign-in identity that has complete access to all AWS services and resources in the account. This identity is called the AWS account *root user* and is accessed by signing in with the email address and password that you used to create the account. We strongly recommend that you don't use the root user for your everyday tasks. Safeguard your root user credentials and use them to perform the tasks that only the root user can perform. For the complete list of tasks that require you to sign in as the root user, see [Tasks that require root user credentials](#) in the *IAM User Guide*.

**Federated identity**

As a best practice, require human users, including users that require administrator access, to use federation with an identity provider to access AWS services by using temporary credentials.

A *federated identity* is a user from your enterprise user directory, a web identity provider, the AWS Directory Service, the Identity Center directory, or any user that accesses AWS services by using credentials provided through an identity source. When federated identities access AWS accounts, they assume roles, and the roles provide temporary credentials.

For centralized access management, we recommend that you use AWS IAM Identity Center. You can create users and groups in IAM Identity Center, or you can connect and synchronize to a set of users and groups in your own identity source for use across all your AWS accounts and applications. For information about IAM Identity Center, see [What is IAM Identity Center?](#) in the *AWS IAM Identity Center User Guide*.

**IAM users and groups**

An *IAM user* is an identity within your AWS account that has specific permissions for a single person or application. Where possible, we recommend relying on temporary credentials instead of creating IAM users who have long-term credentials such as passwords and access keys. However, if you have specific use cases that require long-term credentials with IAM users, we recommend that you rotate access keys. For more information, see [Rotate access keys regularly for use cases that require long-term credentials](#) in the *IAM User Guide*.

An *IAM group* is an identity that specifies a collection of IAM users. You can't sign in as a group. You can use groups to specify permissions for multiple users at a time. Groups make permissions easier to manage for large sets of users. For example, you could have a group named *IAMAdmins* and give that group permissions to administer IAM resources.
Users are different from roles. A user is uniquely associated with one person or application, but a role is intended to be assumable by anyone who needs it. Users have permanent long-term credentials, but roles provide temporary credentials. To learn more, see When to create an IAM user (instead of a role) in the IAM User Guide.

IAM roles

An IAM role is an identity within your AWS account that has specific permissions. It is similar to an IAM user, but is not associated with a specific person. You can temporarily assume an IAM role in the AWS Management Console by switching roles. You can assume a role by calling an AWS CLI or AWS API operation or by using a custom URL. For more information about methods for using roles, see Using IAM roles in the IAM User Guide.

IAM roles with temporary credentials are useful in the following situations:

- **Federated user access** – To assign permissions to a federated identity, you create a role and define permissions for the role. When a federated identity authenticates, the identity is associated with the role and is granted the permissions that are defined by the role. For information about roles for federation, see Creating a role for a third-party Identity Provider in the IAM User Guide. If you use IAM Identity Center, you configure a permission set. To control what your identities can access after they authenticate, IAM Identity Center correlates the permission set to a role in IAM. For information about permissions sets, see Permission sets in the AWS IAM Identity Center User Guide.

- **Temporary IAM user permissions** – An IAM user or role can assume an IAM role to temporarily take on different permissions for a specific task.

- **Cross-account access** – You can use an IAM role to allow someone (a trusted principal) in a different account to access resources in your account. Roles are the primary way to grant cross-account access. However, with some AWS services, you can attach a policy directly to a resource (instead of using a role as a proxy). To learn the difference between roles and resource-based policies for cross-account access, see How IAM roles differ from resource-based policies in the IAM User Guide.

- **Cross-service access** – Some AWS services use features in other AWS services. For example, when you make a call in a service, it's common for that service to run applications in Amazon EC2 or store objects in Amazon S3. A service might do this using the calling principal's permissions, using a service role, or using a service-linked role.

- **Forward access sessions (FAS)** – When you use an IAM user or role to perform actions in AWS, you are considered a principal. When you use some services, you might perform an
action that then initiates another action in a different service. FAS uses the permissions of the principal calling an AWS service, combined with the requesting AWS service to make requests to downstream services. FAS requests are only made when a service receives a request that requires interactions with other AWS services or resources to complete. In this case, you must have permissions to perform both actions. For policy details when making FAS requests, see Forward access sessions.

- **Service role** – A service role is an IAM role that a service assumes to perform actions on your behalf. An IAM administrator can create, modify, and delete a service role from within IAM. For more information, see Creating a role to delegate permissions to an AWS service in the IAM User Guide.

- **Service-linked role** – A service-linked role is a type of service role that is linked to an AWS service. The service can assume the role to perform an action on your behalf. Service-linked roles appear in your AWS account and are owned by the service. An IAM administrator can view, but not edit the permissions for service-linked roles.

- **Applications running on Amazon EC2** – You can use an IAM role to manage temporary credentials for applications that are running on an EC2 instance and making AWS CLI or AWS API requests. This is preferable to storing access keys within the EC2 instance. To assign an AWS role to an EC2 instance and make it available to all of its applications, you create an instance profile that is attached to the instance. An instance profile contains the role and enables programs that are running on the EC2 instance to get temporary credentials. For more information, see Using an IAM role to grant permissions to applications running on Amazon EC2 instances in the IAM User Guide.

To learn whether to use IAM roles or IAM users, see When to create an IAM role (instead of a user) in the IAM User Guide.

**Managing access using policies**

You control access in AWS by creating policies and attaching them to AWS identities or resources. A policy is an object in AWS that, when associated with an identity or resource, defines their permissions. AWS evaluates these policies when a principal (user, root user, or role session) makes a request. Permissions in the policies determine whether the request is allowed or denied. Most policies are stored in AWS as JSON documents. For more information about the structure and contents of JSON policy documents, see Overview of JSON policies in the IAM User Guide.

Administrators can use AWS JSON policies to specify who has access to what. That is, which **principal** can perform **actions** on what **resources**, and under what **conditions**.
By default, users and roles have no permissions. To grant users permission to perform actions on the resources that they need, an IAM administrator can create IAM policies. The administrator can then add the IAM policies to roles, and users can assume the roles.

IAM policies define permissions for an action regardless of the method that you use to perform the operation. For example, suppose that you have a policy that allows the `iam:GetRole` action. A user with that policy can get role information from the AWS Management Console, the AWS CLI, or the AWS API.

### Identity-based policies

Identity-based policies are JSON permissions policy documents that you can attach to an identity, such as an IAM user, group of users, or role. These policies control what actions users and roles can perform, on which resources, and under what conditions. To learn how to create an identity-based policy, see [Creating IAM policies](#) in the *IAM User Guide*.

Identity-based policies can be further categorized as *inline policies* or *managed policies*. Inline policies are embedded directly into a single user, group, or role. Managed policies are standalone policies that you can attach to multiple users, groups, and roles in your AWS account. Managed policies include AWS managed policies and customer managed policies. To learn how to choose between a managed policy or an inline policy, see [Choosing between managed policies and inline policies](#) in the *IAM User Guide*.

### Resource-based policies

Resource-based policies are JSON policy documents that you attach to a resource. Examples of resource-based policies are IAM *role trust policies* and Amazon S3 *bucket policies*. In services that support resource-based policies, service administrators can use them to control access to a specific resource. For the resource where the policy is attached, the policy defines what actions a specified principal can perform on that resource and under what conditions. You must specify a principal in a resource-based policy. Principals can include accounts, users, roles, federated users, or AWS services.

Resource-based policies are inline policies that are located in that service. You can't use AWS managed policies from IAM in a resource-based policy.
Access control lists (ACLs)

Access control lists (ACLs) control which principals (account members, users, or roles) have permissions to access a resource. ACLs are similar to resource-based policies, although they do not use the JSON policy document format.

Amazon S3, AWS WAF, and Amazon VPC are examples of services that support ACLs. To learn more about ACLs, see Access control list (ACL) overview in the Amazon Simple Storage Service Developer Guide.

Other policy types

AWS supports additional, less-common policy types. These policy types can set the maximum permissions granted to you by the more common policy types.

- **Permissions boundaries** – A permissions boundary is an advanced feature in which you set the maximum permissions that an identity-based policy can grant to an IAM entity (IAM user or role). You can set a permissions boundary for an entity. The resulting permissions are the intersection of an entity's identity-based policies and its permissions boundaries. Resource-based policies that specify the user or role in the Principal field are not limited by the permissions boundary. An explicit deny in any of these policies overrides the allow. For more information about permissions boundaries, see Permissions boundaries for IAM entities in the IAM User Guide.

- **Service control policies (SCPs)** – SCPs are JSON policies that specify the maximum permissions for an organization or organizational unit (OU) in AWS Organizations. AWS Organizations is a service for grouping and centrally managing multiple AWS accounts that your business owns. If you enable all features in an organization, then you can apply service control policies (SCPs) to any or all of your accounts. The SCP limits permissions for entities in member accounts, including each AWS account root user. For more information about Organizations and SCPs, see How SCPs work in the AWS Organizations User Guide.

- **Session policies** – Session policies are advanced policies that you pass as a parameter when you programmatically create a temporary session for a role or federated user. The resulting session's permissions are the intersection of the user or role's identity-based policies and the session policies. Permissions can also come from a resource-based policy. An explicit deny in any of these policies overrides the allow. For more information, see Session policies in the IAM User Guide.
Multiple policy types

When multiple types of policies apply to a request, the resulting permissions are more complicated to understand. To learn how AWS determines whether to allow a request when multiple policy types are involved, see Policy evaluation logic in the IAM User Guide.

How AWS services work with IAM

To get a high-level view of how AWS services work with most IAM features, see AWS services that work with IAM in the IAM User Guide.

To learn how to use a specific AWS service with IAM, see the security section of the relevant service's User Guide.

Troubleshooting AWS identity and access

Use the following information to help you diagnose and fix common issues that you might encounter when working with AWS and IAM.

Topics

- I am not authorized to perform an action in AWS
- I am not authorized to perform iam:PassRole
- I want to allow people outside of my AWS account to access my AWS resources

I am not authorized to perform an action in AWS

If you receive an error that you're not authorized to perform an action, your policies must be updated to allow you to perform the action.

The following example error occurs when the mateojackson IAM user tries to use the console to view details about a fictional my-example-widget resource but doesn't have the fictional awes: GetWidget permissions.

User: arn:aws:iam::123456789012:user/mateojackson is not authorized to perform: awes:GetWidget on resource: my-example-widget

In this case, the policy for the mateojackson user must be updated to allow access to the my-example-widget resource by using the awes: GetWidget action.
If you need help, contact your AWS administrator. Your administrator is the person who provided you with your sign-in credentials.

**I am not authorized to perform iam:PassRole**

If you receive an error that you're not authorized to perform the `iam:PassRole` action, your policies must be updated to allow you to pass a role to AWS.

Some AWS services allow you to pass an existing role to that service instead of creating a new service role or service-linked role. To do this, you must have permissions to pass the role to the service.

The following example error occurs when an IAM user named `marymajor` tries to use the console to perform an action in AWS. However, the action requires the service to have permissions that are granted by a service role. Mary does not have permissions to pass the role to the service.

```
User: arn:aws:iam::123456789012:user/marymajor is not authorized to perform: iam:PassRole
```

In this case, Mary's policies must be updated to allow her to perform the `iam:PassRole` action.

If you need help, contact your AWS administrator. Your administrator is the person who provided you with your sign-in credentials.

**I want to allow people outside of my AWS account to access my AWS resources**

You can create a role that users in other accounts or people outside of your organization can use to access your resources. You can specify who is trusted to assume the role. For services that support resource-based policies or access control lists (ACLs), you can use those policies to grant people access to your resources.

To learn more, consult the following:

- To learn whether AWS supports these features, see [How AWS services work with IAM](#).
- To learn how to provide access to your resources across AWS accounts that you own, see [Providing access to an IAM user in another AWS account that you own](#) in the IAM User Guide.
- To learn how to provide access to your resources to third-party AWS accounts, see [Providing access to AWS accounts owned by third parties](#) in the IAM User Guide.
- To learn how to provide access through identity federation, see [Providing access to externally authenticated users (identity federation)](#) in the IAM User Guide.
To learn the difference between using roles and resource-based policies for cross-account access, see How IAM roles differ from resource-based policies in the IAM User Guide.

Compliance Validation for this AWS Product or Service

To learn whether an AWS service is within the scope of specific compliance programs, see AWS services in Scope by Compliance Program and choose the compliance program that you are interested in. For general information, see AWS Compliance Programs.

You can download third-party audit reports using AWS Artifact. For more information, see Downloading Reports in AWS Artifact.

Your compliance responsibility when using AWS services is determined by the sensitivity of your data, your company's compliance objectives, and applicable laws and regulations. AWS provides the following resources to help with compliance:

- **Security and Compliance Quick Start Guides** – These deployment guides discuss architectural considerations and provide steps for deploying baseline environments on AWS that are security and compliance focused.
- **Architecting for HIPAA Security and Compliance on Amazon Web Services** – This whitepaper describes how companies can use AWS to create HIPAA-eligible applications.

**Note**

Not all AWS services are HIPAA eligible. For more information, see the HIPAA Eligible Services Reference.

- **AWS Compliance Resources** – This collection of workbooks and guides might apply to your industry and location.
- **AWS Customer Compliance Guides** – Understand the shared responsibility model through the lens of compliance. The guides summarize the best practices for securing AWS services and map the guidance to security controls across multiple frameworks (including National Institute of Standards and Technology (NIST), Payment Card Industry Security Standards Council (PCI), and International Organization for Standardization (ISO)).
- **Evaluating Resources with Rules** in the AWS Config Developer Guide – The AWS Config service assesses how well your resource configurations comply with internal practices, industry guidelines, and regulations.
• **AWS Security Hub** – This AWS service provides a comprehensive view of your security state within AWS. Security Hub uses security controls to evaluate your AWS resources and to check your compliance against security industry standards and best practices. For a list of supported services and controls, see [Security Hub controls reference](#).

• **AWS Audit Manager** – This AWS service helps you continuously audit your AWS usage to simplify how you manage risk and compliance with regulations and industry standards.

This AWS product or service follows the [shared responsibility model](#) through the specific Amazon Web Services (AWS) services it supports. For AWS service security information, see the [AWS service security documentation page](#) and [AWS services that are in scope of AWS compliance efforts by compliance program](#).

**Resilience for this AWS Product or Service**

The AWS global infrastructure is built around AWS Regions and Availability Zones.

AWS Regions provide multiple physically separated and isolated Availability Zones, which are connected with low-latency, high-throughput, and highly redundant networking.

With Availability Zones, you can design and operate applications and databases that automatically fail over between zones without interruption. Availability Zones are more highly available, fault tolerant, and scalable than traditional single or multiple data center infrastructures.

For more information about AWS Regions and Availability Zones, see [AWS Global Infrastructure](#).

This AWS product or service follows the [shared responsibility model](#) through the specific Amazon Web Services (AWS) services it supports. For AWS service security information, see the [AWS service security documentation page](#) and [AWS services that are in scope of AWS compliance efforts by compliance program](#).

**Infrastructure Security for this AWS Product or Service**

This AWS product or service uses managed services, and therefore is protected by the AWS global network security. For information about AWS security services and how AWS protects infrastructure, see [AWS Cloud Security](#). To design your AWS environment using the best practices for infrastructure security, see [Infrastructure Protection](#) in [Security Pillar AWS Well-Architected Framework](#).
You use AWS published API calls to access this AWS Product or Service through the network. Clients must support the following:

- Transport Layer Security (TLS). We require TLS 1.2 and recommend TLS 1.3.
- Cipher suites with perfect forward secrecy (PFS) such as DHE (Ephemeral Diffie-Hellman) or ECDHE (Elliptic Curve Ephemeral Diffie-Hellman). Most modern systems such as Java 7 and later support these modes.

Additionally, requests must be signed by using an access key ID and a secret access key that is associated with an IAM principal. Or you can use the AWS Security Token Service (AWS STS) to generate temporary security credentials to sign requests.

This AWS product or service follows the shared responsibility model through the specific Amazon Web Services (AWS) services it supports. For AWS service security information, see the AWS service security documentation page and AWS services that are in scope of AWS compliance efforts by compliance program.

### Enforce a minimum version of TLS

To add increased security when communicating with AWS services, you should use TLS 1.2 or later. When you use the AWS CLI, Python is used to set the TLS version.

AWS CLI version 2 uses an internal Python script that's compiled to use a minimum of TLS 1.2 when the service it's talking to supports it. As long as you use version 2 of the AWS CLI, no further steps are needed to enforce this minimum.
Troubleshoot AWS CLI errors

This section covers common errors and troubleshooting steps to follow to resolve your issue. We suggest following the general troubleshooting first.

Contents

- General troubleshooting to try first
  - Check your AWS CLI command formatting
  - Confirm that you're running a recent version of the AWS CLI
  - Use the --debug option
  - Enable and review the AWS CLI command history logs
  - Confirm that your AWS CLI is configured
- Command not found errors
  - The "aws --version" command returns a different version than you installed
  - The "aws --version" command returns a version after uninstalling the AWS CLI
  - The AWS CLI processed a command with an incomplete parameter name
- Access denied errors
  - Invalid credentials and key errors
  - Signature does not match errors
- SSL certificate errors
- Invalid JSON errors
- Additional resources

General troubleshooting to try first

If you receive an error or encounter an issue with the AWS CLI, we suggest the following general tips to help you troubleshoot.

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Check your AWS CLI command formatting

If you receive an error that indicates that a command doesn't exist, or that it doesn't recognize a
parameter (Parameter validation failed) that the documentation says is available, then
your command might be formatted incorrectly. We suggest that you check the following:

- Check your command for spelling and formatting errors.
- Confirm all quotes and escaping appropriate for your terminal is correct in your command.
- Generate an AWS CLI skeleton to confirm your command structure.
- For JSON, see the additional troubleshooting for JSON values. If you're having issues with your
terminal processing JSON formatting, we suggest skipping past the terminal's quoting rules by
using Blobs to pass JSON data directly to the AWS CLI.

For more information on how a specific command should be structured, see the AWS CLI version 2
reference guide.

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Confirm that you're running a recent version of the AWS CLI

If you receive an error that indicates that a command doesn't exist, or that it doesn't recognize a
parameter that the AWS CLI version 2 reference guide says is available, first confirm that your
command is correctly formatted. If the formatting is correct, then we recommend that you upgrade
to the most recent version of the AWS CLI. Updated versions of the AWS CLI are released almost
every business day. New AWS services, features, and parameters are introduced in those new
versions of the AWS CLI. The only way to get access to those new services, features, or parameters
is to upgrade to a version that was released after that element was first introduced.

How you update your version of the AWS CLI depends on how you originally installed it as
described in the section called “Install/Update”.

If you used one of the bundled installers, you might need to remove the existing installation before
you download and install the latest version for your operating system.

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Use the --debug option

When the AWS CLI reports an error that you don't immediately understand, or produces results that you don't expect, you can get more detail about the error by running the command again with the --debug option. With this option, the AWS CLI outputs details about every step it takes to process your command. The details in the output can help you to determine when the error occurs and provides clues about where it started.

You can send the output to a text file for later review, or to send to AWS Support when asked for it.

When you include the --debug option, some of the details include:

- Looking for credentials
- Parsing the provided parameters
- Constructing the request sent to AWS servers
- The contents of the request sent to AWS
- The contents of the raw response
- The formatted output

Here's an example of a command run with and without the --debug option.

```bash
$ aws iam list-groups --profile MyTestProfile
{
  "Groups": [
    {
      "Path": "/",
      "GroupName": "MyTestGroup",
      "GroupId": "AGPA0123456789EXAMPLE",
      "Arn": "arn:aws:iam::123456789012:group/MyTestGroup",
      "CreateDate": "2019-08-12T19:34:04Z"
    }
  ]
}

$ aws iam list-groups --profile MyTestProfile --debug
2019-08-12 12:36:18,305 - MainThread - awscli.clidriver - DEBUG - Arguments entered to CLI: ['iam', 'list-groups', '--debug']
Use the `--debug` option
Use the --debug option
2019-08-12 12:36:18,343 - MainThread - botocore.hooks - DEBUG - Event request-created.iam.ListGroups: calling handler <bound method RequestSigner.handler of <botocore.signers.RequestSigner object at 0x7fdf16e9a470>>
2019-08-12 12:36:18,343 - MainThread - botocore.hooks - DEBUG - Event choose-signer.iam.ListGroups: calling handler <function set_operation_specific_signer at 0x7fdf18996f28>
2019-08-12 12:36:18,343 - MainThread - botocore.auth - DEBUG - CanonicalRequest: POST /

content-type:application/x-www-form-urlencoded; charset=utf-8
host:iam.amazonaws.com
x-amz-date:20190812T193618Z

content-type;host;x-amz-date
5f776d91EXmAPL9b8cb5eb6d6a78e833ae41c8cd6eEXmAPLEca69080e1e1f
2019-08-12 12:36:18,344 - MainThread - botocore.auth - DEBUG - StringToSign: AWS4-HMAC-SHA256
2019-08-12T193618Z
20190812/us-east-1/iam/aws4_request
ab7e367eEXmAPL27696f178ea509978cf8bfa054874b3EXmAPL8d043fab6cc9
2019-08-12 12:36:18,344 - MainThread - botocore.auth - DEBUG - Signature: d85a0EXmAPLEb40164f2f539c8e204ef822EXmAPLE18ad1d5f58a1a3ce7
2019-08-12 12:36:18,344 - MainThread - botocore.endpoint - DEBUG - Sending
http request: <AWSPreparedRequest stream_output=False, method=POST, url=https://iam.amazonaws.com/, headers={'Content-Type': b'application/x-www-form-urlencoded; charset=utf-8', 'User-Agent': b'aws-cli/1.16.215 Python/3.7.3 Linux/4.14.133-113.105.amzn2.x86_64 botocore/1.12.205', 'X-Amz-Date': b'20190812T193618Z', 'Authorization': b'AWS4-HMAC-SHA256 Credential=AKIA01234567890EXAMPLE-east-1/iam/aws4_request, SignedHeaders=content-type;host;x-amz-date, Signature=d85a07692aceb401EXmAPL18ad1d5f58a1a3ce7EXmAPL', 'Content-Length': '36'}>
2019-08-12 12:36:18,344 - MainThread - urllib3.util.retry - DEBUG - Converted retries value: False -> Retry(total=False, connect=None, read=None, redirect=0, status=None)
2019-08-12 12:36:18,664 - MainThread - urllib3.connectionpool - DEBUG - https://iam.amazonaws.com:443 "POST / HTTP/1.1" 200 570
2019-08-12 12:36:18,664 - MainThread - botocore.parsers - DEBUG - Response headers: {'x-amzn-RequestId': '74c11600-bd38-11e9-9c82-559da0adb349', 'Content-Type': 'text/xml', 'Content-Length': '570', 'Date': 'Mon, 12 Aug 2019 19:36:18 GMT'}
2019-08-12 12:36:18,664 - MainThread - botocore.parsers - DEBUG - Response body:
Enable and review the AWS CLI command history logs

You can enable the AWS CLI command history logs using the `cli_history` file setting. After enabling this setting, the AWS CLI records the history of `aws` commands.

You can this list your history using the `aws history list` command, and use the resulting `command_ids` in the `aws history show` command for details. For more information see `aws history` in the AWS CLI reference guide.

When you include the `--debug` option, some of the details include:

- API calls made to botocore
- Status codes
- HTTP responses
You can use this information to confirm parameter data and API calls are behaving in the way you expect, and can then deduce at what step in the process your command is failing.

Confirm that your AWS CLI is configured

Various errors can occur if your config and credentials files or your IAM user or role is not configured correctly. For more information on resolving errors with config and credentials files or your IAM user or roles, see the section called “Access denied errors” and the section called “Invalid credentials and key errors”.

Command not found errors

This error means that the operating system can’t find the AWS CLI command. The installation might be incomplete or requires updating.

Possible cause: You're trying to use an AWS CLI feature newer than your installed version, or have incorrect formatting

Example error text:

```
$ aws s3 copy
usage: aws [options] <command> <subcommand> [<subcommand> ...] [parameters]
To see help text, you can run:

    aws help
    aws <command> help
    aws <command> <subcommand> help
aws: error: argument subcommand: Invalid choice, valid choices are:

    ls | website
    cp | mv
    ....
```
Various errors can occur if your command is formatted incorrectly or you are using an earlier version from before the feature was released. For more information on resolving errors around these two issues, see the section called “Check your AWS CLI command formatting” and the section called “Confirm that you're running a recent version of the AWS CLI”.

Possible cause: The terminal needs to be restarted after installation

Example error text:

```
$ aws --version
command not found: aws
```

If the aws command cannot be found after first installing or updating the AWS CLI, you might need to restart your terminal for it to recognize any PATH updates.

Possible cause: The AWS CLI did not fully install

Example error text:

```
$ aws --version
command not found: aws
```

If the aws command cannot be found after first installing or updating the AWS CLI, it might not have been fully installed. Try reinstalling by following the steps for your platform in the section called “Install/Update”.

Possible cause: The AWS CLI does not have permissions (Linux)

If the aws command cannot be found after first installing or updating the AWS CLI on Linux, it might not have execute permissions for the folder it installed in. Run the following command with the PATH to your AWS CLI installation, to provide chmod permissions to the AWS CLI:

```
$ sudo chmod -R 755 /usr/local/aws-cli/
```
Possible cause: The operating system PATH was not updated during installation

Example error text:

```
$ aws --version
command not found: aws
```

You might need to add the aws executable to your operating system's PATH environment variable. To add the AWS CLI to your PATH, use the following instructions for your operating system.

**Linux and macOS**

1. Find your shell's profile script in your user directory. If you're not sure which shell you have, run `echo $SHELL`.

   ```
   $ ls -a ~
   .   ..  .bash_logout  .bash_profile  .bashrc  Desktop  Documents  Downloads
   ```

   - **Bash** – `.bash_profile`, `.profile`, or `.bash_login`
   - **Zsh** – `.zshrc`
   - **Tcsh** – `.tcshrc`, `.cshrc`, or `.login`

2. Add an export command to your profile script. The following command adds your local bin to the current PATH variable.

   ```
   export PATH=/usr/local/bin:$PATH
   ```

3. Reload the updated profile into your current session.

   ```
   $ source ~/.bash_profile
   ```

**Windows**

1. In a Windows Command Prompt, use the `where` command with the `/R path` parameter to find the aws file location. The results return all folders containing aws.

   ```
   C:/> where /R c:\ aws
   c:\Program Files\Amazon\AWSCLIV2\aws.exe
   ```
By default, the AWS CLI version 2 is located in:

```
c:\Program Files\Amazon\AWSCLIV2\aws.exe
```

2. Press the Windows key and enter `environment variables`.
3. From the list of suggestions, choose `Edit environment variables for your account`.
4. Choose `PATH`, and then choose `Edit`.
5. Add the path you found in the first step into the `Variable value` field, for example, `C:\Program Files\Amazon\AWSCLIV2\aws.exe`.
6. Choose `OK` twice to apply the new settings.
7. Close any running command prompts and reopen the command prompt window.

The "aws --version" command returns a different version than you installed

Your terminal might be returning a different PATH for the AWS CLI than you expect.

Possible cause: The terminal needs to be restarted after installing

If the aws command shows the wrong version, you might need to restart your terminal for it to recognize any PATH updates. All open terminals needs to be closed, not just your active terminal.

Possible cause: The system needs to be restarted after installing

If the aws command shows the wrong version and restarting the terminal didn't work, you might need to restart your system for it to recognize your PATH updates.
Possible cause: You have multiple versions of the AWS CLI

If you updated the AWS CLI and used a different install method than your pre-existing installation, it might cause multiple versions to be installed. For example, if on Linux or macOS you used `pip` for your current install, but tried to update using the `.pkg` install file, this could cause some conflicts especially with your PATH pointing to the old version.

To resolve this, **uninstall all versions of the AWS CLI** and perform a clean install.

After uninstalling all versions, follow instructions appropriate for your operating system to install your desired version of the **AWS CLI version 1** or **AWS CLI version 2**.

---

### Note

If this is happening after you installed the AWS CLI version 2 with a pre-existing install of AWS CLI version 1, follow the migration instructions in the section called “Migration instructions”.

---

The "aws --version" command returns a version after uninstalling the AWS CLI

This often occurs when there is still an AWS CLI installed somewhere on your system.

Possible cause: The terminal needs to be restarted after uninstalling

If the `aws --version` command still works, you might need to restart your terminal for it to recognize any terminal updates.

---

Possible cause: You have multiple versions of the AWS CLI on your system, or didn't use the same uninstall method that you used to originally install the AWS CLI

The AWS CLI might not uninstall correctly if you uninstalled the AWS CLI using a different method than you used to install it, or if you installed multiple versions. For example, if you used `pip` for your current install, you must use `pip` to uninstall it. To resolve this, uninstall AWS CLI using the same method that you used to install it.
1. Follow the instructions appropriate for your operating system and your original installation method to uninstall the AWS CLI version 1 and AWS CLI version 2.

2. Close all terminals you have open.

3. Open your preferred terminal, enter in the following command and confirm that no version is returned.

   ```
   $ aws --version
   command not found: aws
   ```

   If you still have a version listed in the output, the AWS CLI was most likely installed using a different method or there are multiple versions. If you don't know which method you installed the AWS CLI, follow the instructions for each uninstall method for the AWS CLI version 1 and AWS CLI version 2 appropriate to your operating system until no version output is received.

   Note
   If you used a package manager to install the AWS CLI (pip, apt, brew, etc.), you must use the same package manager to uninstall it. Be sure to follow the instructions provided by the package manager on how to uninstall all versions of a package.

The AWS CLI processed a command with an incomplete parameter name

Possible cause: You used a recognized abbreviation of the AWS CLI parameter

Since the AWS CLI is built using Python, the AWS CLI uses the Python argparse library, including the allow_abbrev argument. Abbreviations of parameters are recognized by the AWS CLI and processed.
The following `create-change-set` command example changes the CloudFormation stack name. The parameter `--change-set-n` is recognized as an abbreviation of `--change-set-name`, and the AWS CLI processes the command.

```
$ aws cloudformation create-change-set --stack-name my-stack --change-set-n my-change-set
```

When your abbreviation could be multiple commands, the parameter will not be recognized as an abbreviation.

The following `create-change-set` command example changes the CloudFormation stack name. The parameter `--change-set-` is not recognized as an abbreviation, as there are multiple parameters it could be an abbreviation of, such as `--change-set-name` and `--change-set-type`. Therefore the AWS CLI does not process the command.

```
$ aws cloudformation create-change-set --stack-name my-stack --change-set- my-change-set
```

⚠️ **Warning**

Do not purposefully use parameter abbreviations. They are unreliable and are not backwards compatible. If any new parameters are added to a command that confuse your abbreviations, it will break your commands.

Additionally, if the parameter is a single-value argument, it can cause unexpected behavior with your commands. If multiple instances of a single-value argument is passed, only the last instance will run. In the following example, the parameter `--filters` is a single-valued argument. The parameters `--filters` and `--filter` are specified. The `--filter` parameter is an abbreviation of `--filters`. This cause two instances of `--filters` being applied and only the last `--filter` argument applies.

```
$ aws ec2 describe-vpc-peering-connections \
   --filters Name=tag:TagName,Values=VpcPeeringConnection \
   --filter Name=status-code,Values=active
```

Confirm you are using valid parameters before running a command to prevent unexpected behavior.
Access denied errors

Possible cause: The AWS CLI program file doesn't have "run" permission

On Linux or macOS, make sure that the `aws` program has run permissions for the calling user. Typically, the permissions are set to 755.

To add run permission for your user, run the following command, substituting `~/.local/bin/aws` with the path to the program on your computer.

```
$ chmod +x ~/.local/bin/aws
```

Possible cause: Your IAM identity doesn't have permission to perform the operation

Example error text:

```
$ aws s3 ls
An error occurred (AccessDenied) when calling the ListBuckets operation: Access denied.
```

When you run a AWS CLI command, AWS operations are performed on your behalf, using credentials that associate you with an IAM account or role. The policies attached must grant you permission to call the API actions that correspond to the commands that you run with the AWS CLI.

Most commands call a single action with a name that matches the command name. However, custom commands like `aws s3 sync` call multiple APIs. You can see which APIs a command calls by using the `--debug` option.

If you are sure that the user or role has the proper permissions assigned by policy, make sure that your AWS CLI command is using the credentials you expect. See the [next section about credentials](#) to verify that the credentials the AWS CLI is using are the ones that you expect.

For information about assigning IAM permissions, see [Overview of Access Management: Permissions and Policies](#) in the [IAM User Guide](#).
Invalid credentials and key errors

Example error text:

$ aws s3 ls
An error occurred (InvalidAccessKeyId) when calling the ListBuckets operation: The AWS Access Key Id you provided does not exist in our records.

$ aws s3 ls
An error occurred (InvalidClientTokenId) when calling the ListBuckets operation: The security token included in the request is invalid.

Possible cause: The AWS CLI is reading incorrect credentials or from an unexpected location

The AWS CLI might be reading credentials from a different location than you expect, or your key pair information is incorrect. You can run `aws configure list` to confirm which credentials are used.

The following example shows how to check the credentials used for the default profile.

$ aws configure list
<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
<th>Type</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>profile</td>
<td>&lt;not set&gt;</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>access_key</td>
<td>******************XYVA</td>
<td>shared</td>
<td>~/.aws/credentials</td>
</tr>
<tr>
<td>secret_key</td>
<td>******************ZAGY</td>
<td>shared</td>
<td>~/.aws/credentials</td>
</tr>
<tr>
<td>region</td>
<td>us-west-2</td>
<td>config</td>
<td>~/.aws/config</td>
</tr>
</tbody>
</table>

The following example shows how to check the credentials of a named profile.

$ aws configure list --profile saanvi
<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
<th>Type</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>profile</td>
<td>saanvi</td>
<td>manual</td>
<td>--profile</td>
</tr>
<tr>
<td>access_key</td>
<td>******************</td>
<td>shared</td>
<td>shared-credentials-file</td>
</tr>
<tr>
<td>secret_key</td>
<td>******************</td>
<td>shared</td>
<td>shared-credentials-file</td>
</tr>
</tbody>
</table>
To confirm your key pair details, check your config and credentials files. For more information on config and credentials files, see the section called “Configuration and credential file settings”. For more information on credentials and authentication, including credentials precedence, see Authentication and access credentials.

**Possible cause: Your computer’s clock is out of sync**

If you are using valid credentials, your clock might be out of sync. On Linux or macOS, run `date` to check the time.

```
$ date
```

If your system clock is not correct within a few minutes, use `ntpd` to sync it.

```
$ sudo service ntpd stop
$ sudo ntpdate time.nist.gov
$ sudo service ntpd start
$ ntpstat
```

On Windows, use the date and time options in the Control Panel to configure your system clock.

**Signature does not match errors**

*Example error text:*

```
$ aws s3 ls
An error occurred (SignatureDoesNotMatch) when calling the List Buckets operation: The request signature we calculated does not match the signature you provided. Check your key and signing method.
```

When the AWS CLI runs a command, it sends an encrypted request to the AWS servers to perform the appropriate AWS service operations. Your credentials (the access key and secret key) are
involved in the encryption and enable AWS to authenticate the person making the request. There are several things that can interfere with the correct operation of this process, as follows.

**Possible cause: Your clock is out of sync with the AWS servers**

To help protect against [replay attacks](https://en.wikipedia.org/wiki/Replay_attack), the current time can be used during the encryption/decryption process. If the time of the client and server disagree by more than the allowed amount, the process can fail and the request is rejected. This can also happen when you run a command in a virtual machine whose clock is out of sync with the host machine's clock. One possible cause is when the virtual machine hibernates and takes some time after waking up to sync the clock with the host machine.

On Linux or macOS, run `date` to check the time.

```
$ date
```

If your system clock is not correct within a few minutes, use `ntpd` to sync it.

```
$ sudo service ntpd stop
$ sudo ntpdate time.nist.gov
$ sudo service ntpd start
$ ntpstat
```

On Windows, use the date and time options in the Control Panel to configure your system clock.

**Possible cause: Your operating system is mishandling AWS keys that contain certain special characters**

If your AWS keys include certain special characters, such as -, +, /, or %, some operating system variants process the string improperly and cause the key string to be interpreted incorrectly.

If you process your keys using other tools or scripts, such as tools that build the credentials file on a new instance as part of its creation, those tools and scripts might have their own handling of special characters that causes them to be transformed into something that AWS no longer recognizes.

We suggest regenerating the secret key to get one that does not include the special character causing issues.
SSL certificate errors

Possible cause: The AWS CLI doesn't trust your proxy's certificate

Example error text:

```bash
$ aws s3 ls
[SSL: CERTIFICATE_VERIFY_FAILED] certificate verify failed
```

When you use a AWS CLI command, you receive an [SSL: CERTIFICATE_VERIFY_FAILED] certificate verify failed error message. This is caused by the AWS CLI not trusting your proxy's certificate due to factors such as your proxy's certificate being self-signed, with your company set as the Certification Authority (CA). This prevents the AWS CLI from finding your companies CA root certificate in the local CA registry.

To fix this, instruct the AWS CLI where to find your companies .pem file using the `ca_bundle` configuration file setting, `--ca-bundle` command line option, or the `AWS_CA_BUNDLE` environment variable.

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Possible cause: Your configuration isn't pointing to the correct CA root certificate location

Example error text:

```bash
$ aws s3 ls
SSL validation failed for regionname [Errno 2] No such file or directory
```

This is caused by your Certification Authority (CA) bundle file location being configured incorrectly in the AWS CLI. To fix this, confirm where your companies .pem file is located and update the AWS CLI configuration by using the `ca_bundle` configuration file setting, `--ca-bundle` command line option, or the `AWS_CA_BUNDLE` environment variable.

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Invalid JSON errors

Example error text:
When you use an AWS CLI command, you receive a "Invalid JSON" error message. This is usually an error seen when you enter a command with an expected JSON format and the AWS CLI cannot read your JSON correctly.

Possible cause: You did not enter valid JSON for the AWS CLI to use

Confirm you have valid JSON entered for your command. We suggest using a JSON validator for JSON you're having issues formatting.

For more advanced JSON usage in the command line, consider using a command line JSON processor, like jq, to create JSON strings. For more information on jq, see the jq repository on GitHub.

Possible cause: Your terminal's quoting rules are preventing valid JSON being sent to the AWS CLI

Before the AWS CLI receives anything from a command, your terminal processes the command using its own quoting and escaping rules. Due to a terminal's formatting rules, some of your JSON content may be stripped before the command is passed to the AWS CLI. When formulating commands, be sure to use your terminal's quoting rules.

To troubleshoot, use the echo command to see how the shell is handling your parameters:

```
$ echo {"ReadCapacityUnits":15,"WriteCapacityUnits":10}
ReadCapacityUnits:15 WriteCapacityUnits:10
```

```
$ echo '{"ReadCapacityUnits":15,"WriteCapacityUnits":10}'
{"ReadCapacityUnits":15,"WriteCapacityUnits":10}
```

Modify your command until your until valid JSON is returned.
For more in-depth troubleshooting, use the `--debug` parameter to view the debug logs as they'll display exactly what got passed to the AWS CLI:

```
$ aws dynamodb update-table \
   --provisioned-throughput '{"ReadCapacityUnits":15,WriteCapacityUnits":10}' \
   --table-name MyDDBTable \
   --debug
```

Use your terminal's quoting rules to fix any issues your JSON input has when being sent to the AWS CLI. For more information on quoting rules, see the section called “Quotes with Strings”.

**Note**

If you're having issues with getting valid JSON to the AWS CLI, we recommend to bypass a terminal's quoting rules for JSON data input by using Blobs to pass your JSON data directly to the AWS CLI. For more information on Blobs, see Blob.

Additional resources

For additional help with your AWS CLI issues, visit the AWS CLI community on GitHub or the AWS re:Post community.
Migrate from AWS CLI version 1 to version 2

This section contains instructions for updating the AWS CLI version 1 to AWS CLI version 2. The AWS CLI version 2 builds on AWS CLI version 1 and includes features and enhancements based on community feedback.

Before you migrate to version 2, learn about the differences between the versions. The AWS CLI version 2 includes new features and changes that might require you to update your scripts or commands for backwards compatibility.

AWS CLI versions 1 and 2 use the same `aws` command name. If you have both versions installed, your computer uses the first one found in your search path.

If you previously installed AWS CLI version 1, follow our migration instructions to start using version 2.

If you have not previous installed AWS CLI version 1, follow the instructions in Get started.

Topics
- New features and changes in AWS CLI version 2
- AWS CLI version 2 migration instructions

New features and changes in AWS CLI version 2

This topic describes new features and changes in behavior between AWS CLI version 1 and AWS CLI version 2. These changes might require you to update your scripts or commands to get the same behavior in version 2 as you did in version 1.

Topics
- AWS CLI version 2 new features
- Breaking changes between AWS CLI version 1 and AWS CLI version 2

AWS CLI version 2 new features

The AWS CLI version 2 is the most recent major version of the AWS CLI and supports all of the latest features. Some features introduced in version 2 are not backported to version 1 and you must upgrade to access those features. These features include the following:
Python interpreter not needed

The AWS CLI version 2 doesn't need a separate install of Python. It includes an embedded version.

Wizards

You can use a wizard with the AWS CLI version 2. The wizard guides you through constructing certain commands.

IAM Identity Center authentication

If your organization uses AWS IAM Identity Center (IAM Identity Center), your users can sign in to Active Directory, a built-in IAM Identity Center directory, or another IdP connected to IAM Identity Center. Then, they are mapped to an AWS Identity and Access Management (IAM) role that allows you to run AWS CLI commands.

Auto-prompt

When enabled, the AWS CLI version 2 can prompt you for commands, parameters, and resources when you run an `aws` command.

Run the AWS CLI from the official Amazon ECR Public or Docker images

The official Docker image for the AWS CLI provides isolation, portability, and security that AWS directly supports and maintains. This way, you can use the AWS CLI version 2 in a container-based environment without having to manage the installation yourself.

Client-side pager

The AWS CLI version 2 provides the use of a client-side pager program for output. By default, this feature is turned on and returns all output through your operating system's default pager program.

`aws configure import`

Import `.csv` credentials generated from the AWS Management Console. A `.csv` file is imported with the profile name matching the IAM user name.

`aws configure list-profiles`

Lists the names of all profiles you have configured.
The section called “YAML stream output format”

The `yaml` and `yaml-stream` format takes advantage of the `YAML` format while providing more responsive viewing of large datasets by streaming the data to you. You can start viewing and using YAML data before the entire query downloads.

**New high-level ddb commands for DynamoDB**

The AWS CLI version 2 has the high-level Amazon DynamoDB commands `ddb put` and `ddb select`. These commands provide a simplified interface for putting items in DynamoDB tables and searching in a DynamoDB table or index.

**aws logs tail**

The AWS CLI version 2 has a custom `aws logs tail` command that tails the logs for an Amazon CloudWatch Logs group. By default, the command returns logs from all associated CloudWatch Logs streams during the past ten minutes.

**Added metadata support for high-level s3 commands**

The AWS CLI version 2 adds the `--copy-props` parameter to the high-level `s3` commands. With this parameter, you can configure additional metadata and tags for Amazon Simple Storage Service (Amazon S3).

**AWS_REGION**

The AWS CLI version 2 has an AWS SDK-compatible environment variable called `AWS_REGION`. This variable specifies the AWS Region to send requests to. It overrides the `AWS_DEFAULT_REGION` environment variable, which is only applicable in the AWS CLI.

**Breaking changes between AWS CLI version 1 and AWS CLI version 2**

This section describes all of the changes in behavior between AWS CLI version 1 and AWS CLI version 2. These changes might require you to update your scripts or commands to get the same behavior in version 2 as you did in version 1.

**Topics**

- Environment variable added to set text file encoding
- Binary parameters are passed as base64-encoded strings by default
- Improved Amazon S3 handling of file properties and tags for multipart copies
- No automatic retrieval of http:// or https:// URLs for parameters
• Pager used for all output by default
• Timestamp output values are standardized to ISO 8601 format
• Improved handling of CloudFormation deployments that result in no changes
• Changed default behavior for Regional Amazon S3 endpoint for us-east-1 Region
• Changed default behavior for Regional AWS STS endpoints
• ecr get-login removed and replaced with ecr get-login-password
• AWS CLI version 2 support for plugins is changing
• Hidden alias support removed
• The api_versions configuration file setting is not supported
• AWS CLI version 2 uses only Signature v4 to authenticate Amazon S3 requests
• AWS CLI version 2 is more consistent with paging parameters
• AWS CLI version 2 provides more consistent return codes across all commands

Environment variable added to set text file encoding

By default, text files for the section called “Blob” use the same encoding as the installed locale. Because the AWS CLI version 2 uses an embedded version of Python, the PYTHONUTF8 and PYTHONIOENCODING environment variables are not supported. To set encoding for text files to be different from the locale, use the AWS_CLI_FILE_ENCODING environment variable. The following example sets the AWS CLI to open text files using UTF-8 on Windows.

AWS_CLI_FILE_ENCODING=UTF-8

For more information, see Environment variables to configure the AWS CLI.

Binary parameters are passed as base64-encoded strings by default

In the AWS CLI, some commands required base64-encoded strings, while others required UTF-8-encoded byte strings. In the AWS CLI version 1, passing data between two encoded string types often required some intermediate processing. The AWS CLI version 2 makes handling binary parameters more consistent, which helps pass values from one command to another more reliably.

By default, the AWS CLI version 2 passes all binary input and binary output parameters as the base64-encoded string blobs (binary large object). For more information, see the section called “Blob”. 
To revert to the AWS CLI version 1 behavior, use the `cli_binary_format` file configuration or the `--cli-binary-format` parameter.

**Improved Amazon S3 handling of file properties and tags for multipart copies**

When you use the AWS CLI version 1 commands in the `aws s3` namespace to copy a file from one S3 bucket location to another, and that operation uses `multipart copy`, no file properties from the source object are copied to the destination object.

By default, the corresponding commands in the AWS CLI version 2 transfer all tags and some of the properties from the source to the destination copy. Compared to the AWS CLI version 1, this can result in more AWS API calls being made to the Amazon S3 endpoint. To change the default behavior for `s3` commands in AWS CLI version 2, use the `--copy-props` parameter.

For more information, see [the section called “File properties and tags in multipart copies”](#).

**No automatic retrieval of http:// or https:// URLs for parameters**

The AWS CLI version 2 does not perform a GET operation when a parameter value begins with `http://` or `https://`, and does not use the returned content as the parameter value. As a result, the associated command line option `cli_follow_urlparam` is removed from the AWS CLI version 2.

If you need to retrieve a URL and pass the URL contents into a parameter value, we recommend that you use `curl` or a similar tool to download the contents of the URL to a local file. Then, use the `file://` syntax to read the contents of that file and use it as the parameter value.

For example, the following command no longer tries to retrieve the contents of the page found at `http://www.example.com` and pass those contents as the parameter. Instead, it passes the literal text string `https://example.com` as the parameter.

```
$ aws ssm put-parameter \
   --value http://www.example.com \
   --name prod.microservice1.db.secret \
   --type String 2
```

If you need to retrieve and use the contents of a web URL as a parameter, you can do the following in version 2.

```
$ curl https://my.example.com/mypolicyfile.json -o mypolicyfile.json
```
In the preceding example, the `--o` parameter tells `curl` to save the file in the current folder with the same name as the source file. The second command retrieves the content of that downloaded file and passes the content as the value of `--policy-document`.

**Pager used for all output by default**

By default, the AWS CLI version 2 returns all output through your operating system’s default pager program. This program is the `less` program on Linux or macOS, and the `more` program on Windows. This can help you navigate a large amount of output from a service by displaying that output one page at a time.

You can configure the AWS CLI version 2 to use a different paging program or none at all. For more information, see the section called “Client-side pager”.

**Timestamp output values are standardized to ISO 8601 format**

By default, the AWS CLI version 2 returns all timestamp response values in the ISO 8601 format. In AWS CLI version 1, commands returned timestamp values in whatever format was returned by the HTTP API response, which could vary from service to service.

To see timestamps in the format returned by the HTTP API response, use the wire value in your config file. For more information, see `cli_timestamp_format`.

**Improved handling of CloudFormation deployments that result in no changes**

By default in the AWS CLI version 1, if you deploy a AWS CloudFormation template that results in no changes, the AWS CLI returns a failed error code. This causes problems if you don’t consider that to be an error and you want your script to continue. You can work around this in the AWS CLI version 1 by adding the flag `--no-fail-on-empty-changeset`, which returns 0.

Since this is a common use case, the AWS CLI version 2 defaults to returning a successful exit code of 0 when there is no change caused by a deployment and the operation returns an empty changeset.

To revert to the original behavior, add the flag `--fail-on-empty-changeset`.
Changed default behavior for Regional Amazon S3 endpoint for us-east-1 Region

When you configure the AWS CLI version 1 to use the us-east-1 Region, the AWS CLI uses the global s3.amazonaws.com endpoint that is physically hosted in the us-east-1 Region. The AWS CLI version 2 uses the true Regional endpoint s3.us-east-1.amazonaws.com when that Region is specified. To force the AWS CLI version 2 to use the global endpoint, you can set the Region for a command to aws-global.

Changed default behavior for Regional AWS STS endpoints

By default, the AWS CLI version 2 sends all AWS Security Token Service (AWS STS) API requests to the Regional endpoint for the currently configured AWS Region.

By default, the AWS CLI version 1 sends AWS STS requests to the global AWS STS endpoint. You can control this default behavior in version 1 by using the sts_regional_endpoints setting.

cr get-login removed and replaced with cr get-login-password

The AWS CLI version 2 replaces the command aws cr get-login with the aws cr get-login-password command that improves automated integration with container authentication.

The aws cr get-login-password command reduces the risk of exposing your credentials in the process list, shell history, or other log files. It also improves compatibility with the docker login command for better automation.

The aws cr get-login-password command is available in the AWS CLI version 1.17.10 and later, and the AWS CLI version 2. The earlier aws cr get-login command is still available in the AWS CLI version 1 for backward compatibility.

With the aws cr get-login-password command, you can replace the following code that retrieves a password.

$ (aws cr get-login --no-include-email)

To reduce the risk of exposing the password to the shell history or logs, use the following example command instead. In this example, the password is piped directly to the docker login command, where it is assigned to the password parameter by the --password-stdin option.
$ aws ecr get-login-password | docker login --username AWS --password-stdin MY-REGISTRY-URL

For more information, see `aws ecr get-login-password` in the *AWS CLI version 2 Reference Guide*.

**AWS CLI version 2 support for plugins is changing**

Plugin support in the AWS CLI version 2 is completely provisional and is intended to help users migrate from AWS CLI version 1 until a stable, updated plugin interface is released. There are no guarantees that a particular plugin or even the AWS CLI plugin interface will be supported in future versions of the AWS CLI version 2. If you rely on plugins, be sure to lock into a particular version of the AWS CLI and test the functionality of your plugin when you do upgrade.

To enable plugin support, create a `[plugins]` section in your `~/.aws/config`.

```
[plugins]
cli_legacy_plugin_path = <path-to-plugins>/python3.7/site-packages
<plugin-name> = <plugin-module>
```

In the `[plugins]` section, define the `cli_legacy_plugin_path` variable and set its value to the Python site packages path where your plugin module is. Then, you can configure a plugin by providing a name for the plugin (`plugin-name`) and the file name of the Python module (`plugin-module`) that contains the source code for your plugin. The AWS CLI loads each plugin by importing its `plugin-module` and calling its `awscli_initialize` function.

**Hidden alias support removed**

AWS CLI version 2 no longer supports the following hidden aliases that were supported in version 1.

In the following table, the first column displays the service, command, and parameter that work in all versions, including the AWS CLI version 2. The second column displays the alias that no longer works in the AWS CLI version 2.

<table>
<thead>
<tr>
<th>Working service, command, and parameter</th>
<th>Obsolete alias</th>
</tr>
</thead>
<tbody>
<tr>
<td>cognito-identity create-identity-pool open-id-connect-provider-arns</td>
<td>open-id-connect-provider-arns</td>
</tr>
<tr>
<td>Working service, command, and parameter</td>
<td>Obsolete alias</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>storagegateway describe-tapes tape-arns</td>
<td>tape-ar-ns</td>
</tr>
<tr>
<td>storagegateway.describe-tape-archives.tape-arns</td>
<td>tape-ar-ns</td>
</tr>
<tr>
<td>storagegateway.describe-vtl-devices.vtl-device-arns</td>
<td>vtl-device-ar-ns</td>
</tr>
<tr>
<td>storagegateway.describe-cached-iscsi-volumes.volume-arns</td>
<td>volume-ar-ns</td>
</tr>
<tr>
<td>storagegateway.describe-stored-iscsi-volumes.volume-arns</td>
<td>volume-ar-ns</td>
</tr>
<tr>
<td>route53domains.view-billing.start-time</td>
<td>start</td>
</tr>
<tr>
<td>deploy.create-deployment-group.ec2-tag-set</td>
<td>ec-2-tag-set</td>
</tr>
<tr>
<td>deploy.list-application-revisions.s3-bucket</td>
<td>s-3-bucket</td>
</tr>
<tr>
<td>deploy.list-application-revisions.s3-key-prefix</td>
<td>s-3-key-prefix</td>
</tr>
<tr>
<td>deploy.update-deployment-group.ec2-tag-set</td>
<td>ec-2-tag-set</td>
</tr>
<tr>
<td>iam.enable-mfa-device.authentication-code1</td>
<td>authentication-code-1</td>
</tr>
<tr>
<td>iam.enable-mfa-device.authentication-code2</td>
<td>authentication-code-2</td>
</tr>
<tr>
<td>iam.resync-mfa-device.authentication-code1</td>
<td>authentication-code-1</td>
</tr>
<tr>
<td>iam.resync-mfa-device.authentication-code2</td>
<td>authentication-code-2</td>
</tr>
<tr>
<td>importexport.get-shipping-label.street1</td>
<td>street-1</td>
</tr>
<tr>
<td>importexport.get-shipping-label.street2</td>
<td>street-2</td>
</tr>
<tr>
<td>importexport.get-shipping-label.street3</td>
<td>street-3</td>
</tr>
<tr>
<td>lambda.publish-version.code-sha256</td>
<td>code-sha-256</td>
</tr>
<tr>
<td>lightsail.import-key-pair.public-key-base64</td>
<td>public-key-base-64</td>
</tr>
<tr>
<td>opsworks.register-volume.ec2-volume-id</td>
<td>ec-2-volume-id</td>
</tr>
</tbody>
</table>
The `api_versions` configuration file setting is not supported

The AWS CLI version 2 doesn't support calling earlier versions of AWS service APIs by using the `api_versions` configuration file setting. All AWS CLI commands now call the latest version of the service APIs that are currently supported by the endpoint.

AWS CLI version 2 uses only Signature v4 to authenticate Amazon S3 requests

The AWS CLI version 2 doesn't support earlier signature algorithms to cryptographically authenticate service requests sent to Amazon S3 endpoints. This signing happens automatically with every Amazon S3 request and only the [Signature Version 4 Signing Process](https://docs.aws.amazon.com/cli/latest/userguide/cli-aws-signature-v4.html) is supported. You can't configure the signature version. All Amazon S3 bucket presigned URLs now use only SigV4 and have a maximum expiration duration of one week.

AWS CLI version 2 is more consistent with paging parameters

In the AWS CLI version 1, if you specify pagination parameters on the command line, then automatic pagination is turned off as expected. However, when you specify pagination parameters by using a file with the `--cli-input-json` parameter, automatic pagination was not turned off, which could result in unexpected output. The AWS CLI version 2 turns off automatic pagination regardless of how you provide the parameters.

AWS CLI version 2 provides more consistent return codes across all commands

The AWS CLI version 2 is more consistent across all commands and properly returns an appropriate exit code compared to the AWS CLI version 1. We also added exit codes 252, 253, and 254. For more information on exit codes, see the section called “Return Codes”.

If you have a dependency on how the AWS CLI version 1 uses return code values, we recommend checking the exit codes to make sure that you're getting the values you expect.

AWS CLI version 2 migration instructions

This topic provides instructions for migrating from AWS CLI version 1 to AWS CLI version 2. AWS CLI versions 1 and 2 use the same `aws` command name. If you have both versions installed, your computer uses the first one found in your search path. If you previously installed AWS CLI version 1, we recommend that you do one of the following to use AWS CLI version 2:

- **Recommended** – [Uninstall AWS CLI version 1 and use only AWS CLI version 2](https://docs.aws.amazon.com/cli/latest/userguide/cli-aws-migrate.html).
To have both version installed, use your operating system's ability to create a symbolic link (symlink) or alias with a different name for one of the two aws commands.

For information on breaking changes between version 1 and version 2, see the section called “New features and changes”.

Replacing version 1 with version 2

Perform the following steps to replace AWS CLI version 1 with AWS CLI version 2.

To replace AWS CLI version 1 with AWS CLI version 2

1. Prepare any existing scripts you have for the migration by confirming any breaking changes between version 1 and version 2 in the section called “New features and changes”.

2. Uninstall the AWS CLI version 1 by following the uninstall instructions for your operating system in Installing, updating, and uninstalling the AWS CLI version 1.

3. Confirm that the AWS CLI is completely uninstalled by using the following command.

   $ aws --version

Complete one of the following based on the output:

- **No version returned**: You've successfully uninstalled the AWS CLI version 1 and can proceed to the next step.

- **A version is returned**: You still have an install of the AWS CLI version 1. For troubleshooting steps, see the section called “The "aws --version" command returns a version after uninstalling the AWS CLI”. Perform troubleshooting steps until no version output is received.

4. Install the AWS CLI version 2 by following the appropriate install instructions for your operating system in Install or update to the latest version of the AWS CLI.

Side-by-side install

To have both versions installed, use your operating system's ability to create a symbolic link (symlink) or alias with a different name for one of the two aws commands.

1. Install the AWS CLI version 2 by following the appropriate install instructions for your operating system in Install or update to the latest version of the AWS CLI.
2. Use your operating system's ability to create a symlink or alias with a different name for one of the two `aws` commands, such as using `aws2` for AWS CLI version 2. The following are symlink examples for AWS CLI version 2. Replace the `PATH` with your install location.

Linux and macOS

You can use a [symbolic link](https://en.wikipedia.org/wiki/Symbolic_link) or [alias](https://en.wikipedia.org/wiki/Alias) on Linux and macOS.

```
$ alias aws2='PATH'
```

Windows command prompt


```
C:\> doskey aws2=PATH
```
Uninstall the AWS CLI version 2

This topic describes how to uninstall the AWS Command Line Interface version 2 (AWS CLI version 2).

AWS CLI version 2 uninstallation instructions:

Linux

To uninstall the AWS CLI version 2, run the following commands.

1. Locate the symlink and install paths.
   - Use the `which` command to find the symlink. This shows the path you used with the `--bin-dir` parameter.

```
$ which aws
/usr/local/bin/aws
```

   - Use the `ls` command to find the directory that the symlink points to. This gives you the path you used with the `--install-dir` parameter.

```
$ ls -l /usr/local/bin/aws
lrwxrwxrwx 1 ec2-user ec2-user 49 Oct 22 09:49 /usr/local/bin/aws -> /usr/local/aws-cli/v2/current/bin/aws
```

2. Delete the two symlinks in the `--bin-dir` directory. If your user has write permission to these directories, you don’t need to use `sudo`.

```
$ sudo rm /usr/local/bin/aws
$ sudo rm /usr/local/bin/aws_completer
```

3. Delete the `--install-dir` directory. If your user has write permission to this directory, you don’t need to use `sudo`.

```
$ sudo rm -rf /usr/local/aws-cli
```

4. (Optional) Remove the shared AWS SDK and AWS CLI settings information in the `.aws` folder.
**Warning**

These configuration and credentials settings are shared across all AWS SDKs and the AWS CLI. If you remove this folder, they cannot be accessed by any AWS SDKs that are still on your system.

The default location of the `.aws` folder differs between platforms, by default the folder is located in `~/.aws/`. If your user has write permission to this directory, you don't need to use `sudo`.

```bash
$ sudo rm -rf ~/.aws/
```

**macOS**

To uninstall the AWS CLI version 2, run the following commands, substituting the paths you used to install. The example commands use the default installation paths.

1. Find the folder that contains the symlinks to the main program and the completer.

   ```bash
   $ which aws
   /usr/local/bin/aws
   ```

2. Using that information, run the following command to find the installation folder that the symlinks point to.

   ```bash
   $ ls -l /usr/local/bin/aws
   lrwxrwxrwx 1 ec2-user ec2-user 49 Oct 22 09:49 /usr/local/bin/aws -> /usr/local/aws-cli/aws
   ```

3. Delete the two symlinks in the first folder. If your user already has write permission to these folders, you don't need to use `sudo`.

   ```bash
   $ sudo rm /usr/local/bin/aws
   $ sudo rm /usr/local/bin/aws_completer
   ```

4. Delete the main installation folder. Use `sudo` to gain write access to the `/usr/local` folder.
5. **(Optional)** Remove the shared AWS SDK and AWS CLI settings information in the `.aws` folder.

⚠ **Warning**

These configuration and credentials settings are shared across all AWS SDKs and the AWS CLI. If you remove this folder, they cannot be accessed by any AWS SDKs that are still on your system.

The default location of the `.aws` folder differs between platforms, by default the folder is located in `~/.aws/`. If your user has write permission to this directory, you don't need to use sudo.

```
$ sudo rm -rf ~/.aws/
```

**Windows**

1. Open **Programs and Features** by doing one of the following:
   - Open the **Control Panel**, and then choose **Programs and Features**.
   - Open a command prompt, and then enter the following command.

```
C:\> appwiz.cpl
```

2. Select the entry named **AWS Command Line Interface**, and then choose **Uninstall** to launch the uninstaller.

3. Confirm that you want to uninstall the AWS CLI.

4. **(Optional)** Remove the shared AWS SDK and AWS CLI settings information in the `.aws` folder.
Warning
These configuration and credentials settings are shared across all AWS SDKs and the AWS CLI. If you remove this folder, they cannot be accessed by any AWS SDKs that are still on your system.

The default location of the .aws folder differs between platforms, by default the folder is located in %UserProfile%\aws.

$ rmdir %UserProfile%\aws

Troubleshooting AWS CLI install and uninstall errors

If you come across issues after installing or uninstalling the AWS CLI, see Troubleshoot errors for troubleshooting steps. For the most relevant troubleshooting steps, see the section called “Command not found errors”, the section called “The "aws --version" command returns a different version than you installed”, and the section called “The "aws --version" command returns a version after uninstalling the AWS CLI”.

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### AWS CLI user guide document history

The following table describes important additions to the *AWS Command Line Interface User Guide*, beginning in January 2019. For notification about updates to this documentation, you can subscribe to the RSS feed.

<table>
<thead>
<tr>
<th>Change</th>
<th>Description</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Updated credential and authentication information.</strong></td>
<td>Updated credential and authentication method instructions and examples.</td>
<td>March 31, 2023</td>
</tr>
<tr>
<td></td>
<td>This includes updating relevant Getting started pages and configuration</td>
<td></td>
</tr>
<tr>
<td></td>
<td>pages. To accommodate this increase in documentation, relevant credential</td>
<td></td>
</tr>
<tr>
<td></td>
<td>topics were moved to the new [Authentication and access credentials] section.</td>
<td></td>
</tr>
<tr>
<td><strong>Token provider configuration with automatic authentication refresh for AWS IAM Identity Center added</strong></td>
<td>The new process to configure the AWS CLI to authenticate users with AWS IAM Identity Center using the SSO token provider configuration, which can automatically retrieve refreshed authentication tokens.</td>
<td>December 7, 2022</td>
</tr>
<tr>
<td><strong>Official Amazon ECR Public image for the AWS CLI version 2 released</strong></td>
<td>The official supported Amazon ECR Public image for the AWS CLI version 2 is released for Linux, macOS, and Windows.</td>
<td>November 18, 2022</td>
</tr>
<tr>
<td>Updated the guide for migrating from AWS CLI V1 to V2</td>
<td>Expanded the breaking changes guide to include migration instructions to going from AWS CLI version 1 to the AWS CLI version 2. Includes updates to the Troubleshooting page to help with installation issues.</td>
<td>May 13, 2022</td>
</tr>
<tr>
<td>New process to build a AWS CLI installer from source.</td>
<td>New process to install or update from source to the latest release of the AWS CLI on supported operating systems.</td>
<td>February 17, 2022</td>
</tr>
<tr>
<td>Content for the AWS CLI V1 and V2 are now separated into their respective guides</td>
<td>For clarity and ease, the AWS CLI version 1 and AWS CLI version 2 content is now separated into their own guides. For AWS CLI version 1, see the AWS CLI version 1 User Guide.</td>
<td>November 2, 2021</td>
</tr>
<tr>
<td>Added AWS CLI alias information</td>
<td>Added AWS CLI alias information. Aliases are shortcuts you can create in the AWS Command Line Interface (AWS CLI) to shorten commands or scripts that you frequently use.</td>
<td>March 11, 2021</td>
</tr>
<tr>
<td>Updated filter output information</td>
<td>Updated information for filters and moved to their own page.</td>
<td>February 1, 2021</td>
</tr>
<tr>
<td>Added information for Wizards</td>
<td>Added AWS CLI version 2 wizard information.</td>
<td>November 20, 2020</td>
</tr>
<tr>
<td>Feature</td>
<td>Description</td>
<td>Date</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td><strong>Updated auto-prompt</strong></td>
<td>Updated the AWS CLI version 2 auto-prompt information with current features.</td>
<td>November 10, 2020</td>
</tr>
<tr>
<td><strong>Added Amazon S3 scripting example</strong></td>
<td>Added an Amazon S3 lifecycle scripting example.</td>
<td>October 15, 2020</td>
</tr>
<tr>
<td><strong>Added Amazon EC2 scripting example</strong></td>
<td>Added an Amazon EC2 instance type scripting example.</td>
<td>October 15, 2020</td>
</tr>
<tr>
<td><strong>Added retries information</strong></td>
<td>Added a retries page for features and behavior of retries in the AWS CLI.</td>
<td>September 17, 2020</td>
</tr>
<tr>
<td><strong>Server-side and client-side pagination page</strong></td>
<td>Updated pagination information and centralized on a single page.</td>
<td>August 17, 2020</td>
</tr>
<tr>
<td><strong>Updated s3 commands page</strong></td>
<td>Updated the high-level s3 commands page with new examples and resources.</td>
<td>July 30, 2020</td>
</tr>
<tr>
<td><strong>Updated installation information</strong></td>
<td>The install, update, and uninstall information for Linux, macOS, and Windows are updated.</td>
<td>May 19, 2020</td>
</tr>
<tr>
<td><strong>Added information for text file encoding on the AWS CLI version 2</strong></td>
<td>By default, AWS CLI version 2 uses the same text file encoding as the local. You can now use environment variables to set text file encoding.</td>
<td>May 14, 2020</td>
</tr>
<tr>
<td><strong>Official Docker image for the AWS CLI version 2 released</strong></td>
<td>The official support Docker image for the AWS CLI version 2 is released for all Linux, macOS, and Windows.</td>
<td>March 31, 2020</td>
</tr>
<tr>
<td><strong>Added information regarding client-side pagers for AWS CLI version 2</strong></td>
<td>By default, AWS CLI version 2 uses the pager program <code>less</code> for all client-side output.</td>
<td>February 19, 2020</td>
</tr>
<tr>
<td><strong>AWS Command Line Interface (AWS CLI) Version 2 is officially released</strong></td>
<td>The AWS CLI version 2 is generally available and is the recommended version for customers to install.</td>
<td>February 10, 2020</td>
</tr>
<tr>
<td><strong>macOS installer for AWS CLI version 2 is now an Apple Package installer .pkg file.</strong></td>
<td>The macOS installer for AWS CLI version 2 has been updated from a .zip file with a shell script to full macOS Installer package. This simplifies installation and makes it compatible with the newest macOS releases.</td>
<td>February 3, 2020</td>
</tr>
<tr>
<td><strong>Added content for AWS CLI version 2’s improved default handling of S3 and STS Regional endpoints</strong></td>
<td>By default, AWS CLI version 2 now directs requests for the Amazon S3 and AWS STS services to the currently configured Regional endpoint instead of the global endpoint.</td>
<td>January 13, 2020</td>
</tr>
<tr>
<td><strong>Developer preview release for AWS CLI version 2</strong></td>
<td>Announcing preview release of AWS CLI version 2. Added instructions about installing version 2. Add Migration topic to discuss differences between versions 1 and 2.</td>
<td>November 7, 2019</td>
</tr>
<tr>
<td>Added support for AWS IAM Identity Center to AWS CLI named profiles</td>
<td>AWS CLI version 2 adds support for creating a named profile that can directly login to IAM Identity Center and get AWS temporary credentials for use in subsequent AWS CLI commands.</td>
<td>November 7, 2019</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>New MFA section</td>
<td>Added a new section describing how to access the CLI using multi-factor authentication and roles.</td>
<td>May 3, 2019</td>
</tr>
<tr>
<td>Update to &quot;Using the CLI&quot; section</td>
<td>Major improvements and additions to the usage instructions and procedures.</td>
<td>March 7, 2019</td>
</tr>
<tr>
<td>Update to &quot;Installing the CLI&quot; section</td>
<td>Major improvements and additions to the AWS CLI installation instructions and procedures.</td>
<td>March 7, 2019</td>
</tr>
<tr>
<td>Update to &quot;Configuring the CLI&quot; section</td>
<td>Major improvements and additions to the AWS CLI configuration instructions and procedures.</td>
<td>March 7, 2019</td>
</tr>
</tbody>
</table>
AWS Glossary

For the latest AWS terminology, see the AWS glossary in the AWS Glossary Reference.